

THE NEW
INTERNATIONAL
YEAR BOOK

THE NEW INTERNATIONAL YEAR BOOK

A COMPENDIUM OF THE WORLD'S
PROGRESS

FOR THE YEAR

1938

EDITORS

FRANK H. VIZETELLY, LITT.D., LL.D.

CHARLES EARLE FUNK, LITT.D.

ASSOCIATE EDITORS

RONALD S. KAIN, PHILIP COAN, HELEN READY BIRD



FUNK & WAGNALLS COMPANY
NEW YORK AND LONDON

1939

•

COPYRIGHT, 1939, BY
FUNK & WAGNALLS COMPANY
[Printed in the United States of America]

•

PREFACE

ELSEWHERE in this issue of THE NEW INTERNATIONAL YEAR BOOK is recorded the death, after a short illness, of its late Editor, DR. FRANK H. VIZETELLY. The plan and organization of this YEAR BOOK, however, had been so fully developed by him that the present Editor has had little to do except to carry the work to its completion. Whatever the degree to which this record has reached the high standards set in former years is therefore due to the genius of its late Editor and to the loyal co-operation of his associates and staff. No change in the editorial policy has been made except in the reduction of the length of certain articles of less general interest in order to provide additional space in which to record the many surprising events of the year.

As in previous years, the YEAR BOOK covers the outstanding events and developments in all fields of interest during 1938: Sports and Spanish Literature; Botany and Boy Scouts; Theology and Geology; Military Progress and Peace Conferences—whatever the year has produced in agriculture, art, science, law, medicine, philosophy, politics, or other activity that our large staff of contributors and editors has considered to be worthy of note is recorded herein.

Economic and industrial conditions in the United States showed little change, either for the better or for the worse, during the first half of the year. But, in the words of MR. PHILIP COAN, whose department embraces each of the 48 States and the United States as a whole:

"The return of economic adversity, which began in 1937, made itself felt throughout the Nation in 1938. The Federal Government had recourse anew to widespread dispensations of public money. While business, under this stimulus, improved from June until early December, the year closed without definite indication as to whether the gain could be maintained without persistent administration of the stimulant. Legislation in the field of social planning, though less abundant than in most of the previous five years, included the enactment of a system for Federal regulation of wages and hours of employment in interstate industries—another and a potentially important Federal intervention in social and economic relations. Dissension within the Tennessee Valley Authority led Congress to investigate the conduct and policies of this foremost of the Federal ventures into the field of economic production.

"Elections to the 76th Congress brought about an altered alignment both among the lawgivers and among the people of the United States; the popular votes cast in the State primary elections and in the general election of November 8 not only strengthened the Republicans and anti-Administration Democrats in Congress, at the cost of the New Deal's supporters, but also made evident a considerable popular shift away from the liberalism of the Administration. The proposals and policies of President Roosevelt had won ample support in each of three previous elections to Congress; the turn of this long-persistent tide of sentiment, as seen in the vote of 1938, rendered the elections the most important domestic occurrence of the year. Since the apparent change in the people's views might affect the conduct of the Nation's affairs for some time to come, the articles on the United States and on the individual States give the election somewhat extended treatment, as a matter fundamental to the comprehension of events to come."

Full treatment of each phase suggested in those two brief paragraphs may be found under appropriate headings within this summary of the year. In addition, the separate activities in Engineering, in Mining, in the various fields of industry—Agriculture, Aviation, Automobile, Steel, Textile—in Finance and Banking, both at home and abroad, are each covered under the respective headings. Labor disputes during 1938 were fewer in number and of far less serious nature than in the previous year. The reduction was due in part to ameliorated conditions of labor, in part to the passage of the Wages and Hours Act, and in part to a definite swing in public opinion against methods, such as the "sit-down" strikes, employed by labor in recent disputes. As MR. LOUIS M. HACKER points out in his review of Labor and kindred topics, the newspaper headlines gave more attention to disputes within the ranks of labor in 1938 than to disputes between labor and employer.

The world at large, however, was in unrest almost from the beginning of the year. Great Britain, with its large interests extending over the entire globe, was kept continually agitated in the effort to maintain undisturbed trade relations and to keep the numerous foreign fires from spreading into a general conflagration. To that end she made concession upon concession, but whether in so doing she sacrificed her prestige was still a moot point at the end of the year, though her diplomatic efforts appeared then likely to be successful. The events which caused the major disturbances are thus summarized by MR. RONALD S. KAIN, Associate Editor in charge:

"Outstanding developments of the year in Europe were Germany's annexation of Austria in March; the Munich accord of September 30; the subsequent partition of large areas of Czecho-Slovakia among Germany, Poland, and Hungary, with the remnants of the republic becoming a satellite of the Reich; the consequent establishment of unquestioned German economic and military predominance in central and eastern Europe; the strengthening of the Rome-Berlin axis; the steady progress of Franco's Insurgent armies, with Italo-German support, in the Spanish civil war; the tightening of the Anglo-French alliance; Prime Minister Chamberlain's effort to appease the dictators by giving Hitler a free hand in eastern and central Europe, withholding aid from the Spanish Loyalists, and recognizing Italy's sovereignty over Ethiopia; the Anglo-Italian accord; the tension created between

PREFACE

Italy and France by the Italian agitation, launched November 30, for greater territorial and other concessions. Also the triumph of the radical wing of the Nazi party in Germany, followed by violent attacks upon the Jews and acceleration of the collectivist reorganization of the Reich for military and social purposes; the replacement of the Popular Front's rule in France by Daladier's middle-of-the-road government; the resignation of Anthony Eden as British Foreign Secretary in protest against the Chamberlain appeasement policy; and the Anglo-Irish settlement.

"In China the Japanese invaders made marked progress without administering a knockout blow to Gen. Chiang Kai-shek's Nationalist regime. Nippon's expansion on the Asiatic mainland was deflected southward by the determined opposition encountered from Soviet troops in the August clashes at Changkufeng and by the Anglo-French capitulation to Hitler at Munich. In October, Japan defied Britain by capturing Canton and isolating Hong Kong. France's possessions in Indo-China were endangered. The Arab revolt in Palestine offered another threat to the British Empire's security.

"In the New World, 1938 witnessed the strengthening of inter-American solidarity at the Lima Conference; the Mexican oil expropriations; abortive Nazi-Fascist revolts in Brazil and Chile; the victory of the Popular Front in the Chilean presidential election; the final settlement of the Chaco Dispute; and the conclusion of the Anglo-American and Canadian-American trade pacts. In all countries the growing world chaos caused increased armament expenditures. The world spent some 16 billion dollars on arms and munitions during 1938."

We welcome among the new contributors to the YEAR BOOK, MR. DOUGLAS HASKELL, contributing editor of *The Architectural Review*, who has supplied the article on ARCHITECTURE; MR. G. ROSS HENNINGER, editor, American Institute of Electrical Engineers, who has presented the articles on electrical engineering; MR. CHARLES S. HUGHES, formerly of the U.S. Shipping Board, who has prepared the various articles on mineral production; MR. H. CHARLES RAWLINS, editor of *Sport*, who has covered all branches of athletic competitions, and MR. WALTER H. BEAL of the U.S. Department of Agriculture, who has developed the articles FERTILIZERS and SOILS.

As in the past, the co-operation of the officers of the various Departments of the United States Government and of their allied Bureaus, and of the officers of other Governments who have supplied valued information concerning their respective countries, is gratefully acknowledged. Appreciative thanks are also tendered to the officers of numerous Corporations, Companies, Associations, and Institutions who have contributed material that guarantees the accuracy of their respective interests. And finally, once again we pay a warm tribute of appreciation to the members of the editorial staff who have worked loyally, harmoniously, and efficiently under trying conditions toward the completion of this work. The surviving Editor cannot express too warmly his personal thanks to each and especially to his two Associates, MR. RONALD S. KATN and MISS HELEN READY BIRD, through whose experience and industry it has been again possible for this YEAR BOOK to take a proud place among its predecessors in the homes, the colleges, the libraries, and the newspaper offices of the country.

FRANK H. VIZETELLY
CHARLES EARLE FUNK

THE EDITORS
FRANK H. VIZETELLY, LITT.D., LL.D.*
CHARLES EARLE FUNK, LITT.D.

ASSOCIATE EDITORS AND CONTRIBUTORS

ADULT EDUCATION, AMERICAN ASSOCIATION FOR
MARY L. ELY,
DIRECTOR OF PUBLICATIONS.

ADVANCEMENT OF SCIENCE, AMERICAN ASSOCIATION FOR THE
SAM WOODLEY,
EXECUTIVE SECRETARY.

AERONAUTICS
EDWARD J. WARNER, A.B., M.S., D.Sc.,
DANIEL SAYRE, M.S.

AGRICULTURAL EXTENSION WORK
LESTER A. SCHLUP,
IN CHARGE, VISUAL INSTRUCTION AND EDITORIAL
WORK, EXTENSION SERVICE, UNITED STATES DE-
PARTMENT OF AGRICULTURE.

AGRICULTURE; AGRICULTURAL EXPERIMENT STATIONS; COTTON; TOBACCO
HENRY M. STEECE, B.A. (Agr.), A.M.,
SENIOR AGRONOMIST, OFFICE OF EXPERIMENT STA-
TIONS, UNITED STATES DEPARTMENT OF AGRICUL-
TURE.

AMERICAN LEGION, THE
STEPHEN F. CHADWICK,
NATIONAL COMMANDER.

ANTHROPOLOGY
ALEXANDER LESSER, Ph.D.,
DEPARTMENT OF ANTHROPOLOGY, COLUMBIA UNI-
VERSITY.

ARCHAEOLOGY
OLIVER SAMUEL TONKS, Ph.D.,
PROFESSOR OF ART, VASSAR COLLEGE.

ARCHITECTURE
DOUGLAS HASKELL, A.B.,
CONTRIBUTING EDITOR, *The Architectural Record*.

ART; PAINTING; PRINTS; SCULPTURE
LEILA MECHLIN, M.A., D.F.A.,
ART EDITOR, *The Evening and Sunday Star*,
WASHINGTON, D. C.

ARTS AND LETTERS, AMERICAN ACADEMY OF
GRACE D. VANAMEE,
ASSISTANT TO THE PRESIDENT.

ASTRONOMY; EARTHQUAKES; DUST STORMS; FLOODS; METEOROLOGY; SEISMOLOGY
RICHMOND T. ZOCH, A.M.,
UNITED STATES WEATHER BUREAU.

AUTOMOBILES
HENRY R. COBLEIGH, M.E.,
MANAGER, SERVICE AND ENGINEERING DEPART-
MENT, AUTOMOBILE MANUFACTURERS ASSOCIA-
TION.

BAHÁ'Í FAITH
HORACE HOLLEY, SECRETARY.

BANKERS ASSOCIATION, AMERICAN
LESTER GIBSON,
DIRECTOR OF NEWS BUREAU.

**BANKING; BUSINESS REVIEW; FI-
NANCE; TAXATION**
JULES IRWIN BOGEN, A.M., Ph.D.,
EDITOR OF *The Journal of Commerce*; PROFESSOR
OF FINANCE, NEW YORK UNIVERSITY.

BAPTISTS, NORTHERN CONVENTION
THE REV. CLARENCE M. GALLUP, D.D.,
RECORDING SECRETARY.

BAPTISTS, SOUTHERN CONVENTION
THE REV. E. P. ALLDREDGE, D.D.,
SECRETARY, DEPARTMENT OF SURVEY, STATISTICS,
AND INFORMATION, THE BAPTIST SUNDAY SCHOOL
BOARD.

BAR ASSOCIATION, AMERICAN
OLIVE G. RICKER,
EXECUTIVE SECRETARY.

BIBLE SOCIETY, AMERICAN
THE REV. FRANCIS C. STIFLER, D.D.,
EDITORIAL SECRETARY.

BIOGRAPHY
HELEN READY BIRD,
ASSOCIATE EDITOR.

BIOLOGICAL CHEMISTRY
EVERETT S. WALLIS, Ph.D.,
ASSOCIATE PROFESSOR OF CHEMISTRY, PRINCETON
UNIVERSITY.

**BIRTH CONTROL CLINICAL RE-
SEARCH BUREAU**
FLORENCE ROSE,
ASSISTANT TO THE PRESIDENT.

BOTANY
GEORGE MATTHEW REED, Ph.D.,
CURATOR OF PLANT PATHOLOGY, BROOKLYN BOTAN-
IC GARDEN.

BOYS' CLUBS OF AMERICA
SANFORD BATES,
EXECUTIVE DIRECTOR.

BOY SCOUTS OF AMERICA
E. S. MARTIN,
NATIONAL DIRECTOR OF PUBLICATIONS.

BROOKINGS INSTITUTION
HAROLD G. MOULTON, Ph.D.,
PRESIDENT.

CANADA, THE UNITED CHURCH OF
R. P. STOUFFER,
THE COMMITTEE ON LITERATURE.

**CARNEGIE INSTITUTION OF WASH-
INGTON**
W. M. GILBERT,
ADMINISTRATIVE SECRETARY.

**CHAMBER OF COMMERCE OF THE
UNITED STATES OF AMERICA**
BEN H. LAMBE, MANAGER,
PUBLICITY DEPARTMENT.

CHEMISTRY
HUBERT N. ALYEA, Ph.D.,
ASSISTANT PROFESSOR OF CHEMISTRY, PRINCETON
UNIVERSITY.

* Deceased December 20, 1938.

- CHRISTIAN ENDEAVOR, INTERNATIONAL SOCIETY OF**
STANLEY B. VANDERSALL,
ASSOCIATE SECRETARY.
- CHRISTIAN SCIENCE**
B. PALMER LEWIS,
COMMITTEE ON PUBLICATION.
- CIVIL ENGINEERING**
JAMES K. FINCH, C.E., A.M.,
RENWICK PROFESSOR OF CIVIL ENGINEERING, COLUMBIA UNIVERSITY.
- CIVIL ENGINEERS, AMERICAN SOCIETY OF**
FREDERICK S. CROWELL,
OFFICE MANAGER.
- CONGREGATIONAL AND CHRISTIAN CHURCHES**
THE REV. FREDERICK L. TAGLEY,
ASSOCIATE SECRETARY.
- CORRELATION AND CROSS-REFERENCES**
HELEN READY BIRD, ASSOCIATE EDITOR.
- CROP PRODUCTION; UNITED STATES DEPARTMENT OF AGRICULTURE**
JOHN I. SCHULTE, B.S. (Agr.),
OFFICE OF EXPERIMENT STATIONS, UNITED STATES DEPARTMENT OF AGRICULTURE.
- DAIRYING; LIVESTOCK; WOOL**
GEORGE HAINES, B.S., M.S., Ph.D.,
SENIOR ANIMAL HUSBANDMAN, OFFICE OF EXPERIMENT STATIONS, UNITED STATES DEPARTMENT OF AGRICULTURE.
- DISCIPLES OF CHRIST**
HAZEL I. SCOTT, RECORDER.
- DRAMA**
RALPH W. CAREY,
NEW YORK DRAMATIC CORRESPONDENT, *The Hartford Courant*.
- ECONOMIC ENTOMOLOGY; VETERINARY MEDICINE**
WILLIAM A. HOOKER, B.Sc., LL.M., D.V.M.,
OFFICE OF EXPERIMENT STATIONS, UNITED STATES DEPARTMENT OF AGRICULTURE.
- ECONOMIC, SOCIAL, AND POLITICAL SUBJECTS**
LOUIS M. HACKER, A.M.,
LECTURER IN ECONOMICS, COLUMBIA UNIVERSITY;
AUTHOR, *A Short History of the New Deal*; *The United States: A Graphic History*; *American Problems of Today*; COAUTHOR, *The United State Since 1865* (3d ed., 1939).
- EDUCATION IN THE UNITED STATES; UNIVERSITIES AND COLLEGES**
MILO B. HILLEGAS, Ph.D., LL.D.,
EMERITUS PROFESSOR OF EDUCATION, TEACHERS COLLEGE, COLUMBIA UNIVERSITY.
- ELECTRICAL ENGINEERING; RADIO; TELEGRAPHY; TELEVISION**
G. ROSS HENNINGER, B.S. in E.E.,
EDITOR, AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS.
- ELECTRICAL ENGINEERS, AMERICAN INSTITUTE OF**
H. E. FARRER,
ASSISTANT TO THE NATIONAL SECRETARY.
- ENGLAND, CHURCH OF**
GUY H. GUILLUM SCOTT,
ASSISTANT SECRETARY, CHURCH ASSEMBLY.
- EVANGELICAL AND REFORMED CHURCH**
THE REV. WILLIAM E. LAMPE, Ph.D.,
SECRETARY, EXECUTIVE COMMITTEE.
- EVANGELICAL CHURCH**
I. F. BERGSTRESSER,
DISTRICT-SUPERINTENDENT.
- FEDERAL COUNCIL OF THE CHURCHES OF CHRIST IN AMERICA**
THE REV. SAMUEL McC. CAVERT, D.D.,
GENERAL SECRETARY.
- FERTILIZERS AND SOILS**
WALTER H. BEAL, A.B., M.E.,
AGRICULTURAL CHEMIST AND ASSOCIATE IN EXPERIMENT STATION ADMINISTRATION, OFFICE OF EXPERIMENT STATIONS, UNITED STATES DEPARTMENT OF AGRICULTURE.
- FIRE PROTECTION**
ROBERT S. MOULTON,
NATIONAL FIRE PROTECTION ASSOCIATION.
- FOREIGN NATIONS, COLONIES AND DEPENDENCIES—POLITICAL AND ECONOMIC HISTORY**
RONALD S. KAIN, A.M., ASSOCIATE EDITOR.
PHILIP COAN
WARREN V. KREHBIEL } CONTRIBUTING
HENRY E. VIZETELLY } EDITORS.
- FORESTRY; HORTICULTURE**
JOSEPH W. WELLINGTON, M.Sc.,
SENIOR HORTICULTURIST, OFFICE OF EXPERIMENT STATIONS, U.S. DEPARTMENT OF AGRICULTURE.
- FRENCH LITERATURE**
ALBERT SCHINZ, Ph.D., L.H.D.,
PROFESSOR OF ROMANIC LANGUAGES AND LITERATURE, UNIVERSITY OF PENNSYLVANIA.
- FRIENDS, RELIGIOUS SOCIETY OF**
FIVE YEARS MEETING
WALTER C. WOODWARD,
EDITOR, *The American Friend*.
LIBERAL BRANCH
J. BARNARD WALTON, SECRETARY.
- GEOGRAPHICAL SOCIETY, AMERICAN**
JOHN K. WRIGHT, Ph.D., LIBRARIAN.
- GEOGRAPHIC SOCIETY, NATIONAL**
GILBERT GROSVENOR, LL.D., PRESIDENT.
- GEOLOGY**
HENRY S. SHARP, A.M., Ph.D.,
ASSISTANT PROFESSOR OF GEOLOGY, COLUMBIA UNIVERSITY.
- GERMAN LITERATURE**
GEORGE N. SHUSTER, A.M.,
FORMER MANAGING EDITOR, *The Commonwealth*;
SOCIAL SCIENCE RESEARCH COUNCIL FELLOW IN GERMAN HISTORY.
- GIRL SCOUTS OF AMERICA**
ANNE L. NEW, PUBLIC RELATIONS DIVISION.
- HISTORICAL ASSOCIATION, AMERICAN**
PATTY W. WASHINGTON,
ASSISTANT SECRETARY.
- HUMANISM**
THE REV. CHARLES F. POTTER,
LEADER, FIRST HUMANIST SOCIETY OF NEW YORK.
- INSURANCE**
GEORGE A. WATSON,
ASSOCIATE EDITOR, *The National Underwriter*.
- INTERNATIONAL ARBITRATION; INTERPARLIAMENTARY UNION; LEAGUE OF NATIONS; NARCOTICS; PEACE; WORLD COURT**
CLINTON ROGERS WOODRUFF,
HONORARY SECRETARY OF THE NATIONAL MUNICIPAL LEAGUE; FORMER DIRECTOR OF PUBLIC WELFARE, PHILADELPHIA.

INTERNATIONAL LABOR ORGANIZATION

LEIFUR MAGNUSSEN,
DIRECTOR, WASHINGTON OFFICE.

ITALIAN LITERATURE

O. A. BONTEMPO, Ph.C.,
FORMERLY EDITORIAL STAFF, *Romanic Review*,
COLUMBIA UNIVERSITY PRESS; REGULAR CONTRIBUTING STAFF, *Modern Language Journal*.

LABOR LEGISLATION

JOHN B. ANDREWS, Ph.D.,
SECRETARY OF THE AMERICAN ASSOCIATION FOR
LABOR LEGISLATION; EDITOR, *American Labor
Legislation Review*.

**LATTER-DAY SAINTS, CHURCH OF
JESUS CHRIST OF**

SYLVESTER Q. CANNON,
THE PRESIDING BISHOPRIC.

**LAW; INTERNATIONAL LAW; MERIT
SYSTEM; PROPORTIONAL REPRESENTATION;
REFERENDUM; FREEMASONRY**

C. SUMNER LOBINGIER, Ph.D., D.C.L.,
J.U.D., J.D.,
FORMER UNITED STATES JUDGE IN THE PHILIPPINES
AND IN CHINA; PROFESSOR OF COMPARATIVE
LAW AND HISTORICAL JURISPRUDENCE, NATIONAL
UNIVERSITY, WASHINGTON, D. C.

**LIBRARY ASSOCIATION, AMERICAN;
LIBRARY PROGRESS**

MILDRED OTHMER PETERSON.

LITERATURE, ENGLISH AND AMERICAN

ARTHUR E. JENSEN, Ph.D.,
ASSISTANT PROFESSOR OF ENGLISH, DARTMOUTH
COLLEGE.

LUTHERAN CHURCH

THE REV. RALPH H. LONG,
EXECUTIVE DIRECTOR.

MEDICAL JURISPRUDENCE

BENJAMIN WERNE, LL.B., S.J.D.,
LECTURER IN MEDICAL JURISPRUDENCE, NEW YORK
UNIVERSITY; COLLEGE OF MEDICINE EDITOR, *Annual
Survey of Economic Legislation*.

MEDICINE AND SURGERY

H. WALTON COCHRAN, M.D.,
FORMER FELLOW IN SURGERY, PRESBYTERIAN HOSPITAL,
NEW YORK; FORMER INSTRUCTOR IN SURGERY,
COLLEGE OF PHYSICIANS AND SURGERY,
COLUMBIA UNIVERSITY.

METALLURGY

EDWARD HODGES ROBIE,
ASSISTANT SECRETARY, THE AMERICAN INSTITUTE
OF MINING AND METALLURGICAL ENGINEERS; EDITOR,
Mining and Metallurgy.

METHODIST EPISCOPAL CHURCH

THE REV. THOMAS P. POTTER,
ASSISTANT EDITOR, GENERAL MINUTES; STATISTICIAN
OF METHODIST EPISCOPAL CHURCH.

**METHODIST EPISCOPAL CHURCH,
SOUTH**

CURTIS B. HALEY,
ASSOCIATE EDITOR, *Methodist Quarterly Review*.

MILITARY PROGRESS

JOHN J. BRADLEY,
BRIGADIER GENERAL, UNITED STATES ARMY, RET.;
D.S.M., PURPLE HEART, SILVER STAR CITATION, LÉGION
D'HONNEUR, C.M.G., COMDR. CROWN OF ITALY.

MINERALOGY

HERBERT P. WHITLOCK,
CURATOR, DEPARTMENT OF GEOLOGY, MINERALS
AND GEMS, AMERICAN MUSEUM OF NATURAL
HISTORY, NEW YORK; AUTHOR, *The Story of the
Gems*.

**MINERALS; NOBEL PRIZES; SHIP-
BUILDING; SHIPPING, ETC.**

CHARLES H. HUGHES,
ENGINEER, O'ROURKE CONSTRUCTION CO.; FORMER
TECHNICAL AIDE, UNITED STATES SHIPPING BOARD;
AUTHOR, *Handbook of Ship Calculations and
Construction*.

MOTION PICTURES

HOWARD BARNES,
MOTION PICTURE CRITIC, *The New York Herald
Tribune*.

MUSIC

FRANCIS DAVENPORT PERKINS,
ASSISTANT MUSIC EDITOR, *The New York Herald
Tribune*.

NATIONAL ACADEMY OF DESIGN

CHARLES C. CURRAN, N.A.,
CORRESPONDING SECRETARY.

NATIONAL ACADEMY OF SCIENCES

PAUL BROCKETT, ASSISTANT SECRETARY.

**NATIONAL ASSOCIATION OF MANU-
FACTURERS**

NOEL SARGENT, SECRETARY.

NATIONAL CIVIC FEDERATION

GERTRUDE BEEKS EASLEY,
SECRETARY, EXECUTIVE COUNCIL.

**NATIONAL EDUCATION ASSOCIATION
OF THE UNITED STATES**

JOY ELMER MORGAN,
EDITOR, *The Journal of the National Education
Association*.

NATIONAL RESEARCH COUNCIL

ALBERT L. BARROWS,
EXECUTIVE SECRETARY.

NAVAL PROGRESS

C. H. McMORRIS,
COMMANDER, UNITED STATES NAVY; FORMER EDITOR,
*Proceedings of the United States Naval
Institute*.

NECROLOGY

MAMIE HARMON, M.A.,
ASSISTANT EDITOR.

PACIFIC RELATIONS, INSTITUTE OF

MARGARET R. TAYLOR,
PUBLICATIONS SECRETARY.

PAN AMERICAN UNION

L. S. ROWE, Ph.D., DIRECTOR GENERAL.

**PARAPSYCHOLOGY OR PSYCHICAL
RESEARCH**

J. B. RHINE, Ph.D.,
PROFESSOR OF PSYCHOLOGY, DUKE UNIVERSITY;
AUTHOR, *Extra-Sensory Perception, Frontiers of
the Mind*; EDITOR, *Journal of Parapsychology*.

**PARENTS AND TEACHERS, NATIONAL
CONGRESS OF**

JOHN T. WEBNER, EXECUTIVE SECRETARY.

PHILOLOGY, CLASSICAL

MOSES HADAS, Ph.D.,
ASSISTANT PROFESSOR OF GREEK AND LATIN,
COLUMBIA UNIVERSITY.

Contributors to the New International Year Book—Continued

PHILOLOGY, MODERN

JOHN LAWRENCE GERIG, Ph.D., Litt.D.,
PROFESSOR OF CELTIC, DEPARTMENT OF ROMANCE
LANGUAGES, COLUMBIA UNIVERSITY; MEMBER, IN-
TERNATIONAL COMMITTEE OF EXPERTS IN LIN-
GUISTIC BIBLIOGRAPHY; EDITOR-IN-CHIEF, *Ro-
manic Review* (1924-37).

PHILOSOPHY

V. JERAULD MCGILL, Ph.D.,
ASSISTANT PROFESSOR AT HUNTER COLLEGE, NEW
YORK; A BOOK EDITOR OF *The Journal of Philoso-
phy*; EDITOR OF *Science and Society*.

PHOTOGRAPHY

GLENN E. MATTHEWS, M.Sc., F.R.P.S.,
TECHNICAL EDITOR, KODAK RESEARCH LABORA-
TORIES, ROCHESTER, NEW YORK.

PHYSICS

WATSON DAVIS, B.S., C.E.,
DIRECTOR, SCIENCE SERVICE, WASHINGTON, D. C.

**POWER ENGINEERING; POWER
PLANTS, ETC.**

ALFRED D. BLAKE, M.E.,
EDITOR, *Combustion*.

**PRESBYTERIAN CHURCH IN THE
UNITED STATES (SOUTH)**

THE REV. E. C. SCOTT, STATED CLERK.

**PRESBYTERIAN CHURCH IN THE
UNITED STATES OF AMERICA**

PAUL PATTON FARIS,
MANAGER, THE PUBLICITY DEPARTMENT.

PRISON ASSOCIATION, AMERICAN

E. R. CASS, GENERAL SECRETARY.

PROTESTANT EPISCOPAL CHURCH

WILLIAM E. LEIDT,
ASSOCIATE EDITOR, *The Spirit of Missions*.

PSYCHOLOGY

MABEL F. MARTIN, Ph.D.,
ASSISTANT EDITOR, WEBSTER'S NEW INTERNATION-
AL DICTIONARY, 2D EDITION.

PUBLIC AFFAIRS, INSTITUTE OF

MARJORIE McLACHLAN, SECRETARY.

RAILWAYS

WILLIAM E. HOOPER,
FORMER FINANCIAL EDITOR, *Railway Age*; FOR-
MER MEMBER OF EDITORIAL STAFF, *The New York
Tribune*.

RED CROSS, AMERICAN NATIONAL

DOUGLAS GRIESEMER,
DIRECTOR, DEPARTMENT OF PUBLIC INFORMATION.

REFORMED CHURCH IN AMERICA

THE REV. JOHN A. INGHAM, D.D.,
STATED CLERK.

**RELIGIOUS BODIES, COLLEGES, AND
SOCIETIES**

HELEN READY BIRD
ASSOCIATE EDITOR.

ROCKEFELLER FOUNDATION

H. B. VAN WESEP,
CHIEF, INFORMATION SERVICE.

ROMAN CATHOLIC CHURCH

JOHN GILLAND BRUNINI, A.B.,
EDITOR, *Spirit, A Magazine of Poetry*; SECRE-
TARY AND EXECUTIVE OF THE TEMPLE OF RELIGION,
INC., NEW YORK WORLD'S FAIR FOR 1939.

RUSSELL SAGE FOUNDATION

SHELBY M. HARRISON,
THE GENERAL DIRECTOR.

SALVATION ARMY

LT. COL. JOHN J. ALLAN,
SECRETARY, PUBLIC RELATIONS DEPARTMENT.

**SANITARY ENGINEERING AND MU-
NICIPAL SUBJECTS**

MOSES NELSON BAKER, Ph.D., C.E.,
FORMER ASSOCIATE EDITOR, *Engineering News
and Engineering News-Record*.

SCANDINAVIAN LITERATURE

HARRY V. E. PALMBLAD, Ph.D.,
PROFESSOR OF MODERN LANGUAGES AND HEAD OF
THE DIVISION OF FOREIGN LANGUAGES, JOHN
BROWN UNIVERSITY.

**SLUM CLEARANCE, NATIONAL CON-
FERENCE ON**

ERNEST J. BOHN, CHAIRMAN.

SMITHSONIAN INSTITUTION

C. H. ABBOT, Sc.D., SECRETARY.

**SPANISH-AMERICAN LITERATURES;
SPANISH LITERATURE**

JOHN D. FITZ-GERALD, Ph.D., Litt.D.,
PROFESSOR OF ROMANCE PHILOLOGY AND HEAD OF
THE DEPARTMENT OF SPANISH, UNIVERSITY OF
ARIZONA; CORRESPONDING MEMBER OF THE SPAN-
ISH ROYAL ACADEMY, OF THE ROYAL ACADEMY OF
HISTORY OF MADRID, COMENDADOR, CON PLACA, DE
LA REAL ORDEN DE ISABEL LA CATÓLICA, ETC.

SPORTS

H. CHARLES RAWLINS,
EDITOR, *Sport*.

**SURGEONS, AMERICAN COLLEGE OF
L. M. PRIME,**

MEMBER OF THE LIBRARY STAFF AND THE DE-
PARTMENT OF LITERARY RESEARCH.

TELEPHONY

WILLIAM P. BANNING,
ASSISTANT VICE PRESIDENT, AMERICAN TELEPHONE
AND TELEGRAPH COMPANY.
G. ROSS HENNINGER, B.S. in E.E.,
EDITOR, AMERICAN INSTITUTE OF ELECTRICAL EN-
GINEERS.

UNITED BRETHREN IN CHRIST

THE REV. D. T. GREGORY,
EXECUTIVE SECRETARY.

UNITED STATES; STATES; ALASKA

PHILIP COAN, ASSOCIATE EDITOR; FORMER ED-
ITOR, *The New York Sun*.

WOMEN'S BUREAU

MARY ANDERSON, DIRECTOR.

**YOUNG MEN'S CHRISTIAN ASSOCIA-
TION**

OWEN E. PENCE,
DIRECTOR, THE BUREAU OF RECORDS.

**YOUNG WOMEN'S CHRISTIAN ASSO-
CIATION**

MARY S. SIMS,
EXECUTIVE, COMMITTEE FOR NATIONAL SUPPORT
AND INTERPRETATION.

ZOOLOGY

AARON L. TREADWELL, Ph.D., Sc.D.,
EMERITUS PROFESSOR OF ZOOLOGY, VASSAR COL-
LEGE; RESEARCH ASSOCIATE, AMERICAN MUSEUM
OF NATURAL HISTORY, NEW YORK.

ILLUSTRATIONS

	FACING PAGE
AERONAUTICS: Douglas DC-4 Transport; Boeing Clipper No. 18	4
German Heinkel Warplane; German Military Planes; British Hawker Hurricane Fighting Plane; London to Paris Flight	5
ARCHITECTURE: The Campana Building, Batavia, Ill.	52
Westfield Acres Housing Development; 25 East 83d St., New York City	53
ART: "The Pass of the North"	60
Gen. Artemas Ward; "Daniel Boone Reaches Kentucky"; Benjamin Franklin . .	61
THE FAR EAST: The Fall of Hankow; The Capture of Canton	156
Soviet-Japanese Clash at Changkufeng; Chinese Victory at Taierhchwang . . .	157
CZECHO-SLOVAKIA: Dr. Emil Hacha; Gen. Jan Syrový; Henleinist Agitation in the Sudetenland	196
Hungary Annexes Southern Slovakia; Poland Takes Teschen	197
DRAMA: "Abe Lincoln in Illinois"; "Our Town"	216
MOTION PICTURES: "Snow White and the Seven Dwarfs"; "The Citadel"	217
FRANCE: The Franco-German Amity Pact; The Anglo-French Alliance	268
The General Strike; Paris Welcomes British Sovereigns	269
GERMANY: The Munich Accord; Occupation of the Sudetenland	292
The Anti-Semitic Outbreaks; The Annexation of Austria	293
GREAT BRITAIN: Capt. Anthony Eden; Lord Halifax; Britain on the Brink of War	300
The Anglo-Italian Accord; Arab-Jewish Conflict in Palestine	301
EUROPE: Young Refugees Find Haven in England; The Evian Conference. . . .	404
EUROPEAN POLITICAL FIGURES: Patriarch Miron Cristea; Paul-Henri Spaak; Dr. Béla Imrédy; Antanas Smetona; Dr. Douglas Hyde; Gen. Ismet Inonu	405
NECROLOGY: Prominent Persons Who Died in 1938.	516 and 517
LATIN AMERICA: The Lima Conference; Mexico Expropriates Foreign Oil Properties	564
Dr. Aurelio Mosquera Narvaez; Pedro Aguirre Cerda; Gen. Alfredo Baldomir; Dr. Eduardo Santos	565
PHOTOGRAPHY: Infrared Photograph of the Longest Glacier in the World; Area Con- tracted for Aerial Survey and Surveyed in the United States to June, 1938 . .	604
High-Speed Photograph showing Cracks Racing Across Sheet of Tempered Glass at the Instant It Is Struck by a Metal Plunger; Ultrarapid Photograph of Expert Skater	605
SPAIN: Barcelona Devastated by Bombs; The Insurgent Drive to the Sea. . . .	688
American Volunteers Return from Spain; Mussolini Reduces His Forces in Spain	689
SPORTS: Capt. G. E. T. Eyston in his "Thunderbolt"; The New York Yankees World Championship Baseball Team	700
Glenn Cunningham Setting a New Record for the Mile; Donald Budge	701
UNITED STATES: Harry L. Hopkins; Stanley Reed; The Atlantic Hurricane . . .	756
United States Concludes Trade Pacts with Britain and Canada	757

MAPS

EASTERN ASIA, SHOWING THE EXPANSION OF THE JAPANESE EMPIRE, 1896-1938 . .	152
CZECHO-SLOVAKIA, SHOWING TERRITORIES CEDED IN 1938	200
EUROPE, SHOWING BOUNDARIES ON DEC. 31, 1938, AND REVISIONIST CLAIMS . . .	288
MEDITERRANEAN REGION, SHOWING ALIGNMENT OF FORCES IN FRANCO-ITALIAN CRISIS OF 1938.	360

KEY TO PRONUNCIATION

- E** as in ale, fate. Also see *ě*, below.
- Ě** " " senate, chaotic.
- Ě** " " glare, care, and as *e* in there. See *ě*, below.
- Ě** " " am, at.
- Ě** " " arm, father.
- Ě** " " ant, and final *a* in America, armada, etc.
In rapid speech this vowel readily becomes more or less obscured and like the neutral vowel or a short *u* (*ü*).
- α** " " final, regal, where it is of a neutral or obscure quality.
- α** " " all, fall.
- α** " " eve.
- α** " " elate, evade.
- α** " " end, pet. The characters *ě*, *ä*, and *ä* are used for *ä*, *ae* in German, as in Baedeker, Gräfe, Händel, to the values of which they are the nearest English vowel sounds. The sound of Swedish *ä* is also sometimes indicated by *ě*, sometimes by *ä* or *ä*.
- Ě** " " fern, her, and as *i* in sir. Also for *ě*, *oe*, in German, as in Göthe, Goethe, Ortel, Oertel, and for *eu* and *oeu* in French, as in Neufchâtel, Crèveceur; to which it is the nearest English vowel sound.
- e** " " agency, judgment, where it is of a neutral or obscure quality, *ě*.
- i** " " ice, quiet.
- i** " " quiescent.
- i** " " ill, fit.
- i** " " old, sober.
- i** " " obey, sobriety.
- i** " " orb, nor.
- i** " " odd, forest, not.
- i** " " atom, carol, where it has a neutral or obscure quality.
- oi** " " oil, boil, and for *eu* in German, as in Feuerbach.
- oo** " " food, fool, and as *u* in rude, rule.
- oo** " " foot, wool.
- ou** " " house, mouse.
- u** " " use, mule.
- u** " " unite.
- u** " " cut, but.
- u** " " full, put, or as *oo* in foot, book. Also for *ü* in German, as in München, Müller, and *u* in French, as in Buchez, Budé; to which it approximates in English.
- u** " " urn, burn.
- y** " " yet, yield.
- u** " " the Spanish Habana, Córdoba, where it is like a *v* made with the lips alone, instead of with the teeth and lips.
- ch** " " chair, cheese.
- D** as in the Spanish Almodovar, pulgada, where it is nearly like *th* in English then, this.
- g** " " go, get.
- G** " " the German Landtag, and *ch* in Feuerbach, buch; where it is a guttural sound made with the back part of the tongue raised toward the soft palate, as in the sound made in clearing the throat.
- H** " " *j* in the Spanish Jijona, *g* in the Spanish gila; where it is a fricative somewhat resembling the sound of *h* in English hue or *y* in yet, but stronger.
- hw** " " *wh* in which.
- K** " " *ch* in the German ich, Albrecht, and *g* in the German Arensburg, Mecklenburg; where it is a fricative sound made between the tongue and the hard palate toward which the tongue is raised. It resembles the sound of *h* in hue, or *y* in yet; or the sound made by beginning to pronounce a *k*, but not completing the stoppage of the breath. The character *κ* is also used to indicate the rough aspirates or fricatives of some of the Oriental languages, as of *kh* in the word Khan.
- η** " " in sinker, longer.
- ng** " " sing, long.
- N** " " the French bon, Bourbon, and *m* in the French Étampes; where it is equivalent to a nasalizing of the preceding vowel. This effect is approximately produced by attempting to pronounce "onion" without touching the tip of the tongue to the roof of the mouth. The corresponding nasal of Portuguese is also indicated by *n*, as in the case of São Antão.
- sh** " " shine, shut.
- th** " " thrust, thin.
- TH** " " then, this.
- zh** " " *z* in azure, and *s* in pleasure.
- An apostrophe [*ʼ*] is sometimes used to denote a glide or neutral connecting vowel, as in *tāʼbʼl* (table), *kāzʼm* (chasm).
- Otherwise than as noted above, the letters used in the respellings for pronunciation are to receive their ordinary English sounds.
- When the pronunciation is sufficiently shown by indicating the accented syllables, this is done without respelling; as in the case of very common English and other words which are correctly accented. Pronunciation is discussed fully in THE NEW INTERNATIONAL ENCYCLOPÆDIA and in the NEW STANDARD DICTIONARY.

THE NEW INTERNATIONAL YEAR BOOK

ABEL, JOHN JACOB. An American pharmacologist, died in Baltimore, Md., May 26, 1938. Born in Cleveland, Ohio, May 19, 1857, he attended the University of Michigan from 1876 to 1879 when he became principal of the high school at La Porte, Ind., and superintendent of the public schools there in 1880. He returned to the University in 1882 and took his degree of Ph.B. in the following year. Upon graduation he did graduate work at Johns Hopkins University, and in 1884 went abroad, where he studied at the universities of Leipzig, Strassburg (M.D., 1888), Heidelberg, Vienna, Berne, Wurzburg, and Berlin. Returning to the United States in 1891, he was appointed lecturer and professor of materia medica and therapeutics at the University of Michigan. He remained there until 1893 when he was invited to become the first professor of pharmacology at Johns Hopkins. In 1932 he was retired as professor emeritus and then became the director of the Laboratory of Endocrine Research, where he worked until shortly before his death.

One of the earliest workers on hormones, in 1895 he began his researches that resulted in the isolation of the hormone which later enabled other scientists to obtain the pure crystalline hormone. Subsequently, he successfully isolated the external secretion of a tropical toad to obtain epinephrine. In 1926 he succeeded in isolating the hormone of insulin. These achievements classed him as of the first rank in science, and in 1927 he was awarded the Willard Gibbs Medal of the American Chemical Society in recognition of the scientific achievements by which he became accepted as the "chief of the forces of science in creating human happiness."

Considered the foremost authority on the chemistry of the ductless glands and known as the "Father of American Pharmacology," Dr. Abel was associate editor of the *Journal of Experimental Medicine* from 1896 to 1905, when, with Dr. C. A. Herter, he founded the *Journal of Biological Chemistry*. He edited this until 1909 when he founded the *Journal of Pharmacology and Experimental Therapeutics*. In 1932 he retired as emeritus. He organized and founded the American Society of Biological Chemists in 1906 (president, 1908) and the American Society of Pharmacology and Experimental Therapeutics (president, 1908), and in 1932 was elected president of the American Association for the Advancement of Science. A day or two before he died he was elected to membership in the Royal Society, London.

His lectures—Mellon, Harvey, Kober, and Willard Gibbs—all dealt with internal secretions, and

his writings with the subjects of his various researches. He was awarded the Research Corporation Prize (1925), the gold medal of the Society of Apothecaries, London (1928), the Philip A. Conné medal of the New York Chemists' Club (1932), and the Kober medal (1934).

ABKHAZIAN AUTONOMOUS SOVIET SOCIALIST REPUBLIC. See GEORGIAN SOVIET SOCIALIST REPUBLIC.

ABYSSINIA (ETHIOPIA). See ITALIAN EAST AFRICA.

ACADEMY, FRENCH (ACADÉMIE FRANÇAISE). The oldest of the five academies which make up the Institute of France and officially considered the highest; founded in 1635. The membership is limited to 40. The list of the Immortals in 1938, in order of their election, was as follows: Gabriel Hanotaux; Henri Lavedan; Maurice Donnay; Marcel Prévost; Henri Bergson; Mgr. Alfred Baudrillart; Henri Bordeaux; Joseph Bédier (q.v.); André Chevrillon; Georges Goyau; Édouard Estaunié; Georges Lecomte; Émile Picard; Louis Bertrand; Auguste de Caumont, Duc de la Force; Paul Valéry; Abel Hermant; Émile Mâle; Louis Madelin; Maurice Paléologue; Marshal Henri Pétain; André Chaumeix; Gen. Max Weygand; Pierre Benoit; Abel Bonnard; François Mauriac; Maurice, Duc de Broglie; Léon Bérard; Marshal Louis Franchet d'Espérey; Claude Farrère; André Bellessort; Georges Duhamel; Louis Gillet; Edmond Jaloux; Joseph de Pesquidoux; Lucien Lacaze; Mgr. Grente, Bishop of Le Mans; and Jacques de Lacretelle.

On June 9, 1938, Charles Maurras was elected to succeed René Doumic, on June 23, André Maurois to succeed Henri Robert, and on December 1, Jérôme Tharaud to succeed Joseph Bédier.

ACADEMY OF ARTS AND LETTERS, AMERICAN. A society founded in 1904 by members of the National Institute of Arts and Letters for the purpose of furthering and representing the interests of literature, painting, sculpture, architecture, and music. Its membership is limited to 50 chairs, vacancies caused by death being filled by elections from the membership of the Institute.

The membership of the Academy as of Nov. 10, 1938, consisted of the following in the order of their election: George de Forest Brush, Bliss Perry, Abbott Lawrence Lowell, Nicholas Murray Butler, Herbert Adams, Robert Grant, Hamlin Garland, Archer Milton Huntington, Newton Booth Tarkington, Charles Dana Gibson, Royal Cortissoz, Charles Downer Hazen, Wilbur L. Cross, Hermon A. MacNeil, James Earle Fraser, John Huston Finley, William Mitchell Kendall,

Edwin Markham, Robert Frost, James Truslow Adams, William Lyon Phelps, Adolph Alexander Weinman, Walter Damrosch, Anna Hyatt Huntington, Paul Manship, Cecilia Beaux, Eugene O'Neill, Henry Dwight Sedgwick, Walter Lippmann, Frederick J. E. Woodbridge, M. A. de Wolfe Howe, Frank Jewett Mather, Jr., Stewart Edward White, Deems Taylor, Sidney Howard, Charles McLean Andrews, Van Wyck Brooks, Herbert Putnam, Jonas Lie, William Adams Delano, Charles Warren, Bernard Berenson, Frederick Shepherd Converse, Chauncey Brewster Tinker, Albert Spalding, and Sinclair Lewis. At the Annual Meeting held Nov. 10, 1938, the following members were elected: Willa Cather and Stephen Vincent Benét. In December Ellen Glasgow and Thornton Wilder were elected to membership.

From November to May of each year the Permanent Museum and the Art Gallery of the Academy are open and free to the public from 10 a.m. to 5 p.m. on week days and from 2 p.m. to 5 p.m. on Sundays. This season a special exhibition of the works of Charles Adams Platt, a former Academy member, are being shown in the Art Gallery.

All Officers and Directors of the Academy were re-elected for 1938-39. They are: President, Nicholas Murray Butler; Chancellor and Treasurer, Wilbur L. Cross; Secretary, William Lyon Phelps; Directors: Herbert Adams, Royal Cortissoz, Charles Dana Gibson, Robert Grant, Charles Downer Hazen, Archer Milton Huntington, and William Lyon Phelps. Administrative offices are at 633 West 155th St., New York City.

ACCIDENTS. See AERONAUTICS; MARINE DISASTERS; RAILWAY ACCIDENTS.

ACOUSTICS. See PHYSICS.

ADELPHI COLLEGE. A nonsectarian college of liberal arts for women located in Garden City, New York, incorporated in 1896. Adelphi was situated in Brooklyn, New York, until the autumn of 1929 when it moved to its present location in Garden City, where it has a campus of about 70 acres and three buildings. The enrollment for the autumn term of 1938 was 423 and for the summer session of 1938 was 72. The faculty numbered 49. The endowment was \$43,151, while the income for 1937-38 was \$178,348. The Library contained 31,-804 volumes. President, Paul Dawson Eddy, A.M.

ADEN. See ARABIA.

ADULT EDUCATION, AMERICAN ASSOCIATION FOR. A membership organization founded in 1926 for the purpose of furthering the idea of education as a continuing process throughout life. During the last decade the Association has served as a clearing house of information concerning adult education activities; has assisted enterprises already in operation; has helped organizations and groups to initiate activities; and has conducted or sponsored studies and demonstrations. Over 70 books and pamphlets on methods and practice in adult education have been published by the Association or issued under its sponsorship. The *Annual Report of the Director of the Association* is published in May of each year; the *Journal of Adult Education* (the official organ of the Association) is issued in October, January, April, and June. Support for the activities of the Association has been derived from membership fees and from grants made by the Carnegie Corporation of New York.

During 1936-37 a change was made in the program of the Association. Emphasis formerly placed upon experimentation and demonstration was shifted to a study program. The Association is con-

ducting over a five-year period a study of the social significance of adult education in the United States in order to discover the meaning and estimate the worth of adult education as a social movement among the other social movements.

Studies published in 1938 were: *The Music of the People*, by Willem van de Wall; *Women in Two Worlds*, by Mary L. Ely and Eve Chapell; *Man-Made Culture*, by Frank Ernest Hill; *The Public Library—A People's University*, by Alvin Johnson; *Outposts of the Public School*, by Watson Dickerman; *Parents in Perplexity*, by Jean Carter; *Everyman's Drama*, by Jean Carter and Jess Ogden; *Rural America Reads*, by Marion Humble.

The 1938 annual meeting was held in May at Asbury Park, N. J. The following officers were elected: John H. Finley, president; James E. Russell, honorary chairman; Alvin Johnson, chairman; Linda A. Eastman, Hans Kohn, Alexander Meiklejohn, Agnes Seasongood, John W. Studebaker, vice-presidents; Jennie M. Flexner, secretary, and Harold Stonier, treasurer. Headquarters: 60 East 42d St., New York City. Director, Morse A. Cartwright. See LIBRARY PROGRESS.

ADVANCEMENT OF SCIENCE, AMERICAN ASSOCIATION FOR THE. An organization founded in 1848 to advance science to give a stronger and more general impulse and systematic direction to scientific research, and to procure for the labors of scientific men increased facilities and wider usefulness. On Sept. 30, 1938, its membership included 19,347 co-operating individuals. As a general association of the numerous American societies for the advancement of the special sciences, it consisted of 167 autonomous and independent associated scientific societies, 32 being local academies of science.

The Association holds two meetings during the year, one in the summer and the regular annual meeting in December. The last summer meeting was held in Ottawa, June 27 to July 2, 1938, with an attendance of about 1800.

The next meeting, the 103d, was held in Richmond, Va., Dec. 27 to 31, 1938. Although the registered attendance was about 2500, it is estimated that approximately 5000 were in attendance at the various sessions. About 40 affiliated and associated organizations met with the Association together with its 15 sections in connection with the Richmond meeting. Of the 1700 papers presented at the various sessions of the sections and societies, the prize of \$1000 for describing a noteworthy contribution to science was awarded to Dr. Norman R. F. Maier of the University of Michigan for a paper on "Experimentally Produced Neurotic Behavior in the Rat." At this meeting Dr. Charles F. Code, of the Mayo Foundation of the University of Minnesota, read his paper on "The Blood Histamine in Normal and Certain Abnormal Conditions" for which he received the Theobald Smith Award in medical sciences consisting of a bronze medal and a prize of \$1000.

The official organ of the Association is the weekly journal, *Science*. In addition it issues *The Scientific Monthly*, an illustrated magazine of timely articles of general interest by eminent men of science. The permanent endowment of the Association, the income from which is employed to advance scientific research, amounted on Sept. 30, 1938, to about \$242,550.

The president of the Association for 1938 was Dr. Wesley C. Mitchell, Columbia University. The president-elect for 1939 is Dr. Walter B. Cannon, professor of physiology, Harvard University. The

other officers for 1939 were: General secretary, Otis W. Caldwell; treasurer, John L. Wirt; permanent secretary, F. R. Moulton. Headquarters are in the Smithsonian Institution Building, Washington, D. C.

ADVENTISTS. In America the Advent Movement owed its origin to William Miller (1782-1849), who from 1831 taught not only that Christ was coming in person, power, and glory, but that such an advent was at hand and that the date might be fixed with some definiteness. For the early history of the Movement see *THE NEW INTERNATIONAL ENCYCLOPEDIA*, vol. i, pp. 158 ff.

Advent Christian Church. This Church holds simply to the general imminence of Christ's return but takes the position that the day cannot be determined. Headquarters of the general conference are at 160 Warren Street, Boston, Mass.

Seventh-Day Adventists. This denomination, which is the largest of the Adventist group, embraces 10 union conferences in the United States and Canada. It believes that the seventh day of the week, from sunset on Friday to sunset on Saturday, is the Sabbath established by God's law and that immersion is the only proper form of baptism. On the basis of Biblical prophecy, including the prophecy of Christ himself, it teaches the imminence of Christ's second coming, and the end of this world.

The statistical report of the denomination for 1937 indicated 2508 churches in the North American division, 1033 ordained ministers, and 164,490 church members; Sabbath schools, which numbered 2978, had a membership of 151,003. Total contributions from all sources in 1937 amounted to \$8,350,325.41 for the North American Division, and \$4,262,854.21 for the other divisions.

The foreign divisions, including the Australasian, Central European, Chinese, Far Eastern, Inter-American, Northern European, Southern African, South American, Southern Asian, Southern European, and Union of Soviet Socialist Republic divisions, consisted of 5880 churches, 1452 ordained ministers, 288,268 church members, and 10,342 Sabbath schools, with an enrollment of 402,386. Throughout the world there was an increase in membership of 14,619 over 1936. The work was conducted in 385 countries and islands by 69 union conferences, 145 local conferences, and 333 mission field organizations, employing 28,029 evangelistic and institutional laborers, who are using in their work 714 languages and dialects.

The denomination maintains in the United States and Canada 129 educational institutions, which in 1937-38 had an enrollment of 19,271 students. There also are maintained in foreign countries 114 educational institutions with an enrollment of 12,799 students. The denomination has 19 publishing houses in North America and 56 in other countries. The principal periodicals are the *Advent Review and Sabbath Herald*, *Signs of the Times*, *The Watchman Magazine*, *The Canadian Watchman*, *Life and Health*, *Health*, *Liberty*. In all there are 310 periodicals published by the denomination, in 55 languages. Literature in all forms is issued in 194 languages, sales of which, in 1937, aggregated \$4,066,181.07.

The headquarters of the General Conference are at Takoma Park, Washington, D. C.

ADVISORY COMMITTEE ON EDUCATION. See EDUCATION IN THE UNITED STATES.

ÆGEAN ISLANDS, ITALIAN. The islands of Rhodes (Rodi), Castellrosso (Castellrizo), and the Dodecanese group between the island of Crete and

Turkey in Asia. Total area, 977 square miles; total population (June 30, 1936), 140,948, compared with 134,384 (1933), of whom about 90 per cent were Greeks. Rhodes, the capital, had 27,466 inhabitants. Grapes, tobacco, oranges, olives, and vegetables are the main agricultural products. The manufacture of oriental carpets, wine, olive oil, pottery, and tiles are important industries. Production in metric tons was: Barley, 2400 (1934); olive oil, 1100 (1937-38 estimate); tobacco, 100 (1934). In 1935, 660,427 gallons of wine were produced. In 1936, imports were valued at 111,030,000 lire; exports, 13,193,000 lire (lira averaged \$0.0729 for 1936). There is a weekly air-mail service from Brindisi and Athens to Rhodes. In 1937 there were 391 miles of roads. For the financial year 1934-35 the budget was 48,000,000 lire; State contribution, 3,000,000 lire (lira averaged \$0.0825 for 1935). Government is administered by a governor subject to the Italian Foreign Office in Rome. Governor, Caesar Mary de Vecchi, Count of Val Cismone.

AERONAUTICS. Air Transport. In a year when the shifting tides of national and international politics were to leave their mark on almost every field of endeavor, air transport progress was more affected than ever before by its intimate association with governmental agencies. Nowhere was this more apparent than in the North Atlantic where the air lines of five nations continued preliminaries to the establishment of regular scheduled transport.

The long-projected plans for an airship service between Germany and the United States, for example, failed of realization solely because of the inavailability of American helium. Otherwise the Zeppelin Company was completely ready for service. The *LZ-130*, initially intended to be an almost exact sister ship of the ill-fated *Hindenburg*, was substantially redesigned and rebuilt at Friedrichshafen to permit the use of helium rather than the slightly more efficient hydrogen. A request for 19,800,000 cu. ft. of helium was entered with the U.S. government in accordance with the terms of the helium export law which Congress had amended after the *Hindenburg* crash to permit sale for any "non-military" use. Germany's new airship terminal at Frankfort was ready for service. A preliminary schedule for a summer's demonstration flight was announced. Then Secretary of the Interior Harold Ickes refused to approve the export, doubting that Germany wanted helium solely for non-military use. On September 14 the *LZ-130* was christened *Graf Zeppelin* and, inflated with hydrogen, started through a series of flight tests. The request for helium was from time to time renewed in Washington. Permission was even sought to fly the ship with its hydrogen charge to the United States. But at the year's end the anti-Nazi sentiment in the United States had so increased that helium export seemed more remote than ever.

That same sentiment was at least a contributing element to the situation which minimized the effectiveness of the elaborate program of transatlantic airplane flights carried out by Germany during the summer. Deutsche Lufthansa, Germany's official air trust, announced in May that it would once more demonstrate the catapulted mail-plane technique as it had done in 1936 and 1937—this time with a program of 28 crossings. It also expressed itself as being ready to begin immediately on a scheduled transatlantic mail service. July 21 the mother ship *Schwabenland* anchored off the Azores and fired the Diesel-powered seaplane *Nordmeer* down its catapult. Some 17 hours, 42 minutes later it swung in over the mother ship *Friesenland*

anchored in Long Island Sound. The following Monday the *Nordmeer* began its return flight to Horta. Meanwhile, the *Nordwind*, a sister ship, had come in from the Azores. From then until the middle of October one ship arrived after a westward crossing every Monday morning and another took off eastward every Monday evening. Not content with that the Germans sent Capt. Alfred Henke on a non-stop flight from Berlin to Floyd Bennett Field, L. I., on August 11, in a big four-engined Focke-Wulf Condor land transport christened the *Brandenburg*. Finishing the 3985-mile journey with three companions in just under 25 hours, Captain Henke took off August 13 on a return crossing. This time with favoring winds he reached Tempelhof, Berlin's huge airport, in 19 hours, 54 minutes. Meanwhile, on the catapult program Capt. Joachim Blankenburg made headlines on August 1 by completing his 100th airplane crossing of the North or South Atlantic. On September 12 a third seaplane of a somewhat newer model, the *Nordstern*, flew into New York in the record time of 13 hours, 35 minutes.

Great Britain's transatlantic program of 1938 was characteristically severely curtailed by the Air Ministry's preoccupation with its armament program. After announcing no less than six projected flights in three different types of aircraft, the British actually terminated their efforts after a single round-trip crossing. That one, however, was technologically of great interest. On July 20 the unique pick-a-back combination of the flying boat *Maia* and the seaplane *Mercury* took off together from the harbor at Foynes, Ireland. After reaching an altitude of 3000 feet the two ships uncoupled and the *Maia* returned to its base. Twenty hours, 19 minutes later the *Mercury* splashed to a landing at Montreal, delivering a half-ton load of mail, newspapers, and news-reels. The same day it came to Port Washington, L. I. July 27 it was once more back at Southampton after a homeward flight which included four stops made necessary by the ship's limited capacity when launched without the assistance of the *Maia*. Capt. D. C. T. Bennett, accompanied only by a radio man, piloted throughout the trip.

The French, likewise distracted by concern over the condition of their air arm, also fell far short of an announced program of six round-trip crossings. After extensive rebuilding the *Lieutenant de Vaisseau Paris*—huge six-engined Latécoère flying boat originally launched in 1934—took off August 18 from Biscarosse, near Bordeaux, but soon turned back due to propeller trouble. August 23 it took off once more, landed at Lisbon, then pushed on to the Azores. After several days' delay due to weather, it took off August 30 and completed a 22-hour, 48-minute crossing to Port Washington, L. I. On September 6 it started homeward, reaching Biscarosse after a flight "without incident" on September 9. Further crossings were indefinitely postponed by the crisis in European affairs which lead to the pact of Munich.

Save for the continued regular crossings between the United States and Bermuda by flying boats of Pan American Airways and Imperial Airways this completed air-line efforts in the North Atlantic. While such flights continued to command fair public interest they cannot be said to have markedly advanced the actual establishment of scheduled service. Actually, what real progress was made toward that goal took place elsewhere. In Seattle, Wash., the first of 41-ton flying boats which the Boeing Airplane Co. is building for the Pan

American Airways made its first test flight on June 8, and late in November was announced as due for delivery to the air line on December 25. The second ship of the six was at that time undergoing final assembly and the remaining four were well advanced. In the same factory the year's end also saw the first of three big Boeing landplanes destined for Pan American Airways reach completion. The initial trial flight was made on December 31. Equipped with superchargers not only for each of the four engines, but for the cabin as well, these planes were designed for long flights at altitudes up to 25,000 feet. Both of these new Boeing types, flying boat and seaplane, were expected to play an active part in the North Atlantic during 1939. In fact, delivery of two or three of the flying boats was expected to mean the immediate opening of scheduled operation for the transport of mail, passengers, and express between the United States, and at least, England.

In England the De Havilland aircraft works completed some five big four-engined landplanes of the Albatross type, which are also scheduled for experimental crossings to Canada. The first of the ships to be tested suffered an accident during load-carrying tests when its unique plywood construction failed, with the spectacular result that the entire rear end of the fuselage broke off after a landing. But the weak spot was detected and strengthened on the remaining planes. Also being made ready for 1939 Atlantic work was a Short Brothers Empire boat redesigned to permit an increased gross-loading from 42,000 to 48,000 lb. At the year's end came word that the Short Brothers had also started work on three huge landplanes of 71,000 lb. gross and three flying boats of 74,000 lb. gross.

In France the Latécoère Co. completed designs for a flying boat of 146,000 lb. gross loading, and the Potez Co. was far enough advanced on the development of its six-engined flying boat that it built a one-third scale model—itsself large enough to be flown as an ordinary airplane.

Thus the lack of airplanes of large enough dimensions to carry transatlantic loads of mail, passengers, and express was being actively fought on at least three fronts. During October it was learned that the American Export (Steamship) Co. had not only completed plans for survey flights in 1939, looking toward air-line operations to the Mediterranean area to supplement its steamship service; it had also worked out an agreement with Pan American Airways, setting up spheres of Atlantic exploitation for both companies. By its terms it is understood that Pan American will have special rights to operate to England and Scandinavia; American Export Airlines will have similar privileges in the Mediterranean. To the countries between those areas both companies are to share equally. American Export was also able to complete a working arrangement with Italy's air trust, Ala Littoria, similar to that existing for some time between Pan American Airways and Imperial Airways.

The North Atlantic was, of course, only one small part of the international air-transport picture. Across the South Atlantic, Germany and France continued to operate weekly mail flights and both prepared to institute supplementary passenger service in the near future. Significantly both Great Britain and Italy sent missions to Latin America during the year to work out details for setting up transport services across the South Atlantic sometime in 1939. In the Pacific, Pan American Air-



DOUGLAS DC-4 TRANSPORT

This giant 40-passenger transport made its first test flight in June and was to be delivered to the United Air Lines in January, 1939

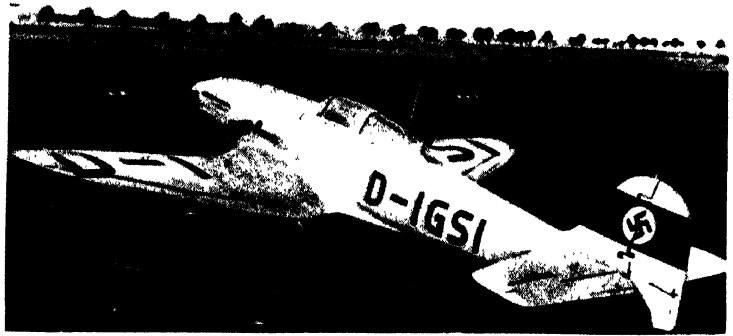


Clyde H. Sunderland, Photo

BOEING CLIPPER NO. 18

This ship, built for the Pan American Airways and destined for transpacific service, is shown at the operating and maintenance base at Treasure Island, San Francisco

AERONAUTICS

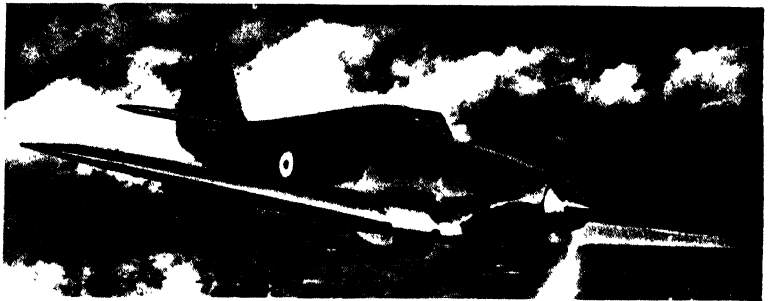


Wide World



Wide World

Upper: GERMAN HEINKEL WARPLANE, CAPABLE OF 485 KILOMETERS (301 miles) PER HOUR
Lower: GERMAN MILITARY PLANES LINED UP AT AVIATION DAY CELEBRATION



Wide World



Wide World

Upper: HAWKER HURRICANE FIGHTING PLANE OF THE BRITISH ROYAL AIR FORCE WHICH AVERAGED A SPEED OF 408.75 MILES AN HOUR IN 327-MILE NIGHT FLIGHT, FEB. 10, 1938
Lower: HAWKER HURRICANE FIGHTING PLANES LINED UP FOR FLIGHT FROM LONDON TO PARIS ON AUG. 7, 1938, MADE IN HALF AN HOUR

ways' spectacular Clipper service encountered its first tragedies. On January 12 the Sikorsky flying boat *Samoan Clipper* took off from Pago Pago, American Samoa, on the last leg of a flight to New Zealand which would have inaugurated a regular air express service between Auckland and Honolulu. A few miles to the south-westward the ship suddenly burst into flames and crashed into the sea. Instantly killed with his seven fellow crewmembers was Capt. Edwin C. Musick (q.v.), Pan American Airways' oldest pilot and trail-blazer for the long 8000-mile route between California and Hong Kong. On July 29 the *Hawaii Clipper* left Guam bound for Manila. At 12:11 a.m. (N. Y. time) a radio message consisting of a routine report of its 565 miles from Manila position was received at Guam; a few minutes later the Guam operator was unable to renew contact. No further certain trace was ever afterward found of the plane, Captain Terletsky, his crew of eight, and six passengers.

On the world's international overland air routes there were few important route extensions. Germany continued survey flights for a service to China and Japan via Afghanistan. Great Britain made final preparations for a flying-boat service between Australia and New Zealand. Germans and Americans operating in Latin America slightly increased their networks. Pan American Airways started a program of survey flights between Seattle and Juneau, Alaska, using a Sikorsky amphibian, flying an all-water route.

All over the world the generalization was true that all the major international air lines carried more traffic in faster and more comfortable planes than they had the previous year. Imperial Airways completed a program, begun the year before, of replacing its landplane equipment with luxurious four-engined flying boats of the Short Empire class. As a result, flying time was materially reduced all over the system and routes could be relocated to eliminate several crossings of non-British territory. London to Alexandria became a two-day, all-air journey; Alexandria to South Africa was reduced to four days, the route being shifted to the east coast and the African terminal being shifted from Capetown to Durban; from Alexandria to Calcutta new schedules were set at three days which brought the total London to Calcutta time down to five days, with a further three days' flight all that was required to put mail and passengers into Australia. By October, Imperial had also put into service the first of her Armstrong-Whitworth four-engined Ensign landplanes on the London-Paris run, and had begun service tests on its first De Havilland Albatross; both these ships had been considerably delayed by the press of military business in British factories, and were badly needed on Imperial's services to European capitals. The comparative obsolescence of Imperial's equipment prior to these deliveries had, in fact, aroused so much criticism in Parliament that in November, 1937, His Majesty's government appointed a board of inquiry headed by Lord Cadman which in April issued a complete report on Imperial, finding many things to criticize, but also in many ways defending the company's management.

Probably the most significant British transport development of the year, however, was the extension of the "Empire Air Mail Plan" to all Imperial routes; by this plan all first-class letters weighing less than half an ounce dispatched from England to any portion of the empire reached by Imperial planes were carried by plane as a matter of course

and without extra postage. Such a plan had been used by the air lines of several Scandinavian countries since 1926 and had been used on Imperial and British Airways lines to the Continent since 1936.

During 1938 England's number two company, British Airways, rose swiftly in prominence. Operating routes to Scandinavia, Germany, and Paris, it continued to purchase high-performance Lockheed transports from the United States and steadily increased its patronage. In August it was this line which so dramatically carried Prime Minister Chamberlain to Germany for his three conferences with Hitler. The Cadman report had recommended that British Airways be definitely recognized as His Majesty's "chosen instrument" for development of British lines to the continent while Imperial concentrated on lines to various parts of the British Empire. Also during the year British Airways was selected to make surveys for and project a route to South America for 1939.

Thus matters stood until late November when Sir Arthur Kingsley Wood, appointed Secretary for Air in May, announced a plan to combine Imperial and British Airways into a single corporation, largely government-owned and directed. Shareholders in the two extant companies were to be reimbursed on a "fair and reasonable" basis, but at the year's end the ideal had not yet been completely accepted and had been attacked as "Tory Socialism." It seemed certain, however, to go through as a part of Britain's determination to maintain a leading position in world air transport.

Air France continued to operate its long services to South America and to French Indo-China, cutting running time on the latter service to a six-day schedule to match Imperial Airways through the use of Dewoitine type 338 air liners. On its European services it also speeded schedules through the use of Bloch-type 220 transports, low-winged twin-engined monoplanes which cruise at 200 m.p.h. while carrying 16 passengers. As a result of this improved service, Air France took a marked leadership over the British in London-Paris traffic.

The Royal Netherlands Airline continued to justify its reputation as "the most thoroughly Americanized air line in Europe." Adding steadily to its fleet of Douglas transports, it, too, slashed flying time to its eastern terminal in the Dutch East Indies. Late in the year it added to this long route an extension to Port Darwin, Australia. It also made very substantial progress in its services in Dutch Guiana. At the year's end it was planning an almost complete relocation of its Asiatic services. Under the new set-up the Netherlands intend to cut straight across Europe from Germany to Basra, thence to Colombo, Ceylon, off the southern tip of India, thence to Batavia; flying day and night they will cut their five-and-a-half-day trip to two and a half. Part and parcel of the plan is the use of four-engined landplanes presumably of the new Douglas DC-4 type, although corresponding German equipment was also being considered.

Germany's Lufthansa improved its services through the widespread substitution of four-engined Junkers Ju 90s (40 passengers) and Focke-Wulf Condors (26 passengers) on their main lines in place of earlier Junkers models. A new Dornier Do 26 four-engined flying boat was flight tested and put into service on the South Atlantic run. The huge field at Tempelhof, undoubtedly the world's most magnificent air terminal, continued to be enlarged and improved under an extensive governmental works program.

Domestic Transport. The air lines within the

United States once more flew more miles and handled more passenger and mail traffic than all the rest of the world combined. Continuing the efforts begun after a series of bad accidents during the winter of 1936-37 the lines drove on to new levels of safety. For the year 1938 the safety-index rose to 22,445,019 passenger-miles per passenger fatality compared with an over-all figure for 1937 of 11,915,079.

The endeavors of the U.S. Department of Commerce to improve its nation-wide system of radio beams were being continued aggressively by the new Civil Aeronautics Authority which took office August 22. The same new Authority included a semi-independent safety board charged not only with investigating all accidents but with suggesting new safety measures as well. Partly at its instigation, the air lines met in Chicago in September and adopted an inter-line agreement whose sole purpose was to insure safer flying through winter months. Competitive schedules were relaxed to permit cruising at only 50 per cent of rated engine h.p., thus relieving strain on power plants and flying personnel. Competing air lines operating from the same airport agreed to dispatch planes under weather conditions approved by all the lines affected, thus eliminating psychological pressure upon dispatchers of individual lines to approve flights under hazardous conditions "just to beat the opposition." The lines also agreed on the free exchange of technical information concerning operations, navigation, and engineering.

Individually, each air line adopted many new safety precautions and several of them carried on extensive research activities which produced gratifying results during the year. American Airlines extended its astounding safety record to three years and more than 400,000,000 passenger miles without a fatality. United Air Lines was instrumental in developing a device (demonstrated publicly for the first time in October) which furnishes the pilot for the first time with a reading of his height not above sea level but above the actual terrain over which he is flying. A joint project of United Air Lines, Bell Telephone Laboratories, and Western Electric, the new "terrain clearance indicator" promises to become one of the most useful aids to safe air navigation developed since the radio beacon appeared during the late 1920's. Other noteworthy safety devices demonstrated during 1938 were an automatic radio compass developed by the Sperry Co., and the Radio Corporation of America; a device to give the pilot warning of an approaching wing stall developed by the National Advisory Committee of Aeronautics; a new method of studying propeller vibrations developed by the Hamilton Standard Division of the United Aircraft Corporation.

A bitter air-line rate-war threatened seriously in the early months of the year when several air lines adopted extreme measures for the stimulation of winter traffic. United Air Lines, and then almost every air line in the country, offered to carry the wife of any air-line traveler free in a drive to eliminate the "family fear" argument encountered so frequently by air-line salesmen. With more direct effect upon the general rate structure, Northwest Air Lines slashed its fares between Chicago and the Twin Cities and between Chicago and the northern Pacific coast States so severely that round-trip tariffs fell to less than two cents per passenger-mile. Western Air Express also made heavy reductions, especially in round-trip rates. United Air Lines cut its fares to the northwest to

levels which competed with the Northwest Air Lines' tariffs. T.W.A. had previously announced a winter bargain reduction of 15 per cent. For some weeks it looked as though the whole tariff structure was headed toward a revolutionary overhaul. Then the normal seasonal increase of travel toward the end of spring seemed to head off the trouble. Most of the "educational" offers were repegged at levels somewhere between the extreme lows and the normals of 1937.

Traffic as a whole gained as satisfactorily as might be expected in the face of a nation-wide business recession. Although the early summer months failed by a small margin to reach 1937 figures, the traffic totals for the first 10 months reached 397,000,000 passenger-miles compared with 355,000,000 for the corresponding period of 1937, an increase of about 12 per cent. Express pound-mileage ran slightly below 1937 levels, yet the actual number of shipments had increased and with it the income netted from such operations by the air lines.

Air mail continued to set new records for each succeeding month. An approximate estimate for the first 10 months showed a total ton-mileage of 6,150,000 ton-miles compared with 5,500,000 ton-miles for the corresponding period of 1937. One feature of the mail-traffic year was a spectacular air-mail week observed during May. Led by Postmaster-General Farley, every post office in the country displayed special posters, arranged newspaper articles, public speakers' programs, school essay contests, etc.—all in observance of the twentieth anniversary of the opening of the country's air-mail service.

Another important air-mail mile-stone was passed during April when Congress enacted the Experimental Air Mail Act. By its terms the Post Office was able late in the summer to call for bids on a unique mail route between Baltimore and West Virginia in which the mail plane called at numerous small towns, picked up sacks of air mail, and dropped others—all without landing. In November the Post Office also asked for bids on a shuttle service between the Camden airport and the roof of Philadelphia's new post-office building to be carried out by autogiro, thus attacking the important problem of expediting air-mail service in large cities whose airports lie in remote suburbs. Also on the post-office docket for approaching months were the establishment of some five very short air-mail routes, with stops at every possible town, in the Rocky Mountain region.

But the most fundamental development in domestic American air transport derived from the passage by Congress of an act creating a new Civil Aeronautics Authority to control all phases of this country's non-military flying. By its terms, the regulatory functions heretofore carried out by the Bureau of Air Commerce within the Department of Commerce, the Post Office, and the Interstate Commerce Commission were transferred to a new independent body. It had some resemblance to quasi-judicial commissions previously existing in other fields, but with the difference that in addition to a commission of five men headed by a chairman, whose functions would be largely quasi-judicial, there was appointed an administrator whose duty it would be to carry out the regulations which the Authority would pass and to maintain and construct Federal aids to air navigation. Also separate from the Authority itself was the safety board of three members, mentioned above.

To this new Authority was assigned not only that control over civil aviation which derives from

the issuance of certificates to pilots, ground personnel, and aircraft, but a complete control of air-line economics. Thenceforth, the establishment of an air line may only be carried out after the Authority has granted a certificate of public convenience and necessity (air lines already operating when the act was passed were to be automatically issued such certificates substantially equivalent to continuing franchises). Thereafter it lay within the Authority's power to determine (indirectly) what each line might charge for passengers and express and what payments should be made to each contractor by the Post Office for the transport of mail (although the Post Office retains control of the designation of which routes should carry mail and at what frequency). The new Authority was also given control over air-line issuance of financial obligations, the power to forbid the discontinuance of an air line, and the permission to veto any air-line merger or pooling agreement it considered against the public interest.

Airports. The steady increase in airplane traffic and in the use of large high-performance equipment and the near prospect of blind landing operations made the air-terminal problem a critical one in many large American cities. Fortunately, the WPA continued to expend large sums on airport projects. On December 3 a résumé of such work showed that of 191 regular air-line ports-of-call in the United States, 169 had been improved through relief funds. However, the questions of maintenance and acquisition of additional land had become so burdensome to many cities that an increasing sentiment was making itself felt in Washington for Federal participation in such expenditures, along the lines of the Federal assistance to state highway departments. As a result the Act creating the new Civil Aeronautics Authority specifically directed that body to survey the problem and submit its recommendations to Congress by Feb. 1, 1939.

Meanwhile, several long squabbles having to do with major air terminals were finally resolved during the year. The question of a site for Washington's air terminal was settled in November when Army dredges began pumping earth fill into a site at Gravelly Point, 2 miles down the Potomac from the present Washington-Hoover airport but still within a 10-minute drive of the city's business district. A joint project of the WPA, the Army Engineers, and the Civil Aeronautics Authority, the new field is to be opened for traffic in 1940. In addition to a system of long runways, big hangars, and a pretentious administration building, the new field is to have buildings ample to house the big personnel of the Aeronautics Authority. New York City, which for more than a decade has resented the fact that its air travelers must use the Newark Municipal Airport, moved swiftly toward completion of a big land and marine air terminal at North Beach, on the northern shore of Long Island, not far from the site of the World's Fair, scheduled to open in May, 1939. Involving the placement of a colossal amount of filling material and the construction of seven huge hangars and two administration buildings, North Beach when finished will have cost the city and the WPA something in the neighborhood of \$25,000,000. But it will be located within 25 minutes of mid-town New York via the new Triborough Bridge and will definitely move the bulk of air-line operations from Newark. By December, the country's three largest domestic operators had signed leases for hangar occupancy and Pan American Airways was negotiating for facilities to be used as a transatlantic terminal.

On the Pacific slope, San Francisco saw the completion of extensive improvements on its own Mills field and on the Oakland airport across the bay. Meanwhile, the grounds of its World's Fair, built up off Yerba Buena Island and reached by the San Francisco-Oakland Bridge, were carefully planned to serve ultimately as a combined land and marine terminal for the city. Pan American Airways had already moved its transpacific terminal to one of the Fair buildings, where Fair visitors will be able to watch maintenance operation on the big clippers through glass partitions. Several of the other Fair buildings, instead of being mere temporary structures, had been built as huge hangars which after the Fair closes can be directly converted to air-line use. Even Los Angeles, which has had a half-dozen rival candidates for designation as the city's air terminal, seemed settled at the year's end on a plan to concentrate its air-line operations at the Los Angeles Municipal Airport (Mines Field).

Individual Exploits. Although the day seems now definitely passed when individual airmen can hope to influence profoundly the development of aviation, a number of individuals did stand out during 1938 through their aeronautical achievements.

Perhaps most spectacular of all was the round-the-world flight carried out in July by Howard Hughes, the young movie producer and sportsman, who in previous years set still-extant American records for the transcontinental crossing and for landplane speed over a 3-kilometer course. On Sunday evening, July 10, Hughes, accompanied by four companions, each a specialist in some field of practical aviation, lifted his heavily loaded Lockheed 14 transport plane off Floyd Bennett Field, L. I. Flying day and night, stopping only for quick refueling at Paris, Moscow, Omsk, Yakutsk, Fairbanks, and Minneapolis, Hughes and his crew landed back at Floyd Bennett Thursday afternoon after an absence of only 91 hours, 8 minutes. The triumph, as Hughes himself was first to say, was one of careful preparation and organization over a period of almost three years.

Nearly as spectacular, yet almost incredibly contrasted in planning and execution, was the feat of Douglas Corrigan who, the week following Hughes' journey, slipped out of Floyd Bennett Field in a nine-year-old Curtiss Robin, equipped with large extra fuel tanks but lacking radio and all but the most rudimentary of flight instruments. Field attendants thought he was merely bound on a return flight to Los Angeles from which he had flown non-stop the preceding week. Regardless, he astounded the world by appearing in Ireland, July 18, with a very few gallons of fuel remaining in his tanks and the boldest excuse an airman ever offered for violating countless rules and regulations; he had somehow, he said, misread his compass and, being above the clouds, had had no inkling of the fact that he was not flying to California. The flight (and the story) so intrigued the public that the reception he received upon his return to America was the most elaborate since that accorded Lindbergh in 1927. Officials meted out only the most nominal of punishments.

A third outstanding American flight was that started from San Diego, June 2, by Richard Archbold, young scientist on the staff of the American Museum of Natural History. With a Consolidated flying boat similar to the standard patrol bomber of the American Navy, Archbold and his crew flew non-stop to Honolulu. June 7 they crossed directly to Wake Island, omitting the call at Midway,

scheduled by Pan American transpacific clippers. On June 9 they pioneered a 2300-mile crossing to the North Coast of Dutch Guinea. A few weeks later Archbold put his ship in service on a long two-year program of exploration of the remote mountainous interior of that island, now one of the few remaining areas in the world which is still occupied by tribes with a pure Stone-Age culture.

Another American flight, less individualistic in tone yet none the less of great significance, was a "Good-will" flight of six big "flying fortress" Boeing bombers of the U.S. Army Air Corps to Argentine and return. At 12:55 a.m., February 17, Lieut. Col. Robert Olds led the squadron off the Miami, Fla., Municipal Airport. At 4:30 p.m. the same day they landed at Lima, Peru, 2695 miles away. After a six-hour stop for refueling, five of the squadron flew southward to Santiago, Chile, then swung eastward to land at Buenos Aires at 11:10 the following morning. The sixth plane, held at Lima by minor mechanical trouble, cut directly southeastward to arrive soon after the rest of the squadron. The return trip, with three stops, was carried out late in February without incident. Twenty-five officers and 24 enlisted men took part in the expedition.

In Europe, the airmen of Great Britain, France, Germany, Italy, and Russia were active in posting new records in the many categories recognized as official by the Fédération Aéronautique Internationale. Most of their record breaking was naturally done on aircraft produced under government contract for national air forces or for air lines closely associated with national governments. Consequently their feats are personal only in a minor degree.

Three flights stood out:

October 7 the pick-a-back combination of *Mercury* and *Maia* took off from Dundee, Scotland, and uncoupled. Two days later the *Mercury*, again with Capt. D. C. T. Bennett at the controls, landed on Alexander Bay, Orange River, South Africa, 6045 miles away. That set a new international record for seaplanes.

On November 8 three single-engined Vickers "Wellesley" bombers took off from Ismailia, Egypt, swung southwestward across Arabia, India, and the Dutch East Indies. One of the three paused briefly at Koepang, 6600 miles from the point of take-off. The other two landed at Port Darwin, Australia, their preannounced goal, 7162 miles from Ismailia. Thus all three broke the former mark of 6306 miles set during 1937 by the Russians on a transpolar flight to California. Squadron leader R. Kellett, RAF, was in command of the squadron during the flight.

In October Lieut. Col Mario Pezzi of the Italian Air Force climbed to an altitude above the Guadonia airport near Rome of 56,000 ft., thus eclipsing the record set in 1937 by the late Squadron Leader Adams of the RAF. Of technological interest was the fact that his single-engined Caproni biplane was equipped with a supercharged cockpit enclosure, the first ever used for such a record attempt.

Women fliers seemed less active in record-breaking attempts than formerly. Outstanding feminine achievement of the year was the winning of the Bendix transcontinental speed race, September 2, by Miss Jacqueline Cochran, flying a single-seater Seversky monoplane, similar to the newest pursuits in service squadrons of the U.S. Army Air Corps. Flashing ahead of a field of nine other entrants, she was forced to fly at altitudes between

16,000 and 22,000 feet to cross above a wide area of bad weather and reached Cleveland after an elapsed time of 8 hours, 10 minutes, 31 seconds, slightly over the record, but still excellent time. After a quick refueling she pushed on to Floyd Bennett Field, L. I., to set a new woman's transcontinental mark of 10 hours, 12 minutes, and 55 seconds.

Private-Owner Airplanes. The manufacture of airplanes for non-transport non-military users remained at approximately the same numerical total as that reached in 1937—about 1500, although the trend toward small planes (selling between \$1250 and \$2000) resulted in a substantial decrease in the total dollar value of this class of airplane production. Toward the year's end, proponents of non-scheduled flying for business and of flying for sport's sake were considerably heartened by the action of the Civil Aeronautics Authority in creating a separate division charged with its general encouragement and support. Even more encouraging was talk in Washington that the United States might finally agree to some plan of subsidizing private flight training as part of a new air-defense program.

Throughout the year American pilots carried out numerous novel flights to demonstrate the utility of the modern 50-h.p. "fivver" plane. In May, during Air Mail Week, one Piper Cub was flown non-stop from Miami to New York and return, refuelings being effected at several points by hauling gasoline in cans from automobiles traveling along beneath the plane. During that same week, literally hundreds of planes of this and larger non-transport types were used in special feeder-line demonstrations to stimulate air-mail interest in some 1100 towns off the regular air-line network. In September another Piper Cub was kept aloft (with automobile refueling) for 103 hours over Syracuse, N. Y. In November a crew kept still another Cub in the air over Southern California for 218 hours, 23 minutes, pilots actually being changed during flight via a rope ladder.

Far more significant than any of these refueling projects was the flight early in December of one Johnny Jones from Los Angeles Municipal Airport to Roosevelt Field, L. I., non-stop flight without refueling of 2785 miles. The plane used was an Aeronca powered with a 50-h.p. Continental engine and fitted with extra tanks to give a total fuel capacity of some 148 gallons. Jones, an ex-vaudeville dancer turned airplane salesman, told reporters he had made his flight "to show you don't need a million dollars to fly, just a third down and easy payments." The total cost of his transcontinental trip was only \$24.75.

Military Aviation. As never before military air armaments played a part in the world's affairs. Active aerial warfare continued in Spain and China, featured by extensive use with ground troops and the continued bombing of open cities as well as of purely military objectives. Later in the year the Royal Air Force was also called into action in Palestine, where the British were encountering great difficulties with the Arabs.

But it was the terrifying potentialities of air power in a war between the powers of Western Europe which really brought the question of air armaments to a new prominence. This is hardly the place for an analysis of the many complex factors which led to and determined the character of the pact signed at Munich, but there is little doubt that the air squadrons built up during the past half-decade by the Axial Powers played a large

part among them. Estimates of the air strength of the nations involved were as different as they were numerous. But a consensus of the more conservative analyses would fix the "first-line" strength of Germany and Italy combined at at least 6500 modern planes of full effectiveness in major warfare. Against these England could have put about 3000 similar planes into the air, France another 1500, Czecho-Slovakia and Rumania a few hundreds at most. Russia remained an almost unknown factor, although it seemed certain that the majority of planes she does possess could not measure up to the quality of the better planes of the Western European Powers.

In any case, Prime Minister Chamberlain's "peace in our time" was evidently coupled with no dream in his mind that Britain could afford to slow up her rearmament program. Far from it. At the end of the year Parliament had acceded to a budget for the RAF for the fiscal year of 1939 of no less than \$1,000,000,000, compared to some \$600,000,000 expended during 1938. France, while still bitterly struggling with its labor problem, was preparing to speed the immediate production of an additional 3000 "first-line" military planes by the end of next year. The largest press ever built, for fabrication of sheet-metal parts, was completed in an American factory and shipped to France for use in aircraft manufacture. The Axial Powers were continuing the smooth flow of quantity production.

By November the scramble by each nation to provide itself with an air force "equal to any possible combination of air forces that might be brought against it" had spread to the United States. Here Assistant Secretary of War Louis Johnson, speaking with apparent White House approval, talked of putting the American aeronautical industry upon a mass-production basis immediately, and of building up the Army Air Corps from a current strength of about 1500 planes to some 9000, the Navy meanwhile presumably building up to its currently allotted 3000. Political observers were not in complete agreement as to whether the Congress, due to assemble Jan. 3, 1939, would underwrite the huge expenses of such a program. But it did seem certain that America would in 1939 very much accelerate its military and naval air program.

Airplane Design. Trends in landplane transport throughout the world were definitely toward the big four-engined carrier accommodating from 30 to 40 passengers. In Germany such planes built by Junkers and Focke-Wulf actually entered service on Lufthansa's European routes. In England Imperial Airways took delivery of the first models of fleets of huge Armstrong-Whitworth "Ensigns" and De Havilland Albatrosses. In the United States the giant 40-passenger Douglas DC-4 transport made its first test flight in June, was tested at gross weights up to 65,000 lb., and was due for delivery to United Air Lines for first service test in January. The first 32-passenger Boeing 307 was also nearing completion.

Of equal interest with the question of air-transport size was that of the advisability of pushing long-range transport operations up into "stratosphere" levels between 20,000 and 25,000 feet. As has been mentioned earlier, Pan American Airways was to take delivery early in 1939 of three four-engined Boeing landplanes equipped with superchargers to keep cabin pressures and oxygen-content equivalent to those prevailing at 6000-8000-foot levels. An even more positive indication of progress in this direction was the publicity given

to a year of high-level research finished in 1938 by the U.S. Army Air Corps upon a specially super-charged Lockheed transport. So successful was this work in producing solutions for the numerous mechanical problems involved that the Collier Trophy "for the most important contribution to American aviation demonstrated during the previous year" was awarded to the U.S. Army Air Corps for the period of 1937.

Perhaps the most progressive airplane design to appear during the year was that of the twin-engined pusher combat fighter delivered to the U.S. Army Air Corps by the Bell Aircraft Co. of Buffalo, N. Y. Armed with two rapid-fire cannon and several machine guns and capable of speeds to match the best pursuits, this new plane promised to revolutionize concepts of aerial defense against bomber attack. Also of considerable significance was the world-wide renewal of interest in rotary-wing aircraft of all types. Germany and Italy had successful helicopters flying throughout the year. Both America and England produced "gyroplanes," modifications of the autogiro. Military authorities, led by the U.S. Army Air Corps, undertook tests of the autogiro as a substitute for captive balloons in artillery spotting. In the closing minutes of its 1938 session the U.S. Congress authorized, but did not appropriate for, a proposed \$2,000,000 program of rotary-wing experimentation.

AFGHANISTAN, äf-gän'i-stän; -stän'. A central Asian monarchy, bounded by the U.S.S.R., Iran, and India. Area (estimated), 245,000 square miles; population (latest estimate), 12,000,000. Chief towns: Kabul (capital), 80,000 inhabitants; Kandahar, 60,000; Herat, 30,000; Mazar-i-Sharif, 20,000. Persian and Pashto are the main languages spoken. Islam is the predominant religion. Free elementary and secondary schools exist throughout the country; for higher education there are various technical, art, commercial, and medical schools, and Kabul University.

Production and Trade. Cereals, fruits, and vegetables are grown in the irrigated plains and valleys. Castor-oil, madder, and asafetida plants are plentiful. The Afghanistan fat-tailed sheep furnish the main meat food, the grease from the tails being used as a butter substitute, while the wool and skins are used for wearing apparel. In 1936 it was estimated that 6800 metric tons of wool were produced. Copper, lead, iron, crude oil, lapis lazuli, and gold are the chief mineral products. Kabul contains factories, owned and supervised by the state, for making buttons, matches, leather, and boots; a factory for making arms, ammunition, and clothing for the army; and a mint.

The chief imports are cotton goods, sugar, dyes, hardware, leather, and silver treasure; exports consist mainly of lamb skins, timber, fruits, skins, and raw wool. Trade is mainly with the U.S.S.R., India, and Iran. The chief routes to India are from Kabul through the Khyber Pass to Peshawar and from Kandahar to the railway terminal at Chaman in Baluchistan. Goods are transported mainly by camels and pack-horses but certain roads are used by automobiles during dry weather. In 1937 there were 1561 miles of roads. There are telephone systems in the larger towns, telegraphic communications linking Kabul and Kandahar with Peshawar and Chaman, and a wireless station able to communicate with India and Eastern Europe.

Government. The budget for 1937-38 was estimated to balance at 150,000,000 Afghan rupees. Afghanistan is a constitutional monarchy, with legislative power vested in a parliament comprising

the King, a senate of 40 members appointed by the King for life, and a national assembly of 120 elected members. King, Mohammed Zahir Shah (succeeded, Nov. 8, 1933).

History. A revolt against Mohammed Zahir Shah's regime was organized during 1938 among the warlike tribes of Waziristan on the Indian side of the Afghan-Indian frontier by a Syrian Mohammedan priest named Sayid Mohammed Sadi. The priest was related to the father-in-law of the deposed King Amanullah of Afghanistan, then in exile in Rome, and was believed to be acting on Amanullah's behalf. He preached a holy war against the reigning Afghan dynasty and on June 20 crossed the border into Afghanistan with some hundreds of armed followers. His force was several times dispersed by Afghan troops and airplanes, but reassembled and gave the Afghan military authorities much trouble before it was finally crushed in a battle in the Gomal valley near Jalalabad on June 24. The rebel forces at this battle totaled about 2000 tribesmen. The priest, known also as the Shami Pir, soon afterward surrendered to the British military authorities in the Northwest Frontier Province of India and was repatriated to Syria. Peace was soon restored in Afghanistan.

A number of new military airplanes received from Italy and Great Britain early in the year aided the Afghan army in suppressing the revolt. To finance the further modernization of the army and other projects forming part of the government's westernization program, strict control of foreign exchange transactions was established in 1938 and the export of gold and silver in any form was prohibited. Pending the establishment of a State Bank, the Afghan National Bank was placed in control of exchange transactions. The government's hope of revenues from newly explored oil deposits were dashed in June when the Inland Exploration Co., owned by the Seaboard Oil Co. and other United States interests, surrendered the oil concession obtained early in 1937. The company reported that its explorations indicated "excellent oil possibilities" but that world conditions made their exploitation inadvisable.

A protocol extending for another 10 years the treaty of friendship and non-aggression signed by Turkey and Afghanistan in 1928 was ratified by the Turkish National Assembly on June 23, 1938.

AFRICA. See the articles on the respective countries and territories, including EGYPT; ITALIAN EAST AFRICA; KENYA; MOROCCO; SOUTH AFRICA, UNION OF; TUNISIA; ETC.

AGNES SCOTT COLLEGE. An institution for the higher education of women in Decatur (Atlanta), Georgia. Founded in 1889. The enrollment for 1938-39 is 500. The faculty number 52 and the administrative staff 16 members. The endowment is \$1,637,000, and the gross income for the session 1937-38 was \$351,000. There are 34,250 volumes in the library. President, James Ross McCain.

AGRICULTURAL ADJUSTMENT ACT (AAA). See UNITED STATES under *Administration and Congress*; AGRICULTURE; BUSINESS REVIEW.

AGRICULTURAL EXPERIMENT STATIONS. Prominent developments in the American experiment station system during 1938 included expanding activities, with increased funds and facilities, and extension and strengthening of co-operative relations of the stations with the U.S. Department of Agriculture and with other agencies interested in agricultural research. There

was greater stabilization and adjustment of research projects and programs making for more efficient use of funds, facilities, and personnel in solving fundamental and long-time problems of wide common interest as well as special problems of more immediate regional or local concern.

The research programs of the experiment stations included approximately 8500 research projects embracing a wide range of agricultural and rural-life problems including land use; soil and water conservation; pasture improvement; crop adjustment; economical production, distribution, marketing, and use of plant and animal products; improvement of the quality of such products; protection against animal and plant diseases, insects, and other pests; tenancy, taxation, and other matters affecting the efficiency of farm business management and the betterment of the rural home and rural life. The stations continued to work closely with other agencies, with each other in regional groups, and with the Department of Agriculture individually and in regional and national groups in efforts to plan and co-ordinate attacks on major problems.

Financial support derived from all sources for the experiment stations aggregated \$19,848,068 for the year ended June 30, 1938, compared to \$17,694,250 in 1937 and \$18,056,000 in 1931, the previous high. Of the total, the United States Government provided \$6,232,500 which included, under the Hatch, Adams, and Purnell Acts, \$90,000 for each State, \$22,500 for Alaska, \$50,000 for Hawaii, and \$40,000 for Puerto Rico. The \$1,800,000 provided under the Bankhead-Jones Act of 1935 was allotted on the basis of rural population. An increment of \$300,000 was to bring the Bankhead-Jones fund total in 1938-39 to \$2,100,000. The research projects included 505 supported with Adams funds, 695 with Bankhead-Jones funds, and 1660 with Purnell funds. Merger of the Federal and Territorial stations in Hawaii was completed during the year, the institution also receiving \$2066 as final direct Federal appropriations, \$81,620 from Territorial and other funds, and it conducted research under sugar processing tax fund allotments amounting to \$79,906. The Puerto Rico College Station at Rio Piedras received \$36,414 of Bankhead-Jones funds and \$140,977 from the Insular government and other sources. The work in Puerto Rico was supplemented by the Federal station at Mayaguez, which increased its service as an outpost of the Department in the Tropics and also made important contributions to the improvement of agriculture in the island.

Gifts and bequests of land and funds for agricultural research were made to several stations. The Maryland University and Station received from Charles E. McManus, farm properties about 18 miles north of Baltimore and valued at more than \$1,000,000, a herd of Ayrshire cattle, other livestock, and over 100,000 chickens. The property or proceeds therefrom were to be used solely for the benefit of agriculture. A trust endowment of \$500,000 for agricultural and chemurgic research was made to the Michigan station by the Horace H. Rackham and Mary A. Rackham Foundation of Detroit, the income to be used for developing new uses for farm products. Income from a gift of \$50,000, known as the Henry Strong Denison Fund for Agricultural Research, was being administered by Cornell University. The Iowa State College Agricultural Foundation, established with broad objectives in agricultural research, received a gift of nine farms with funds for maintenance.

Funds for the Gurine Gulsteen Research Fellowship for farm problems at the Wisconsin University and Station were derived from sale of a farm.

Regional research laboratories, established 1936-38 in major agricultural regions under provisions of the Bankhead-Jones Act of 1935, had begun to function in co-operation with the State experiment stations as important research centers in their special fields and several already had attained a considerable degree of success. The laboratory for vegetable breeding was located at Charleston, S. C., with B. L. Wade as director; for soybean research at Urbana, Ill., O. E. May; grass breeding and pasture research, State College, Pa., R. J. Garber; animal and poultry diseases, Auburn, Ala., B. T. Simms; swine breeding, Ames, Iowa, W. A. Craft; sheep breeding, Du Bois, Idaho, J. E. Nordby; poultry research, East Lansing, Mich., J. H. Martin; and salinity problems, Riverside, Calif., O. C. Magistad, director. Representatives of the Department and of the stations collaborated with these directors in formulating research programs, which were designed to supplement and integrate the work of the States and the Department, especially in basic aspects of the problems as applied to the region as a whole.

Four additional regional research laboratories for new and wider industrial outlets and markets for agricultural commodities, authorized by the Agricultural Act of 1938 with expenditures limited to \$4,000,000 in the fiscal year 1938-39, were, the Secretary of Agriculture announced Dec. 14, 1938, to be located at, and to study designated commodities and by-products with directors as follows: The Southern Laboratory, New Orleans, La., cotton, sweet potatoes, and peanuts, D. F. J. Lynch, director; Eastern Laboratory, Philadelphia area, tobacco, milk products, apples, potatoes, and vegetables, P. A. Wells, director; Northern Laboratory, Peoria, Ill., corn, wheat, and agricultural wastes, O. E. May, director; and Western Laboratory, San Francisco Bay area, wheat, potatoes, alfalfa, fruits other than apples and vegetables, T. L. Swenson, director. The programs being developed for these laboratories were based largely on surveys of current uses, of related research in progress in the State experiment stations and other agencies, and suggestions from many scientists and industrial leaders in the four areas. Plans for buildings to house the laboratories were under way and construction would begin before June 30, 1939.

The administrative and technical advisory functions of the Office of Experiment Stations were enlarged and extended during 1938 by administration of additional research funds made available both to the stations and the Department through the Bankhead-Jones Act of June 29, 1935 (see 1935 YEAR BOOK, p. 11), particularly in connection with establishment of regional laboratories and development of special research projects. Dr. J. T. Jardine, chief of the office, continued to serve as director of research of the Department with enlarged responsibilities under the Bankhead-Jones Act, the Agricultural Adjustment Act of 1938, and other legislation pertaining to the Department's research program. R. W. Trullinger was appointed assistant chief of the office on Aug. 1, 1938. *Experiment Station Record* issued by the office completed its 79th volume.

The improvement of facilities for research and station equipment was noteworthy. The building program of Maryland University and Station, involving \$2,380,341 and begun during the year, included \$1,219,263 for use at College Park, com-

prising \$125,360 for a poultry building and plant, \$114,360 for a home economics building, \$37,000 for greenhouses, and \$15,730 for remodeling the dairy building. The \$5,000,000 building program of the Pennsylvania College and Station included new buildings for agricultural science, agricultural engineering, and forestry. The new forestry building being completed at the Minnesota station at a cost of \$250,000 provided space for the division of forestry and for the Lake States Forest Experiment Station. The Indiana Station was building a new three-story agricultural-chemistry laboratory and an addition to its horticultural building. The new \$600,000 physical science building being built at Kansas College and Station provided facilities for station research in chemistry and physics. Louisiana State University completed the farm center, an elaborate pavilion providing laboratories and offices for several station departments and co-operating divisions of the Department of Agriculture. Improvement of land and buildings acquired in 1935 provided permanent quarters and facilities for a number of departments of the New Jersey Station. Laboratories were built for cotton research at the Alabama station and wool studies at the Montana station, and greenhouses for various lines of investigation were erected at the Georgia Coastal Plain, Kansas, North Carolina, and South Carolina Stations. Construction began in August on a \$4,200,000 improvement program at the National Research Center, Beltsville, Md., the first phase comprising three new general-purpose laboratories and one for cold storage. The program also included construction of new barns, improvements to roads and fences, and installation of new facilities at the Patuxent game research refuge.

A livestock and forestry branch station, being developed by the Arkansas Station on 3000 acres near Batesville, was established to develop a farming system adapted to problem land in the eastern Ozark section. A gift of 100 acres of rich delta land near Clarksville, Ark., was to be operated as a substation for cotton and corn breeding and related crops. The New Mexico Station began research with crops grown under irrigation on its new substation near Albuquerque. A tree-fruit substation was being located on a 45-acre orchard tract near Wenatchee, Washington. A tract of about 37 acres in the Tongass National Forest near Petersburg was conveyed to the University of Alaska for use as a fur-farm experiment station. The 237 acres of land acquired by the Louisiana Station 4 miles east of the campus was to be used as a site for the experimental poultry plant and crops and soils research. A gift of 100 acres at Winters was being equipped by the California Station for horticultural experiments. The South Carolina Truck substation acquired 200 acres of land, partly for field experiments.

The Colorado, Connecticut Storrs, Georgia, Illinois, Maryland, New York Cornell, Oregon, South Carolina, and West Virginia Stations celebrated their fiftieth anniversaries during the year, several with elaborate ceremonies.

Bibliography. Consult also *Experiment Station Record*, vols. lxxviii, lxxix, 1938; *Report of the Chief of the Office of Experiment Stations, 1938*; *Report on the Agricultural Experiment Stations, 1937 (1938)*; *Yearbook of Agriculture, 1938* (all U.S. Department of Agriculture); *Workers in Subjects Pertaining to Agriculture in State Agricultural Colleges and Experiment Stations, 1937-1938*; the *Annual Reports and Bulletins* of the several State Experiment Stations; International Institute

of Agriculture, *International Review of Agriculture*; *Monthly Bulletins of Agricultural Science and Practice* and of *Agricultural Economics and Sociology*; *International Bulletin of Plant Protection* (Roma).

AGRICULTURAL EXTENSION WORK.

Founded on the philosophy that the utility value of knowledge is the best evidence of its worth, agricultural extension work, with its practical farm and home demonstrations, is gradually substituting modern, successful methods of farming and homemaking for antiquated methods. Many forces at work during recent years have demonstrated the soundness and importance of extension work. The far-reaching social and economic changes, national and international, the perplexing problems that farmers are facing, the immense farmer-aid programs, such as those promoting agricultural adjustment, soil conservation, farm ownership, and the like, which have required more intensive individual and group action by farm people, and the confidence that rural people have in extension work have contributed materially toward its development and enabled it to occupy an increasingly larger and more significant place in rural-life improvement.

In 1938 the scope of extension work continued to broaden and extension workers found themselves involved in a larger number of activities which vitally affect the rural welfare than at any time previously. Marked progress was made in every phase of educational work with rural people, particularly in those major lines which are so intimately connected with the improvement of farm business and production methods through practical readjustments in agricultural planning, with land utilization, soil conservation, crop and livestock improvement, poultry flock management, market grading practices, weed, insect, and plant disease-control methods, and constructive development of homemaking and a more satisfying family life.

Agricultural planning with special emphasis on land-use was developed during the year as one of the major activities of the co-operative extension service. Although land-use planning has been a part of the extension program for a number of years, it was considerably broadened, accelerated, and systematized following a conference on July 8, 1938, between representatives of the U.S. Department of Agriculture and the Association of Land-Grant Colleges and Universities. As a result of this conference, the Department and the land-grant colleges agreed to co-operate in establishing democratic and co-operative procedures that would enable farm people to have an effective voice in formulating, correlating, and localizing public agricultural programs. Following this agreement the co-operative extension service was called upon to take the initiative in bringing about the development of long-time land-use plans and programs in co-operation with farm people. County agents were urged to intensify their efforts to build comprehensive programs for rural improvement and in so doing to develop enough uniformity of procedure to permit correlation of community plans on a county basis, then on a State basis, and finally on a national basis, thus providing guidance not only for adequate county and State land-use programs but for a national program as well.

Extension workers were quick to co-ordinate their planning efforts and to assume leadership in organizing and stimulating activities designed to provide basic information upon which to build the land-use plans. More than 2200 county agricultural

planning committees, organized by county agents and composed largely of leading farm people, functioned during the year. They started on the job of analyzing local problems in their relation to national problems and of drawing up long-time plans designed to maintain the best possible condition of the land as well as the economic and social status of the farm population.

Protection of the soil from which he earns his income and protection of the income which he earns from the soil were still twin problems of vital concern to the farm family. The agricultural adjustment act of 1938 was designed as a part of the Nation's effort to meet these problems. In thousands of county and community meetings, news articles, radio talks, and through personal contacts, extension workers explained the provisions of the new Act and helped farmers to understand the program. County agents spent fully one-fourth of their time in helping farmers to get the most out of these programs, although more of the detailed work of local administration was assumed by the farmers themselves. See AGRICULTURE.

In addition to conducting educational work designed to aid farmers in understanding and taking full advantage of the agricultural adjustment program, county agents devoted considerable time to explaining rural-improvement action programs of other Federal agencies. These included the Soil Conservation Service and the Farm Security Administration of the U.S. Department of Agriculture, the Rural Electrification Administration, the Tennessee Valley Authority, the Farm Credit Administration, and the Federal Housing Administration. Agents made considerable progress in co-ordinating on a county basis the programs of these and other Federal and State agencies organized to serve agriculture with the efforts of farmers in order to obtain the maximum values and benefits for agriculture.

In addition to farmer interest in these newer programs, low farm prices, larger surpluses, and increased costs of distribution caused farmers to seek the aid of agents in solving other economic problems. County agents, for instance, sponsored field meetings, marketing schools, market tours, surveys and analyses, exhibits, and work with boys' and girls' 4-H clubs to supply guidance in the use of marketing facilities and outlets. Farm people were helped to market farm produce valued at more than \$640,000,000, largely through co-operative associations and similar groups. Other types of marketing aid provided by the agents concerned inspection and grading, storage and warehousing, market outlets, distribution costs, the effect of trucking on marketing methods, and the economic basis and necessity for marketing agreements.

An aggressive effort was made to teach farmers the principles of sound credit and sound financing and to provide them with information upon which to base their decisions in the wise use of credit. One of the important economic extension activities concerned the agricultural outlook, which is designed to currently assemble and make available to farmers economic information needed in order to make possible intelligent adjustments to probable future conditions.

Vigilance was exercised against insect pests in all sections of the country. Agents helped farmers to fight grasshoppers and chinch bugs in the West, screw worms and boll weevils in the South, Japanese beetles in the East, and many other insects equally dangerous to farm crops and livestock. Comparable attention was given to combating dis-

eases affecting livestock and crops. To avoid losses from smuts and other seed-borne diseases, for instance, as well as to prevent widespread distribution of disease-producing organisms, agents encouraged the chemical treatment of emergency seed stocks.

In support of renewed interest in proper land-use, extension workers co-operated closely with the Agricultural Adjustment Administration and the Soil Conservation Service in building and fostering programs designed to combat the ravages of wind and water on the soil. Such measures as strip cropping, terracing, contour tillage, and the use of seasonal cover crops were taught to farmers by the agents. Farm woodlands were improved through demonstrations in selection-cutting of trees, pruning, timber estimating, prevention of forest fires, and similar improved practices.

Contributions to better farming were made by the extension program in agricultural engineering. Farmers were aided in improving their dwellings and making them more convenient, comfortable, healthful, safe, and beautiful. Plans for economical new and remodeled dwellings and for service buildings to house livestock and store farm produce were provided farmers through the extension service. Advice and training in the care and upkeep of farm machinery and in the economical installation and use of electrical facilities were two of many other engineering phases on which agents taught better practices.

The production of more home-grown feeds, establishment of permanent pastures, and herd improvement were major objectives of extension work in dairying. Artificial insemination commanded increased attention in major dairy counties in some States, where plans were made to give it a prominent place in next year's breeding program. Extension efforts directed toward poultry improvement centered around the growing of healthier chicks, the production and marketing of high-quality eggs, brooding for pullet development, and better poultry housing. To supply an increased need for information on methods of curing and using meat, agents showed farmers how to identify, select, and utilize meat according to quality and cut, and explained the place of meat in the family diet.

Better family living on the farm through a planned food supply produced from the farm was a major part of home demonstration work in 1938. This activity had two objectives, which were to improve health and to reduce cash expenditures. Assisted by home demonstration agents and local leaders, farm women planned and planted family gardens, raised small fruits, and canned and stored supplies of fruits, vegetables, and meats, sufficient to meet the dietary needs of the family during the winter months. As a result of extension teaching more rural families served better-balanced meals than ever before. Likewise, more thought was given to advising mothers regarding the nutritional needs of their children.

One of the big undertakings of the co-operative extension service is to train rural youth through boys' and girls' 4-H club work. (4-H denotes Head, Hand, Heart, and Health.) 4-H club works designed to raise the standards of farming, homemaking, community life, and citizenship through training rural youth to be skillful in their practices of farming and homemaking, to develop co-operative action, to serve the community, to understand and appreciate art, music, literature, and nature, to adopt standards of healthful living, and to acquire proper attitudes, qualities of rural lead-

ership, and good traits of character. More than 1,200,000 boys and girls enrolled in 4-H club work in 1938 benefited from the leadership of extension workers.

The paid force employed to carry on extension activities in 3075 rural counties numbered on Dec. 31, 1938, 8680 workers. Educational work with farmers and farm boys was carried on by 2934 county agricultural agents, 885 assistant agents, and 255 Negro agents. Farm women and girls were helped to solve their problems by 1779 home demonstration agents, 137 assistant agents, and 209 Negro agents. Eleven urban agents were employed to work with women in villages and towns. In addition to these agents in the counties, many of whom gave part of their time to boys and girls in 4-H clubs, there were also 222 county club agents, 53 assistant agents, and 3 Negro agents who devoted full time to 4-H club work. State extension specialists who were recognized authorities on various phases of agricultural and home-economics subject matter numbered 1570. The administrative and supervisory staff consisted of 622 State extension directors, assistant directors, and State, assistant State, and district leaders. About a half million extension-trained farm men, women, and older boys and girls served as unpaid local leaders and helped extension agents in organizing and advancing their local programs.

The expense of carrying on agricultural extension work in the States and Territories is shared by the National Government, the States, the Territories, and the counties that participate in the work. During the fiscal year which ended on June 30, 1938, the co-operative cost was approximately \$31,500,000. Of the total funds allotted, \$18,000,000 was provided by the Federal Government and \$13,500,000 came from sources within the States and Territories.

Bibliography. Consult A. C. True, *History of Agricultural Extension Work, 1785-1923* (U.S. Department of Agriculture, Miscellaneous Publication 15, 1928); A. C. True, *History of Agricultural Education, 1785-1925* (U.S. Department of Agriculture, Miscellaneous Publication 36, 1929); Grace E. Frysinger, *Home Demonstration Work* (U.S. Department of Agriculture, Miscellaneous Publication 178, 1933); C. B. Smith, *Boys' and Girls' 4-H Club Work* (U.S. Department of Agriculture, Miscellaneous Circular 77, 1935); *Organization of 4-H Club Work* (U.S. Department of Agriculture, Miscellaneous Publication 320, 1938); *Meeting the Challenge of Agriculture—A Report of Extension Work in Agriculture and Home Economics*.

AGRICULTURE. Agriculture and its problems continued in 1938 to hold an important place in the affairs of the nation. Cash farm income, including Governmental payments, was nearly \$1,000,000,000 smaller than in 1937, reflecting marked decline in industrial activity, lower levels of income of urban consumers, and the lowest prices for farm products during several years. Improved and generally favorable weather conditions with abundant rainfall were followed by bountiful harvests. There were plentiful supplies of grain and feed for livestock and a reduced but still burdensome cotton crop. Significant trends operating during the year included practically no gain in farm real estate values, a slight decline in farm mortgage debt which had constituted an increasing proportion of the farm values, lessened demand for farm mortgage financing of emergency character and less delinquency in payments, decline in farm own-

ership by farmers, increase in farm taxes, adequate credit, lower volume of outstanding short-term loans, reduced interest charges, a slight gain in farm population, lower farm wage rates, and rising costs for farm machinery but decline in costs of building materials and fertilizers. Exports of agricultural products were rising in response to increased American production, shortage in foreign grain supplies, and reduction in foreign trade barriers under the trade agreement program of the United States. Imports, especially of competitive products, decreased because of the abundant harvests and decline of industrial activity in the United States. The demand for farm products was expected to be somewhat more favorable in 1939 than in 1938, with considerable improvement in domestic conditions offsetting less favorable foreign prospects. The Agricultural Adjustment Act of 1938 contained provisions expected to help the American farmer, including continuation of the Soil Conservation program, stabilization of supplies of cotton, wheat, corn, tobacco, and rice; adjustments in freight rates, new uses and markets; disposition of surpluses; consumer safeguards; marketing quotas; and Federal crop insurance. The programs to rehabilitate needy farmers and adjust their debts, to assist tenants and share croppers to buy farms, and to aid farmers in distress also were continued. Many of these and other significant current trends and problems of American agriculture have been discussed in detail on the following pages. See UNITED STATES under *Congress*; BUSINESS REVIEW; CHEMISTRY, INDUSTRIAL.

Agricultural Situation. Farm Income. The year 1938 was characterized by the U.S. Department of Agriculture as another year of bountiful harvests. The nation's granaries were full to overflowing, the feed supply for production of meat and other livestock products was about the largest in 12 years, and the supply of fibers for industrial manufacture neared the largest on record. Cash income from farm products marketed in 1938 and from Government payments was expected in December to total about \$7,632,000,000, a decline of 11 per cent from \$8,574,000,000 in 1937, attributed to an estimated drop of 18 per cent in receipts from crops, especially grains, fruits, and vegetables, and of 9 per cent from sales of livestock and their products. The 1938 income also compared with \$7,944,000,000 received in 1936, the low of \$4,328,000,000 in 1932, and \$10,479,000,000 in 1929. The reduction in 1938 farm income was held largely due to the marked decline in industrial activity during the year and lower level of income of urban consumers. Prices of farm products were forced down to the lowest figures in several years, but farmers maintained their production plant at about 1937 levels and near the average of the preceding decade. The cash income from all crops, \$3,160,000,000, included grains \$843,000,000, cotton and cottonseed \$667,000,000, fruits and vegetables \$906,000,000, and tobacco \$294,000,000; and from all livestock and livestock products \$3,990,000,000 included meat animals \$1,893,000,000, dairy products \$1,430,000,000, and poultry and eggs \$569,000,000. Gross farm income in 1938, which included cash income from farm marketings \$7,150,000,000, Government payments to farmers \$482,000,000, and the value of goods consumed by the farm family, \$1,250,000,000, would approximate \$8,882,000,000 compared with \$10,003,000,000 in 1937 and \$5,284,000,000 in 1932.

Farm Real Estate. For the first year since 1933, values of farm real estate for the United States as a whole failed to rise. In the year ended

Mar. 1, 1938, the index of average value per acre stood at 85 per cent of the 1912-14 period, the same as in 1937 and compared with 82 in 1936, 73 in 1933, 89 in 1932, and 170 at the 1920 peak. The maintenance of value levels of the year before, despite the sharp decline in farm prices, may be attributed largely to increase in cash income received by farmers in 1937. From 1933 to 1937, the values rose 4 per cent each year and by 1937 were 16 per cent above 1933. Important factors contributing to the rise in farm real estate values included increase in farm incomes, improvement in farm real estate credit conditions by both Federal and private agencies, and the substantially lower levels of farm real estate taxes in recent years. In 1937 increases in the index for the East South Central (5), West South Central (3), South Atlantic (2), Middle Atlantic (1), and East North Central States (2) were enough to offset declines reported for the West North Central (-1), Pacific (-1), New England (-1) States. The aggregate holdings of farm real estate by the five leading groups of lending agencies, the Federal land banks and Federal Farm Mortgage Corporation, life insurance companies, joint-stock land banks, insured commercial banks, and State credit agencies in the Dakotas and Minnesota, were reported at \$1,027,626,000 as of Jan. 1, 1938, about \$31,000,000 below holdings on Jan. 1, 1937. Largest holdings were by life insurance companies, amounting to \$705,207,000. Bankruptcies among farmers were reported in 1938 to have totaled 2479 during the year ended June 30, 1937, 4.5 per cent of all bankruptcies, versus 3642 in 1936, and 5917 in 1933.

Taxes. That farm real estate tax levies per acre again showed an increase in 1937, was reported during the year by the U.S. Department of Agriculture. This was the third consecutive year of an increase over the preceding year, and a survey made among tax officials and tax students in 41 States indicated that for the country as a whole levies of 1938 would average somewhat higher than those of 1937. The index for the United States, on a 1913 base, stood at 161 per cent in 1937, compared with a peak of 241 in 1929 and a low of 153 in 1934. Taxes per \$100 of farm real estate values also rose in 1937, averaging \$1.15, because land values continued on the same level as during 1936 and compared with \$1.13 in 1936 and a high of \$1.50 in 1932.

Prices. The index of prices received by farmers at local farm markets for agricultural commodities was estimated at 96 per cent of the five-year pre-war average on Dec. 15, 1938, and eight points lower than a year earlier. It remained below pre-war average after January, 1938, and was relatively stable throughout the year. With 1937 crops of record proportion moving to market during the first half of 1938, farm-product prices declined through the spring to the index of 92 in May and then rose to 96 in December, the slightly upward trend accompanying improvement in industrial payrolls and consumer incomes. Prices received for all farm products averaged 95 per cent of pre-war in 1938 versus 121 in 1937. Grain prices fell steadily in 1938 except for slight gains in September and December. Prices of cotton and cottonseed rose irregularly from the year's low in January to the high in November. Prices of fruit and of meat animals strengthened from February to July, but ended 1938 at about January levels. Dairy products opened strong, sagged to a seasonal low in June, and finished 1938 16 points below the January level. Poultry-product prices opened relatively weak, and

fell to a seasonal low in March and April but rose in December to December, 1937, levels. Compared with Dec. 15, 1937, grain prices averaged 23 points lower; meat animals, 2; fruit prices, 3; truck crops, 5; and dairy products 24; poultry and egg prices were the same as in 1937; and cotton and cottonseed were up 6 points. Average prices received by producers Dec. 15, 1938, based on reports to the U.S. Department of Agriculture, were estimated for wheat 53.6 cents per bu., corn 43.1, oats 24.4, barley 36.5, rye 32.3, flaxseed 164, soybeans 67, rice (rough) 62, potatoes 61.4, and apples 90 cents per bu., tobacco 18.1 and cotton 8.2 cents per lb., and cottonseed \$23.04 and hay \$.681 per ton. Beef cattle sold for \$6.40 per 100 lb., hogs for \$6.90, veal calves \$8.04, lambs \$7.08, and sheep \$3.69. Eggs were 27.9 cents per dozen, butter 27.4 cents per lb., and whole milk wholesaled at \$1.85 per 100 lb. Wool brought 20.2 cents per lb. and live chickens 13.6 cents. Milk cows sold for \$57.70 each, horses \$79.80, and mules \$97.70. The corn-hog ratio (number of bu. equal in value to 100 lb. of hogs) was 16 versus 15.5 in December, 1937, 9.5 in December, 1936, 16.5 in December, 1935, 6 in December, 1934, and 11.2 the five-year pre-war average. The ratio of prices received to prices paid by farmers dropped from 83 in December, 1937, to 80 in December, 1938.

Farm Labor and Production Expenses. Farm wage rates rose steadily from 80 per cent of pre-war level (\$20.41 per month with board) to 120 per cent in 1937, but in 1938 the rate dropped about 2.5 per cent. Rural living costs, as measured by prices paid for commodities used in living, were 128 per cent of pre-war in 1937, but dropped slightly more than did wage rates in 1938. The supply of labor available for farm work averaged higher in 1938 as non-farm employment increased. Replacement of farm equipment with new and improved machines has tended to reduce the number of workers on farms. This decrease has applied to family as well as hired workers. There was some decline in prices of building materials in 1938, whereas the advance begun in 1933 brought prices of farm machinery to the highest level since 1920 and automobile and truck prices also moved up. Wholesale prices of mixed fertilizers in mid-1938 averaged about 4 per cent below 1937.

Foreign Trade in Farm Products. The value of farm products exported from the United States in the year ended June 30, 1938, increased 158 million dollars or 22 per cent over values of those exported in 1936-37. Imports of commodities which competed with farm products produced in this country decreased 32 per cent in value. These changes were attributed chiefly to abundant harvests last year and the drop in industrial activity in this country, both factors operating to decrease imports of farm products. Other important factors were a shortage in foreign grain supplies and reduction of foreign trade barriers under the trade agreements program of the United States.

The exports of farm products from the United States, exclusive of forest products, rose in value to \$890,756,000 during the year ended June 30, 1938, as compared with \$732,474,000 during 1936-37, and were considerably below the 10-year (1925-35) average of \$1,279,000,000. They were larger in value in 1937-38 than in any fiscal year since 1930-31, and made up 26.5 per cent of the value of all exports versus 26.2 in 1936-37. Indexes of quantity showed that all major groups of agricultural exports were higher for 1937-38 than for 1936-37. Grains dominated with an increase in value of over

\$180,000,000 although all farm exports together increased only \$158,000,000. The grain increase, together with \$20,000,000 increase in tobacco exports, \$11,000,000 rise in fruit products, and smaller increases in other items were partly offset by a \$71,000,000 decrease in value of cotton exports. The volume index stood at 79 per cent of pre-war compared with 56 in 1936-37; 83 per cent in 1933-34; and with 136 in 1926-27. Cotton and linters, 6,251,000 (fiscal year) bales, valued at \$311,702,000, represented about 35 per cent of the agricultural export value; leaf tobacco, 443,505,000 lb., was valued at \$149,169,000; fruits and their preparations \$86,377,000; meats, including animal fats and oils, \$47,757,000; and grains and flour \$214,819,000.

Imports of farm products into the United States during the year 1937-38 were valued at \$1,155,139,000, a decrease of 25 per cent from 1935-36, which totaled \$1,536,695,000, and compared with \$614,000,000 in 1932-33, the low point of the depression. Competitive agricultural imports in 1937-38 were about \$279,000,000 less than in 1936-37, about half of the decline being attributed to commodities in the regularly imported group, including sugar, dutiable wool, hides and skins, and vegetable oils. The principal declines in that group of competitive products, imported in substantial quantities because of unusual shortages in domestic production, were in grains and feeds, particularly wheat and flour, corn and barley, and smaller reductions in other grains, egg products, and most dairy products. The agricultural imports made up about 49.6 per cent of all imports, about \$588,256,000 worth being competitive items and \$566,883,000 non-competitive.

Values of leading competitive farm products imported during 1937-38 were for sugar \$134,795,000; vegetable oils \$77,981,000; raw hides and skins \$40,516,000; wool (dutiable) \$13,612,000; corn \$24,929,000; tobacco \$32,522,000; flaxseed \$24,020,000; copra \$14,433,000; fodders and feeds \$5,628,000; nuts \$15,970,000; cheese \$11,853,000; molasses \$13,031,000; cattle (dutiable) \$11,188,000; and cotton (unmanufactured) \$9,302,000. The leading non-competitive agricultural imports in 1937-38 included rubber and similar gums valued at \$204,776,000; coffee \$133,370,000; raw silk \$87,437,000; cacao \$28,251,000; wool (for carpets, etc.) \$19,087,000; bananas \$30,230,000; tea \$19,762,000; and spices \$8,019,000.

Different aspects of and factors involved in foreign trade in farm products were discussed by Secretary of Agriculture Wallace in his Report for 1938, pp. 3-5, 18, 21, 98-100. See also *Questions and Answers about Farm Exports and Farm Imports (1938)*; *Foreign Crops and Markets 37 (1938)*, pp. 117-140 (Aug. 24, 1938), pp. 323-354 (Nov. 16, 1938), all U.S. Department of Agriculture.

Population. The farm population of the United States was estimated from U.S. Department of Agriculture surveys to total 31,819,000 on Jan. 1, 1938, compared with 31,729,000 one year before. The movement to farms totaled 872,000, the largest since 1933, and to the cities 1,160,000, the smallest during 17 years, except 1934, but a surplus of births over losses from causes other than migration resulted in a net gain of 90,000 persons in farm population versus a loss of 80,000 in the previous year.

Farm Outlook. Features of the agricultural situation in 1938 and indicated developments in agricultural production and marketing in 1939, concerned with demand for farm products, commodity prices, farm credit and labor, equipment and ferti-

lizer, farm family living, and the status and future of field crops for cash and feed, fruits, truck crops, nuts, livestock, poultry and their products, prepared by the U.S. Department of Agriculture in co-operation with State agencies, were summarized in *The Farm Outlook for 1939* (M.P. 333, 1938). Further details were provided in the series of *Agricultural Outlook Charts Books for 1939*, and *The Agricultural Situation* (1938), monthly (all U.S. Department of Agriculture).

Weather in 1938 and Crop Production. Weather conditions since the series of severe droughts extending through 1936 had been decidedly more favorable for agriculture, according to the U.S. Weather Bureau. The rainfall in most areas eastward from the eastern Great Plains usually sufficed for the crops and had largely restored subsoil moisture. However, in the normally drier western Plains, precipitation in 1937, much greater than in 1936, was still below normal and droughty conditions continued in a wide belt northward from the southwestern Plains. Marked improvement did not come until early in 1938, and even then the subsoil moisture was far below normal in the region.

The spring of 1938, one of the wettest on record, brought widespread frequent rainfall providing abundant water for crop needs rather generally. Wet soil in much of the interior, delayed planting of crops, particularly corn and broomcorn, and continued wet weather caused losses of oats from rust, lodging, and sprouting in the shocks in the States from Iowa and Minnesota eastward. All States had above-normal rainfall, except those in a narrow belt in the extreme South from Florida to southern New Mexico, in a limited northeastern area, and in a few localities in the far West. In Florida, however, a severe spring drought developed which damaged truck and citrus fruit. With abundant moisture late in May, the citrus groves improved rapidly. Spring frosts damaged wheat in the southwestern Winter Wheat Belt and fruit in the Central and Eastern States.

Weather conditions during spring and early summer were generally favorable for crops and especially for grass and hay. Dryness in the Dakotas in June, where subsoil moisture was still scanty, was rather unfavorable for spring wheat. Cool weather in June retarded the germination of corn. Widespread showers in the Corn Belt about July 15, however, were timely and helpful, and heavy rainfall in the Eastern States in July corrected accumulated moisture deficiencies. In fact, the heavy July rains did considerable damage to crops, to small bridges, and to roads in eastern and southern areas from New England to Texas.

Hot dry weather in August materially reduced prospects for corn in South Dakota, Nebraska, Kansas, and parts of adjoining States. However, the season was generally favorable, and late season weather was exceptionally favorable for maturing and harvesting. Heavy rainfall during July and August resulted in widespread late blight rot of potatoes in New England, New York, Pennsylvania, and Wisconsin. The hurricane of September 21 caused millions of dollars of damage to crops in New England, estimated by the Department of Agriculture at 6,514,000 lb. of tobacco lost after harvest and 150,000 bu. of onions; hundreds of acres of late potatoes destroyed by flood waters; and 4,000,000 bu. of apples—more than half the estimated production in the region—blown from the trees, which also were damaged extensively. Preliminary estimates of timber blown down indicated

tremendous destruction of the best forest trees. At the end of 1938 reports were that drought conditions in the Winter Wheat Belt had been growing progressively more serious, being most acute in Oklahoma and Kansas and in parts of Texas, Missouri, Iowa, and Nebraska; and the very dry top soil in central and western Kansas was in great danger of blowing. However, these adverse conditions were remedied early in the new year by heavy rains and snow.

Crop Production in 1938. A remarkably high average of crop yields per acre on a below-average acreage was reported by the Crop Reporting Board of the U.S. Department of Agriculture. In 1938 crop yields per acre were nearly 11 per cent above, and the aggregate acreage of the principal (47) crops harvested, 341,846,000 acres, was $3\frac{1}{2}$ per cent below, the averages for the 1923-32 period, which preceded the recent severe drought years. Crop production, also affected by the shift from corn and cotton to less intensive crops, was nearly 5 per cent above average and almost as high as in the most favorable seasons of the past 20 years, except only 1937, when unusually heavy yields resulted in a production surpassing the predrought average by over 13 per cent. The Department pointed out that due to large reserves carried over from the bumper crops of 1937, supplies of some crops which could be stored were relatively larger in 1938 than production figures alone indicated. Appearances of an abundance of crops were attributed in part to the relatively small numbers of livestock on the farms to consume the grain and to a lower level of domestic and foreign demand than was considered normal a few years ago. However, with crop production in 1938 at 104.8 per cent and population at 109.6 per cent of the predrought average, crop production per capita appeared at least 4 per cent lower than in the predrought period.

The wheat crop of the United States in 1938 was estimated at 930,801,000 bu., about 6 per cent above the 1937 crop of 875,676,000 bu., and about 24 per cent above the 1927-36 average of 752,891,000 bu. The total area harvested in 1938 of 70,221,000 acres compared with 64,422,000 acres harvested in 1937 and the 10-year average of 55,325,000 acres. Acreages harvested and total production, respectively, were for winter wheat 49,711,000 acres, 686,637,000 bu.; durum 3,545,000 acres, 40,445,000 bu.; and other spring wheat 16,965,000 acres, 203,719,000 bu. See WHEAT.

Corn production in 1938, estimated at 2,542,238,000 bu., was 4.1 per cent less than the 1937 crop of 2,651,284,000 bu. compared with 1,507,089,000 in 1936 and 2,306,157,000 bu., the average production of 1927-36. The total acreage harvested was 91,792,000 compared with that of 93,741,000 acres in 1937, and the average of 100,259,000 acres. The yield per harvested acre averaged 27.7 bu., exceeded only in the past 15 years by the 1937 yield of 28.3 bu. The 10-year average yield was 22.9 bu. The corn grown for grain was estimated at 2,277,259,000 bu.; the 4,172,000 acres harvested for silage production about 33,475,000 tons; and the balance of the crop, about 5,514,000 acres, was used for forage or grazed by livestock. See CORN.

The oats crop in the United States in 1938 was estimated at 1,053,839,000 bu., about 9 per cent less than the 1937 crop of 1,161,612,000 bu., and 1 per cent larger than the 1927-36 average of 1,042,461,000 bu. The harvested acreage of 35,477,000 acres compared with 35,256,000 acres in 1937 and the 10-year (1927-36) average of 37,961,000 acres. The yield per acre averaged 29.7 bu. versus 32.9 bu. in

PRODUCTION REPORTED BY COUNTRIES IN 1937 AND 1938 OF WHEAT, RYE, OATS, BARLEY, AND MAIZE (CORN) IN BUSHELS •
[International Institute of Agriculture and U.S. Department of Agriculture]

Country	Wheat		Rye		Oats		Barley		Maize (Corn)	
	1938	1937	1938	1937	1938	1937	1938	1937	1938	1937
United States	930,801,000	875,676,000	55,039,000	49,830,000	1,053,839,000	1,161,612,000	252,139,000	220,327,000	2,542,238,000	2,651,284,000
Canada	350,010,000	180,210,000	10,988,000	5,771,000	394,593,000	285,220,000	102,242,000	83,124,000	7,690,000	5,415,000
Mexico	12,000,000	11,216,000	.....	.....	.....	.....	.....	.....	.....	.....
Argentina	184,799,000	249,193,000	3,523,000	7,480,000	47,468,000	54,564,000	23,585,000	29,835,000	174,166,000	359,621,000
Chile	30,394,000	28,702,000	.....	.....	8,474,000	6,894,000	7,523,000	4,519,000	2,211,000	2,670,000
Belgium	17,796,000	15,350,000	15,438,000	13,583,000	37,437,000	35,639,000	3,696,000	3,929,000	.....	.....
Bulgaria	78,998,000	64,909,000	7,401,000	9,387,000	6,132,000	10,094,000	16,259,000	15,153,000	20,393,000	33,828,000
Czechoslovakia	65,708,000	51,266,000	66,139,000	58,447,000	87,496,000	95,547,000	59,617,000	51,214,000	9,087,000	13,511,000
Denmark	16,902,000	13,521,000	11,417,000	9,889,000	79,229,000	70,610,000	62,464,000	30,496,000	.....	.....
Estonia	2,998,000	2,786,000	7,047,000	8,327,000	10,996,000	9,585,000	4,272,000	3,717,000	.....	.....
Finland	7,973,000	7,665,000	14,684,000	16,982,000	56,287,000	49,915,000	9,140,000	8,082,000	.....	.....
France	349,000,000	257,837,000	31,665,000	29,119,000	375,418,000	299,455,000	54,448,000	46,694,000	25,077,000	.....
Germany (including Austria)	214,723,000	178,590,000	356,431,000	289,130,000	462,218,000	436,242,000	205,875,000	178,560,000	7,846,000	20,257,000
Greece	35,934,000	32,373,000	2,448,000	2,579,000	10,886,000	9,755,000	11,664,000	10,341,000	10,596,000	11,915,000
Great Britain	73,136,000	56,186,000	30,300,000	280,000	119,140,000	112,280,000	42,046,000	30,567,000	101,600,000	108,607,000
Hungary	95,866,000	72,157,000	30,747,000	24,325,000	19,185,000	57,121,000	.....	5,606,000	.....	.....
Ireland (with Northern Ireland)	7,890,000	7,154,000	79,000	55,000	.....	42,696,000	11,380,000	10,716,000	108,007,000	134,214,000
Italy	297,317,000	296,280,000	5,437,000	5,701,000	32,726,000	27,903,000	10,903,000	10,032,000	.....	.....
Latvia	7,646,000	6,302,000	14,369,000	16,479,000	29,266,000	26,715,000	12,348,000	12,584,000	.....	.....
Lithuania	9,072,000	8,109,000	24,647,000	23,894,000	.....	2,692,000	148,000	.....	.....	.....
Luxemburg	1,775,000	1,206,000	513,000	392,000	3,100,000	2,692,000	.....	.....	.....	.....
Netherlands	15,138,000	12,555,000	21,259,000	18,928,000	25,284,000	25,567,000	6,706,000	6,224,000	.....	.....
Norway	2,614,000	2,497,000	433,000	443,000	12,521,000	12,985,000	5,721,000	5,933,000	.....	.....
Poland	84,442,000	70,774,000	272,431,000	221,953,000	178,847,000	161,411,000	66,138,000	62,622,000	.....	4,060,000
Portugal	16,534,000	14,540,000	4,700,000	4,642,000	.....	7,376,000	.....	1,994,000	.....	12,774,000
Rumania	181,511,000	138,157,000	26,377,000	17,769,000	38,581,000	35,328,000	50,064,000	42,129,000	208,653,000	187,071,000
U.S.S.R. ^a	102,900,000	102,900,000	16,900,000	863,155,000 ^b	.....	1,099,236,000 ^b	.....	320,058,000 ^b	.....	.....
Spain	30,170,000	25,720,000	15,783,000	16,250,000	98,119,000	87,172,000	11,896,000	9,490,000	.....	.....
Sweden	6,096,000	6,184,000	1,281,000	1,296,000	1,692,000	1,653,000	400,000	387,000	.....	98,000
Switzerland	100,902,000	86,238,000	9,051,000	8,243,000	22,095,000	20,356,000	18,963,000	17,596,000	173,499,000	210,065,000
Yugoslavia	160,424,000	132,985,000	21,267,000	18,822,000	23,254,000	15,436,000	118,727,000	104,719,000	28,130,000	21,301,000
Turkey	402,453,000	364,075,000	.....	.....	.....	.....	.....	.....	.....	.....
British India	.....	636,446,000	.....	.....	60,488,000	.....	.....	292,642,000	.....	.....
China	10,332,000	10,242,000	.....	.....	.....	.....	53,293,000	66,592,000	.....	.....
Korea (Chosen)	30,117,000	32,780,000	.....	.....	.....	.....	.....	.....	.....	.....
Manchoukuo	45,244,000	50,410,000	.....	.....	.....	.....	64,182,000	72,349,000	94,582,000	78,572,000
Japan	23,369,000	17,227,000	.....	.....	689,000	730,000	12,633,000	12,333,000	.....	1,070,000
Syria and Lebanon	32,066,000	33,106,000	72,000	37,000	8,003,000	9,565,000	27,297,000	27,329,000	130,000	140,000
Algeria	45,933,000	45,376,000	.....	.....	.....	.....	10,687,000	10,574,000	.....	.....
Egypt	21,476,000	20,895,000	.....	28,000	3,307,000	2,718,000	46,043,000	37,943,000	7,594,000	65,004,000
Morocco (French)	13,962,000	17,637,000	.....	.....	2,067,000	1,963,000	6,430,000	9,186,000	.....	236,000
Tunisia	188,018,000	151,390,000	.....	.....	.....	.....	.....	.....	.....	.....
Australia	5,730,000	7,169,000	.....	.....	3,187,000	4,407,000	865,000	778,000	.....	.....
New Zealand	10,157,000	16,077,000	725,000	798,000	5,845,000	7,325,000	1,156,000	1,337,000	62,889,000	100,457,000
Union of South Africa	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

^a The production given for countries of the Southern Hemisphere is for the crop years 1937-38 and 1936-37. ^b Average 1932-35. Where no figures are given, statistics are not available.

1937 and 27.1 bu., the 10-year average. See OATS.

Barley production in 1938 was estimated to total 252,139,000 bu. raised on 10,513,000 acres averaging 24 bu. per acre compared with 220,327,000 bu. on 9,968,000 acres averaging 22.1 bu. in 1937. The rye crop in 1938 of 55,039,000 bu. compared with the crop of 49,830,000 bu. in 1937 and the 10-year (1927-36) average production of 36,454,000 bu. It was harvested from 3,979,000 acres compared with 3,846,000 acres in 1937. Rye averaged 13.8 bu. per acre in 1938 and 13 in 1937. Buckwheat produced 6,682,000 bu. from 453,000 acres versus 6,764,000 bu. from 426,000 acres in 1937. The rice crop of 1938 of 52,303,000 bu. was the second largest rice crop of the United States, being exceeded only by the record crop of 53,372,000 bu. in 1937 and was harvested from 1,068,000 acres versus 1,088,000 acres in 1937. See BARLEY, RYE, RICE.

Flaxseed production in 1938 totaled 8,171,000 bu. from 954,000 acres as compared with 7,089,000 bu. and 934,000 acres in 1937. Grain sorghums produced an estimated equivalent of 100,816,000 bu. from 7,792,000 acres versus 97,679,000 bu. from 7,476,000 acres in 1937. The portion of the acreage harvested for grain produced 61,020,000 bu. versus 66,556,000 bu. in 1937. Production of broomcorn in 1938 amounted to 36,700 tons from 263,000 acres, compared with 45,500 tons from 302,000 acres in 1937.

Production of sorghum (sorgo) sirup in 1938 amounted to 11,467,000 gal.; sugarcane sirup, 22,221,000 gal.; maple sugar, 1,084,000 lb.; and maple sirup, 2,777,000 gal. In 1938 the sugar-beet crop was estimated at 11,292,000 tons of beets from 931,000 acres, expected to produce about 1,619,000 tons of sugar, compared with the 1927-36 average of 8,383,000 tons of beets from 760,000 acres. The acre yield was 12.1 tons versus 11.6 tons in 1937. Although the crop was the largest on record, the indicated lower sugar content of the beets would result in lower sugar outturn than the 1,642,000 tons in 1933. The 317,000 acres of sugar cane in Louisiana harvested for sugar, sirup, and seed would produce 484,000 tons of sugar, 79,000 tons more than in 1937, 34,986,000 gal. of molasses, and 7,395,000 gal. of sirup. The 36,000 acres in Florida produced 73,000 tons of sugar, 5,400,000 gal. of molasses, and 2,090,000 gal. of sirup.

The hay crop in 1938 of 90,743,000 tons, the largest crop in a decade, which included 80,299,000 tons of tame hay and 10,444,000 tons of wild hay, was 10 per cent larger than the 82,617,000 tons harvested in 1937 and 14 per cent larger than the 1927-36 average of 79,733,000 tons. The 68,083,000 acres harvested averaged 1.33 tons per acre and the 66,064,000 acres harvested in 1937 averaged 1.25 tons compared with the 10-year average of 1.17 tons. Important kinds of tame hay produced included alfalfa, 28,858,000 tons; clover and timothy, 27,754,000 tons; sweet clover, 1,057,000 tons, lespedeza, 2,758,000 tons; cowpea, soybean, and peanut hay, 7,702,000 tons; grain hay, 4,210,000 tons; sweet sorghum for forage and hay, 8,046,000 tons; and other hay crops, 7,960,000 tons. The crop of lespedeza seed was the highest on record and the production of red and alsike clover seed, the next largest. Alfalfa and sweet clover seed made fair increases, whereas the crop of timothy seed was 41 per cent below that of 1937. See HAY.

The potato crop of 1938 was estimated at 369,297,000 bu. compared with 394,139,000 bu. in 1937 and the average acre yield of 122.8 bu. was not far below the 124.2 bu. in 1937, one of the highest on record. Production of sweet potatoes was esti-

mated to be 76,647,000 bu.; of peanuts harvested for nuts, 1,424,825,000 lb., the largest crop on record versus 1,320,675,000 lb. in 1937; cowpeas harvested for peas, 8,474,000 bu.; and soybeans harvested for beans, 57,665,000 bu., the largest crop ever produced, grown on 2,898,000 acres compared with 45,272,000 bu. from 2,549,000 acres in 1937. See POTATOES.

Tobacco production in 1938 was estimated at 1,455,970,000 lb., about 6.2 per cent under the 1937 crop, from 1,626,000 acres versus 1,735,100 in 1937. The decline in production was contributed to by all classes except Maryland and cigar types, being largely accounted for in a decrease of about 8 per cent in production of flue-cured, 13 per cent in fire-cured, and 4 per cent in burley tobacco. Flue-cured tobacco was estimated at 788,060,000 lb. compared with 854,882,000 lb. in 1937; fire-cured, 99,763,000 lb.; burley, 387,663,000 lb. versus 402,332,000 lb. in 1937; Maryland, 29,250,000 lb.; dark air-cured, 37,863,000 lb.; cigar filler, 46,912,000 lb.; cigar binder, 57,429,000 lb.; and cigar wrapper, 9,030,000 lb. See TOBACCO.

The United States cotton crop in 1938, according to December 1 estimates, was 12,008,000 bales, compared with the record of 18,946,000 in 1937, 12,399,000 in 1936, 10,638,000 in 1935, and 13,201,000 bales, the 1927-36 average. The crop was harvested from 25,346,000 acres versus 34,001,000 in 1937 and 35,496,000, the 1927-36 average. The acre yield of lint averaged 226.8 lb. in 1938 compared with the record yield of 266.9 in 1937. Production of cotton seed would total 5,339,000 tons versus 8,426,000 tons in 1937. See COTTON, articles on other individual crops and production table.

Agricultural Conservation and Adjustment. The Agricultural Adjustment Act of 1938, approved Feb. 16, 1938, and the programs in operation under it were epitomized by Secretary Wallace as the Nation's well-matured answer to the challenge of an undisputed need for profound agricultural readjustments. The Act continued with amendments the Soil Conservation and Domestic Allotment Act with its provisions for acreage allotments and benefit payments; authorized the Secretary of Agriculture to participate in proceedings before the Interstate Commerce Commission with regard to freight rates on farm products; and provided for the establishment of regional laboratories to develop new uses, markets, and outlets for agricultural commodities. It contained provision for commodity loans and marketing quotas, facilities for an ever-normal granary, and for buying up and canceling cotton-pool participation trust certificates. It established the Federal Crop Insurance Corporation with wheat designated for the first experiment. The 1938 AAA farm program (see 1937 YEAR BOOK, p. 18) was changed in several phases to bring it into line with specific provisions of the new Act.

The 1939 agricultural conservation program, as announced Nov. 15, 1938, followed closely the program for 1938, except for changes required by the Adjustment Act of 1938 in acreage allotments and rates of payment. Nationally, the program provided for encouraging soil conservation, for a level of agricultural production that would meet the country's domestic requirements and all possible export markets, and for adequate reserves. To accomplish these objectives, the 1939 program set a national soil-depleting crop goal of between 270 and 285 million acres, provided for conservation payments to participating farmers on the basis of the \$500,000,000 annual appropriation authorized in

the 1938 Act, and provided for continuing soil-building practices, an essential part of the AAA programs since 1936. In addition, \$212,000,000 in price adjustment payments was authorized by the last Congress to be paid to cotton, wheat, corn, tobacco, and rice producers who seeded within their farm acreage allotments. A range conservation program, similar to that in effect in 1938, was part of the general program. The national acreage goals, to be divided among States, counties, and individual farms, were for corn 94,000,000 to 97,000,000 acres, cotton 27,000,000 to 29,000,000, wheat 55,000,000 to 60,000,000, rice 850,000 to 880,000, peanuts 1,550,000 to 1,650,000, potatoes 3,100,000 to 3,300,000, tobacco 1,480,000 to 1,560,000 for different types, and general crops (including commercial truck) 145,000,000 to 150,000,000 acres. These goals totaled more than 270 to 285 million acres, as the estimated acreage of general crops included corn and potato acreage outside of designated commercial producing areas. A range of payments was announced for each commodity.

In referendums held Mar. 12, 1938, farmers voting approved by more than the required two-thirds margin, marketing quotas comprising the crops from allotments of 26,300,000 acres for cotton; and 705,000,000 lb. of flue-cured tobacco, and 145,000,000 lb. of fire-cured and dark-air-cured tobacco in the marketing years beginning Aug. 1, July 1, and Oct. 1, 1938, respectively. In similar referendums on marketing quotas for the 1939 season held Dec. 10 and 17, 1938, 84.1 per cent of voting farmers favored the cotton quota, while the majorities favoring quotas on burley, flue-cured, and fire-cured and dark tobacco fell short of the required two-thirds, and but 48.2 per cent of the voting rice growers favored a quota for rice.

Payments to farmers in all parts of the country under the 1937 program, together with county, State, and national administrative costs up to July 1, 1938, totaled \$333,352,382. Payments to farmers including county expenses totaled \$315,569,403. Payments in 1938 and 1939 to nearly 5,000,000 farmers under the 1938 program were expected to exceed \$450,000,000, compared with approximately \$330,000,000 under the 1937 program. Besides the conservation payments, cotton farmers would receive about \$130,000,000 under the 1937 cotton-price-adjustment payment plan. Payments to be made under the Sugar Act of 1937 to producers of sugar beets on their 1938 crop would total about \$20,000,000 and payments to sugarcane producers in Louisiana and Florida about \$6,000,000. The first payments from the appropriation of \$212,000,000 for price-adjustment payments would be made to winter wheat producers probably early in 1939. Payments to producers of cotton, corn, spring wheat, rice, and tobacco would be made during the summer and fall of 1939 following the checking of compliance with the 1939 acreage allotments.

Expenditures during the 1937-38 fiscal year for diversion from regular commercial channels of price-depressing surpluses of agricultural products approximated \$54,000,000. In the purchase of over 40 different agricultural commodities distributed for relief use by State welfare agencies, the Federal Surplus Commodities Corporation spent over \$45,500,000 and more than one billion pounds of food-stuffs were procured. Diversion programs for developing new uses and encouraging new domestic markets and exports for agricultural surpluses took slightly more than \$8,500,000. The Corporation was authorized in July, 1938, to buy when necessary during the current season surpluses of oranges, fresh

peaches, vegetables grown in the northeastern States, and wheat and wheat products including flour and cereals. A wheat and flour export sales policy, announced for the 1938-39 marketing season, was expected to result in United States exports of about 100,000,000 bu.

The Federal Crop Insurance Corporation was created by the Agricultural Adjustment Act of 1938 with the primary objective of alleviating economic distress caused by wheat failure due to drought and other causes and was provided capital stock of \$100,000,000, of which \$20,000,000 was available for the first year's operation, beginning with the 1939 wheat crop. The board of directors, including M. L. Wilson, J. W. Tapp, and R. M. Evans, appointed Roy W. Green as manager on Feb. 23, 1938, and he was succeeded Dec. 30, 1938, by Leroy K. Smith. Branch offices were set up at Kansas City and Minneapolis with a small one for the Eastern States at Washington, D. C. County committees of the Agricultural Adjustment Administration served as local units for handling the insurance and State committees assisted in supervision. The policies guaranteed that farmers would have from 50 to 75 per cent of their average wheat crop to sell, despite unavoidable losses from hail, grasshoppers, fire, flood, and drought. The premium rate was based on the loss history of the individual farm and the county for a 10-year period, and the premium might be paid either in warehouse receipts for wheat of the specified class and grade or in its cash equivalent. The grower's losses were to be reimbursed in bushels of wheat or the cash equivalent. Wheat prices would not influence operations of the insurance program. The Corporation reported that on Dec. 1, 1938, 234,485 growers had applied for the insurance, more than 103,000 premium payments, largely from growers in midwestern and Great Plains States, had been received, and the insurance reserve holdings of wheat amounted to 3,069,000 bu.

The Agricultural Adjustment Administration administered the conservation and adjustment program under the general direction of Howard R. Tolley until October, 1938, when major changes were made in the general structure of the U.S. Department of Agriculture. Activities under the Sugar Act of 1937 and the Federal Surplus Commodities Corporation were each given bureau status and the latter assigned marketing and marketing agreement programs and surplus division activities of the adjustment administration, and program planning activities were transferred to the Bureau of Agricultural Economics, now headed by Mr. Tolley. R. M. Evans was then appointed administrator of the Agricultural Adjustment Administration. Its major responsibility would continue to be administration of the national conservation and adjustment program, buttressed by an ever-normal granary through commodity loans, marketing quotas, and parity payments when authorized.

Farm Credit Conditions. The volume of short-term credit used by farmers was expected by the U.S. Department of Agriculture, late in the year, to be greater in the immediate future than in 1938, primarily because of loans by the Commodity Credit Corporation on cotton, corn, and wheat; substantial carry-overs of debt from 1938 by cotton, wheat, and vegetable growers; and increased demand for livestock financing. There would be ample short-term credit for meeting all demands by farmers of good credit standing, and the Farm Security Administration had an increased appropriation for loans to rehabilitate farmers un-

able to obtain credit from customary sources. Plentiful supplies of credit for co-operative purposes would also be available.

Outstanding personal and collateral loans to farmers held by commercial banks and short-term loans held by the Farm Credit Administration increased during the year ended June 30, 1938, from \$956,700,000 to \$1,167,700,000, or more than 22 per cent, this increase largely being accounted for by a rise of \$199,300,000, or 27 per cent, in loans held by commercial banks. The outstanding loans of banks for co-operatives increased during 1937-38 from \$45,000,000 to \$81,200,000, which comprised commodity loans \$28,600,000, operating-capital loans \$29,800,000, and facility loans \$22,700,000. Since its inception the Rural Electrification Administration had allotted \$142,000,000 for loans for construction of rural distribution lines and 5-year loans to finance installations of wiring and plumbing in 45 States. From July 1 to Sept. 30, 1938, allotments totaled \$54,300,000, compared with \$29,300,000 during 1937-38 and \$46,400,000 during 1936-37. Community and co-operative enterprise loans made by the Farm Security Administration amounted to nearly \$2,000,000 in 1937-38.

Exceptionally large increases in bank loans in the Southern States evidently were for storage of the immense cotton crop of 1937, for on Aug. 31, 1938, commercial banks held about \$109,000,000 of Commodity Credit Corporation loans on cotton versus no loans of this type a year earlier. These loans, made available in 1938, averaged about 59 cents per bu. on wheat and 8.3 cents per lb. on $\frac{7}{8}$ -inch middling cotton. That loans on the 1938 corn crop, as required under terms of the 1938 Agricultural Adjustment Act, would be made at the rate of 57 cents per bu. to farmers in the commercial corn area was announced Nov. 10, 1938. Disbursements on loans made by the Commodity Credit Corporation during the late months of 1937 and through Aug. 31, 1938, on the 1937 cotton crop amounted to \$125,200,000 and on the 1937 corn crop \$9,600,000; and there were \$7,700,000 advanced during the first eight months of 1938 on turpentine and rosin, and about \$25,000,000 were advanced on miscellaneous commodities, including butter, peanuts, prunes, raisins, wool and mohair, wheat, dates, and figs.

There was a reduction during the fiscal year 1937-38 in new loans made from special appropriations for rehabilitation and emergency relief purposes. Emergency crop production loans administered by the Farm Credit Administration amounted to only \$21,600,000 during 1937-38 as against \$33,000,000 during 1936-37. However, loans for rehabilitation and emergency purposes, made by the Farm Security Administration, amounted to \$67,300,000 during both 1937-38 and 1936-37, and its additional grants to distressed farmers and their families exceeded \$26,000,000 during 1937-38 and approximated \$34,500,000 during 1936-37.

Since the peak of the demand for emergency financing had passed, demand for farm mortgage credit was expected to continue at the relatively low levels of 1937 and 1938, and no substantial change in the amount of credit required for land transfers was in prospect. Commercial banks, life insurance companies, and other private lenders were lending on farm mortgages much more freely than even two years ago. Funds available for such loans from both Federal and private agencies were abundant. Increased amounts were available for tenant-purchase loans under the Bankhead-Jones Farm Tenant Act, i.e. \$23,750,000 for 1938-39, compared to \$9,200,000 in 1937-38, and making 731

counties eligible for these funds. The Federal Housing Administration had been authorized to insure mortgage loans on farm real estate under specified conditions.

Farm mortgage indebtedness increased from \$3,320,470,000 in 1910 to \$7,857,700,000 at the beginning of 1920, and by 1928 totaled about \$9,469,000,000. A 17 per cent decrease—largely through foreclosures—occurred from 1930 to 1935, and on Jan. 1, 1937, the estimated indebtedness had been reduced further to \$7,254,821,000. Personal and collateral loans to farmers by commercial banks rose from about \$1,608,000,000 in 1914 to a peak of nearly \$3,870,000,000 in 1920, and then declined almost continuously to below \$600,000,000 in 1936. The reduction since 1920 was accompanied by a decrease of almost one-half in the number of banks operating in the agricultural areas. From June, 1936, to June, 1937, these loans increased 10 per cent. Total farm-mortgage debt decreased about \$173,000,000, or more than 2 per cent during 1937, and farm-mortgage loans held by leading lending agencies, accounting for about 60 per cent of the entire debt, decreased about 1 per cent during the first half of 1938. The estimated outstanding farm-mortgage debt of \$7,082,000,000 for Jan. 1, 1938, was 7 per cent below the total for Jan. 1, 1935, and 23 per cent below the total for Jan. 1, 1930. Outstanding farm mortgage loans held by Federal Land Banks and Land Bank Commissioner totaled \$2,803,764,000 on June 30, 1938; by life insurance companies (estimated) \$891,000,000; commercial banks \$512,774,000; and held by joint stock land banks \$94,139,000. Consult the *Credit Outlook for 1939* (Agr. Financial Rev. 1: [No. 2] 1-10); *A Graphic Summary of Agricultural Credit* (M.P. 268), both U.S. Department of Agriculture, 1938.

Farm Credit Administration. A co-ordinated credit system for agriculture was provided by the Farm Credit Administration and permanent institutions under its supervision, including Federal land banks, National farm loan associations, Federal intermediate credit banks, and banks for co-operatives. Also under its jurisdiction were emergency crop and feed loan offices, expected to be temporary in character, and the regional agricultural credit corporations, Agricultural Marketing Act revolving fund, and joint stock land banks which were in the process of orderly liquidation. Other agencies of the credit administration included its examination, finance and research, legal and credit union divisions, and the co-operative division with research, service, and educational subdivisions. Governor William I. Myers resigned July 1, 1938, to head a department of Cornell University and was succeeded Aug. 20, 1938, by deputy governor Forrest F. Hill. E. A. Stokdyk and Rufus R. Clarke were appointed deputy governors during the year.

Current interest rates on the several types of loans were: On Federal land bank farm mortgage loans 4 to $4\frac{1}{2}$ per cent; on new loans and Land Bank Commissioner farm mortgage loans 5 per cent as basic rates but reduced by Act of Congress to $3\frac{1}{2}$ and 4 per cent, respectively, for interest due on installment dates prior to July 1, 1940; production credit loans to finance farm and ranch operations 5 per cent; and farmers' co-operative-commodity 2 per cent, operating capital 3 per cent, and facility loans 4 per cent. The current totals of these loans are shown above. Federal land bank bonds totaling \$22,439,300 bearing 4 per cent interest were called on May 1, 1938, and about \$14,000,000 at $4\frac{1}{4}$ per cent were called Nov. 1, 1938, both for cash redemption.

Co-operative surveys by the credit administration and State agencies during the year showed 15,573 farmers' co-operatives and mutual companies in the United States, including 10,900 engaged in marketing farm products, purchasing farm supplies, or related services; 2500 mutual irrigation companies; and 1940 mutual fire insurance companies. More than 3,000,000 persons were estimated to hold membership in these organizations and at least 500,000 more patronized them without membership. The heaviest concentration was in the North Central States, although associations in Eastern, Southern, and Pacific States have advanced since the depression. The marketing and purchasing co-operatives carried on a marketing business of \$1,960,000,000 in 1937-38, 10 per cent increase over 1936-37, and increased by 23 per cent the volume of co-operative purchasing, buying supplies worth \$440,000,000. Mutual fire insurance companies had in force enough fire insurance to cover to three-fourths of its value more than half of all the insurable farm property in the United States, the insurance totaling more than \$11,000,000,000 and held by about 3,260,000 members. (See *Agricultural Co-operative Associations in the United States*, Farm Credit Quar. 3: [No. 3] 1-9, 1938.) The 535 production credit associations, serving every agricultural county in the country, made about 240,000 loans in 1938 for \$300,000,000, nearly \$15,000,000 above 1937. These associations had 263,000 members, investing \$14,000,000 in voting stock in their associations. Consult also the *Fifth Annual Report of the Farm Credit Administration, 1937*, *Farm Credit Quarterly*, *Agricultural Financing Through the Farm Credit Administration, 5 Years of Progress in Co-operative Credit*, and *Short-Term Credit—A Good Farm Tool* (all Farm Credit Administration, 1938).

Farm Security. Rehabilitation loans totaling \$65,068,016 to nearly 200,000 needy farm families, many from relief rolls, were made by the Farm Security Administration (Will W. Alexander, administrator) during the fiscal year 1938 to enable them to become self-supporting farmers. More than 649,000 families received individual rehabilitation loans totaling \$216,876,146 since the program began in July, 1935. Although most of the loans were not yet due, over \$52,000,000 was repaid up to June 30, 1938, and nearly 63,500 families had paid back in full. The scope of farm activities was widened for 47,310 families by 2952 community service loans involving a total of \$1,934,703 to make heavy equipment, improved livestock sires, and other group services available to farmers in neighborhoods previously without them. In drought and flood areas and in cases of emergency distress, 7010 families received emergency loans totaling \$1,009,396, and about 250,000 families received emergency relief grants amounting to \$23,062,062 during 1937-38.

Progress surveys indicated that throughout the country, except in areas suffering from drought and other catastrophes, standard rural-rehabilitation clients had increased their home food production, farm diversification, working equipment, living standards, and total net worth. An analysis of 70,000 rural rehabilitation families, based on studies in eight States and other areas, showed that practically all rehabilitation clients were bona-fide farmers and that most of them were tenants. The groups largely comprised middle-aged farmers whose families were larger than average for the farm population in their respective areas and below the minimum for decent standards of living.

Many farmers continued to need help in obtaining adjustments of their debts and conciliation of

creditor's claims. During the year the farm debt adjustment service, working with local voluntary committees, aided 16,663 families to reduce farm debts aggregating \$56,500,000 by a total of \$13,692,560. Since 1935 settlements were completed in 80,255 cases involving \$265,803,668; the reductions of \$65,961,643 obtained enabled farmers benefited to pay \$4,175,759 in back taxes to local agencies. The adjustment committees also adjusted indebtedness of group enterprises, such as irrigation and drainage district bond issues, securing reductions in 1937-38 totaling \$3,269,462 from debts amounting to \$5,159,560 and involving 4472 farmers.

Careful initiation of the program authorized by the Bankhead-Jones Farm Tenant Act of 1937 (see 1937 YEAR BOOK, p. 21) resulted, by June 30, 1938, in 1887 loans from the \$10,000,000 appropriation, to tenants, share croppers, and laborers for purchase of farms. The loans to finance the average farm purchase of 130 acres averaged \$4890, of which \$4077 was spent for the farm and \$804 for repairs and improvements. Great differences in land costs and farming methods as between various regions resulted in family-sized farms costing almost triple in some States as in others, and size of farms bought showed even greater disparity. The 105,868 applications received July 1-Dec. 15, 1938, and those from eligible farmers not receiving loans in 1937-38 made a total of more than 140,000 applications for the 5000 loans available under the 1938-39 appropriation of \$25,000,000.

Rural homestead projects, completed or under development, included scattered farm, farm community, and subsistence-homestead projects, and numbering 146, were expected ultimately to accommodate 15,417 families. The 76 completed by June 30, 1938, cared for 6264 families. Construction activities on the projects were marked chiefly by the evolution of new low-cost construction methods making it possible to build four- and five-room farm houses for \$1050 to \$1350.

Construction was completed on June 30, 1938, in the greenbelt towns, suburban to Washington, Cincinnati, and Milwaukee, respectively, and the first families occupied homes in Greenbelt, Md., in October, 1937, and in Greenhills, Ohio, and Greendale, Wis., in May, 1938. Greenbelt, Md., had an established local government at the end of the year, while Greenhills and Greendale were still administered by managers of the security administration and were under the political jurisdiction of their counties. These projects were designed primarily to provide modest, wholesome homes for low-income families in crowded cities.

World Agriculture. Exceedingly active agricultural policies have been developed in practically all foreign countries during the period since the world depression began. Governmental intervention for agriculture, as reviewed and appraised by the U.S. Department of Agriculture, has ranged from protection against imports through simple customs duties to far-reaching state control of all phases of agriculture in totalitarian states. The decline in imports and rise in production in deficit countries resulting from these policies has been held responsible in considerable measure for the large decline in agricultural exports from the United States since 1929. These exports also have been affected by intensification of competition on world markets from other surplus-producing countries, partly due to governmental policies. No rigid line of demarcation exists between surplus and deficit countries, for surpluses in one branch of agricul-

ture may accompany deficits in others and vice versa.

The five leading deficit countries—the United Kingdom, Germany, France, Italy, and Japan—which have been the most important foreign outlets for American agricultural products currently, have well-developed systems of agrarian protectionism for the benefit of domestic agriculture. In Great Britain, France, and Japan, the protective system also has considered the interests and problems of their colonial empires. Methods employed in deficiency countries have included import restrictions, the quota device, foreign exchange control, internal regulation of the marketing, production, and even consumption of agricultural products (reaching a climax in totalitarian states), and relief from the burden of farm debt. Policies of surplus-producing countries, including Canada, Australia, Argentina, Brazil, Netherlands, Denmark, and Hungary, which compete with the United States on world markets, were developed around the central problem of control of surpluses, which had depressing effects on agricultural prices. In Soviet Russia, normally a surplus-producing country, the problem had been a reorganization of agriculture along socialist lines and an increase in output of farm products. Among methods adopted to deal with the surplus problems were subsidization of exports, devaluation of currency, preferential trade agreements, and with animal products in the Netherlands and Denmark, the restrictive type of production control. (For details consult *Foreign Agriculture* 2:3-56; 59-11, 1938.)

Conditions and trends in agriculture in foreign countries which affected or might affect the agriculture of the United States, especially in world trade, included recent farm labor and social legislation in England, the Indian textile industry and American cotton, agricultural development in Newfoundland, crop diversification in Jamaica, wheat marketing plan in South Australia, and establishment of a fruit monopoly in New Zealand; the increased consumption and expanding market for American tobacco in the Scandinavian and Baltic countries, the hog industry in the Baltic States, colonization and land settlement in Finland, and home industries in rural Norway; agriculture in the new trade agreement with Czecho-Slovakia and fixed prices and reduced acreages for the Czecho-Slovak beet-sugar industry; regulation of production of citrus fruit in Algeria; economic implications of the Austria-German union, Germany's plans to reconstruct Austrian agriculture, consolidation of scattered farm holdings, and farm labor shortage in Germany; inauguration of a five-year plan in Hungary; the hog industry in the Netherlands; farm aid and new cereal policy in Poland; encouragement of colonial cotton production by Portugal; cotton growing, and state grain farms in the Soviet Union; national planning of agriculture in Iran; Turkish aid to institutions handling farm products; land conservation in Yugoslavia; trends and possibilities of cotton production in China, the Chinese textile industry and American cotton, the effect of the Sino-Japanese conflict on Chinese agricultural production and trade, and the exchanging of finished textiles by Japan for Australian wool; wheat production, regulation of the flour and the fruit and vegetable industries, and liquidation and refinancing of mortgage debts in Argentina; agriculture in Peru; control of the banana industry in Ecuador; agricultural expansion in Colombia; government price-control of foods, control of henequen,

and a new agricultural program in Mexico; and crop diversification in Cuba.

Bibliography. Publications in 1938 or late in 1937 which considered agricultural problems of current interest included—**United States:** F. App and A. G. Waller, *Farm Economics, Management, and Distribution* (Philadelphia, 1938); H. H. Bakken and M. A. Schaars, *The Economics of Co-operative Marketing* (New York, 1937); A. C. Bunce, *Economic Nationalism and the Farmer* (Ames, Iowa, 1938); D. L. Crawford, *Hawaii's Crop Parade* (Honolulu, 1937); C. D. Dawson, *Plant Chemistry—A Guide to Experiments in Growing Plants without Soil*, 2 ed. (Los Angeles, 1938); E. A. Duddy and D. A. Rezvan, *The Physical Distribution of Fresh Fruits and Vegetables* (Chicago, 1937); C. Ellis and M. W. Swaney, *Soilless Growth of Plants* (New York, 1938); R. T. Ely and G. S. Wehrwein, *Land Economics*, rev. ed. (Ann Arbor, Mich., 1938); G. W. Forster, *Farm Organization and Management* (New York, 1938); B. Graham, *Storage and Stability* (New York, 1937); R. J. Griffith, *The Bible and Rural Life* (Cincinnati, 1937); N. G. Harrold, *Chemical Farms, A Manual of Soilless Agriculture* (New York, 1937); C. B. Heinemann, *American Livestock Markets and Marketing* (Chicago, 1938); R. L. Horne, *The Farm Business*, 3 ed. (Chicago, 1938); A. A. Horvath, *The Soybean Industry* (New York, 1938); E. J. Kyle and A. C. Ellis, *Fundamentals of Farming and Farm Life*, 3 ed. (New York, 1938); B. Y. Landis, *The Church and American Rural Life* (New York, 1937); D. W. Malott, *Problems in Agricultural Marketing* (New York, 1938); L. J. Norton, *Financing Agriculture* (Danville, Ill., 1938); L. J. Norton and L. L. Scranton, *The Marketing of Farm Products* (Danville, Ill., 1937); J. W. Paterson, *Science in Agriculture* (New York, 1938); M. G. Reid, *Consumers and the Market* (New York, 1938); C. T. Schmidt, *The Plough and the Sword—Labor, Land, and Property in Fascist Italy* (New York, 1938); C. A. Smart, *R. F. D.* (New York, 1938); A. H. Verrill, *Foods America Gave the World* (Boston, 1937); American Country Life Association, *Improving Our Rural Civilization* (New York, 1938); *Agricultural Statistics, 1938; Yearbook of Agriculture, 1938; Report of Secretary of Agriculture, 1938*, and R. Lord, *To Hold This Soil* (M.P. 321) (all 1938 U.S. Dept. of Agr., Washington, D. C.); E. R. Hooker, *Readjustments of Agricultural Tenure in Ireland* (New York, 1938); F. R. Yoder, *Introduction to Agricultural Economics* (New York, 1938).

British Empire: J. Baugh, *Agriculture* (London, 1937); W. T. Easterbrook, *Farm Credit in Canada* (Toronto, 1938); N. Hunter, *Peasantry and Crisis in France* (London, 1938); S. A. Husain, *Agricultural Marketing in Northern India* (London, 1937); M. K. Khan, *Cooperation and Rural Reconstruction in India* (Hyderabad-Decan, 1937); A. J. McNery, *The New World in Relation to Arid Regions* (London, 1937); B. B. Mukherjee, *Agricultural Marketing in India* (Calcutta, 1937); A. D. Patel, *Indian Agricultural Economics* (Bombay, 1937); S. Sen, *The Tenure of Agricultural Land* (Calcutta, 1937); J. A. S. Watson, *The Farming Year* (London, 1938); Y. Wilkansky, *Planned Mixed Farming*, by I. Elazari-Volcani [pseud.] (Rehovot, Palestine, 1938); Australia—Northern Territory Investigation Committee, *Report of the Board of Inquiry Appointed to Inquire Into the Land and Land Industries of the Northern Territory of Australia* (Canberra, 1937);

Gt. Brit. Colonial Office, *The Colonial Agricultural Service List* (London, 1937); Imperial Agricultural Research Institute, New Delhi, *Agricultural Research and the Indian Farmer* (Delhi, 1937); B. Ganguli, *Trends of Agriculture and Population in the Ganges Valley* (London, 1938); R. Mukerjee, *Food Planning for Four Hundred Millions* (London, 1938); J. A. S. Watson and M. E. Hobbs, *Great Farmers* (London, 1938).

Europe: A. Åkerman, et al., *Swedish Contributions to the Development of Plant Breeding* (Stockholm, 1938); F. Bourdin, *Le Crédit Agricole et la Crise* (Paris, 1937); C. Brinkmann, et al., *Erzeugung und Verbrauch Landwirtschaftlicher Produkte in Baden* (Heidelberg, 1937); R. Freund, *l'erschuldung und Betriebsstruktur in der Schwedischen Landwirtschaft* (Stockholm, 1938); P. V. Grégoire, *La Colonisation Agricole en Allemagne* (Paris, 1938); S. Jagusz, *Les Questions Agraires en Pologne* (Paris, 1938); H. Hamscha and O. Deutsch, *Die Aufgaben der Österreichischen Landwirtschaft* (Wien, 1937); A. Henry, *La Politique du Beurre et des Oeufs en Belgique* (Bruxelles, 1937); H. Hertel, *A Short Survey of Agriculture in Denmark*, 3 ed. (Copenhagen, 1937); E. Jensen, *Danish Agriculture, Its Economic Development* (Copenhagen, 1937); J. Kriksciunas, *Agriculture in Lithuania*, trans. (Kaunas, 1938); L. LeRoy, *La Réglementation du Blé—Comment l'Vendre, Comment Acheter, Comment Stocker* (Paris, 1937); L. Pagani, *Il Credito Agrario in Regime Corporative* (Venezie, 1937); International Institute of Agriculture, *Programme of the World Agricultural Census of 1940* (Roma, 1938), *International Yearbook of Agricultural Statistics, 1937-38* (1938), and *International Review of Agriculture* (monthly); Italy, Ministero dell' Agricoltura e delle Foreste, *Notes sur l'Agriculture Italienne et sur l'Organisation Corporative Agricole* (Roma, 1937); Kooperativ Forbundet, Stockholm, *Farmers and Consumer Cooperation* (Stockholm, 1938); F. van Hissenhoven, *Le Mouvement des Grains dans le Monde* (Bruxelles, 1918).

Other Countries: S. Avidor, *Agriculture Egyptienne* (Cairo, 1937); G. Baxter, *The Agricultural Problem of Panama* (Panama, 1937); J. L. Buck, *Land Utilization in China*, vol. i-ii (Shanghai, 1937, vol. ii, Eng. and Chinese); R. A. Ferrero, *Orientación Económica de la Agricultura Peruana* (Lima, 1937); B. C. Horne, *Nuestro Problema Agrario* (Buenos Aires, 1937); M. Kimura, *Japan's Agrarian Problems* (Tokyo, 1937); Mexico, Departamento Autonomo de Publicidad y Propaganda, *The Mexican Government and the Solution of the Agrarian Problem in "La Laguna" District* (Mexico City, 1937).

AGRICULTURE, U.S. DEPARTMENT OF. The Department of Agriculture in 1938, in addition to its customary attention to agricultural research, extension, and regulatory work, continued to lay emphasis on the correction of agricultural maladjustments and the means of bettering the economic environment of the American farmer. These efforts of the Department led to the adoption of a program providing a rational approach to these problems in which conservation, efficient farming, and balanced production are combined. This program involves (1) keeping the acreages of the more important crops within individual county, State, and national allotments and goals, (2) if yields turn out above the average, resorting to storage of the crops and meeting farm financial needs by obtaining from the Government a commodity loan on the stored material, and (3) if these measures should fail, by the

farmers voting upon themselves marketing quotas to bring supplies into line with demand. In this plan, the basis of the so-called ever-normal-granary objective, the first two steps are entirely voluntary and the third is an emergency procedure.

On October 6 Secretary Henry A. Wallace announced major changes in the organization of the Department designed to expedite its services to the public. Under these changes, made to unify the four lines of work which have assumed the highest importance in the pursuit of the Department's economic program, the Bureau of Agricultural Economics was assigned the forming of plans to guide the entire group of agricultural adjustment, conservation, and marketing services. Four units responsible to the Secretary through the Director of Marketing and Regulatory Work were charged with the execution of the marketing plans and studies. The Soil Conservation Service was directed to work out all physical land-use programs involving operations by the Government on farm lands and the chief of the Bureau of Chemistry and Soils, to unify the direction of research in agricultural and industrial technology, was placed in charge of these activities in his own bureau and in the Bureau of Agricultural Engineering. This reorganization was based on the policy of the Department that (1) farmers must participate in forming and executing their own program, (2) continuing co-ordination within the Department be provided to center efforts on a comprehensive agricultural land-use program, and (3) administrative alignments under efficient supervision be established to bring together lines of activities furthering in the workers the development of judgment and foresight and the use of efficient methods, thus avoiding duplication.

In addition to these changes a Division of Transportation was set up in the Bureau of Agricultural Economics to administer the provisions of the Agricultural Adjustment Act of 1938 relating to transportation of farm products including rates, charges, tariffs, and practices.

After July 1 careful attention was given to a survey for locating the four regional laboratories authorized by the Agricultural Adjustment Act of Feb. 16, 1938, and to be established by the Department for the purpose of discovering new and developing wider markets for agricultural commodities. The Agricultural Appropriation Act of June 16, 1938, limited the expenditures connected with these laboratories during the fiscal year beginning July 1 to this survey. On December 14 the Secretary announced the groups of States constituting the northern, southern, eastern, and western regions to be served by the laboratories and the location of these agencies at Peoria, Ill., and New Orleans, La., and in the Philadelphia and San Francisco Bay areas for the different regions respectively.

Changes in the personnel of the Department included the appointment of O. E. May, D. F. J. Lynch, P. A. Wells, and T. L. Swenson as directors respectively of the regional laboratories above mentioned. Willis R. Gregg, Chief of the Weather Bureau, died September 14. Toward the close of the year Commander F. W. Reichelderfer, who reorganized and developed the Naval Meteorological Service and also was active in the meteorological work of the Navy Department, was appointed chief of the Weather Bureau.

For the fiscal year ended June 30, 1938, the regular appropriations of the Department aggregated \$828,819,670, supplemented by \$159,342,552 in bal-

ances remaining from appropriations and transfers of the preceding fiscal year and making available a total of \$988,162,222. The emergency funds allocated to the Department for the fiscal year 1938 amounted to \$182,176,035. Of the regular appropriations \$18,978,029 was expended for research, \$1,467,232 for extension work, \$21,696,051 for pest control or eradication, \$13,174,115 for regulatory work, \$48,814,088 for public service activities, \$216,500,000 for road construction, \$420,473,966 for agricultural adjustment, and \$14,837,853 for farm tenancy, rehabilitation, and related work.

AIR CONDITIONING. See **ELECTRICAL INDUSTRIES.**

AIRPLANES, AIRPORTS, AIRSHIPS, AIR TRANSPORT, AIRWAYS. See **AERONAUTICS.**

AJARIAN AUTONOMOUS SOVIET SOCIALIST REPUBLICS. See **GEORGIAN SOVIET SOCIALIST REPUBLICS.**

AKRON, THE UNIVERSITY OF. A coeducational institution of higher learning in Akron, Ohio, founded in 1870 as Buchtel College and taken over by the city and renamed in 1914. There were enrolled in the summer session of 1938, 492 students. For the autumn day session the enrollment was 1581 and for the autumn evening session, 1404. The faculty numbered 116. The income for the year, including tax levy from the city, was \$404,104. The library contained 50,716 volumes. The construction of a new student building was begun. President, Hezzleton E. Simmons, Sc.D.

ALABAMA. Area and Population. Area, 51,998 square miles; included (1930) water, 719 square miles. Population: Apr. 1, 1930 (census), 2,646,248; July 1, 1937 (Federal estimate), 2,895,000; 1920 (census), 2,348,174. Birmingham had (1930) 259,678 inhabitants; Montgomery, the capital, 66,079.

Agriculture. The accompanying table shows the acreage, production, and value of the chief crops of Alabama for 1938 and 1937.

Crop	Year	Acreage	Prod. Bu.	Value
Cotton	1938	2,128,000	1,080,000 ^a	\$45,900,000
	1937	2,694,000	1,631,000 ^a	69,582,000
Corn	1938	3,550,000	49,700,000	29,323,000
	1937	3,227,000	46,792,000	31,351,000
Peanuts	1938	366,000	270,000,000 ^b	7,960,000
	1937	336,000	252,000,000 ^b	7,056,000
Hay (tame) .	1938	848,000	662,000 ^c	7,216,000
	1937	862,000	690,000 ^c	7,935,000
Sweet potatoes	1938	107,000	8,560,000	6,848,000
	1937	100,000	8,800,000	8,272,000
Potatoes	1938	42,000	4,326,000	2,379,000
	1937	45,000	3,780,000	1,928,000
Oats	1938	132,000	3,168,000	1,521,000
	1937	126,000	2,646,000	1,614,000

^a Bales. ^b Pounds. ^c Tons.

Mineral Production. Alabama's 34 active iron mines raised their yearly production to 6,307,581 gross tons for 1937, from 4,179,967 tons for 1936. Of this ore (1937) about nine-tenths was hematite. The value of ore shipped from the mines rose to \$10,747,967 (1937), from 6,838,016 (1936). The quantity of coal mined in the State increased to about 12,400,000 net tons for 1937, from 12,229,287 tons (value, \$26,046,000) for 1936. The yearly output of coke from byproduct ovens advanced sharply to 4,252,704 net tons (1937), from 3,089,622, in value \$8,774,694 (1936). Blast furnaces' shipments of pig iron mounted to 2,528,785 gross tons (1937) from 2,061,534 (1936); in value, to \$42,188,993, from \$30,942,051.

Finance. Alabama's State expenditures in the year ended Sept. 30, 1937, as reported by the U.S.

Bureau of the Census, were: For maintaining and operating governmental departments, \$28,620,575 (of which \$2,084,062 was for highways, and \$9,764,767 was for local education); for interest on debt, \$3,223,490; for capital outlay, \$11,086,029. Revenues were \$50,541,821. Of these, property taxes furnished \$6,253,211; sales taxes, \$13,793,100 (including tax on gasoline, \$6,765,515); departmental earnings, \$2,790,399; income taxes, \$2,005,390; sale of licenses, \$6,897,298; unemployment compensation, \$7,243,818; Federal or other grants-in-aid, \$7,555,386. Funded debt outstanding on Sept. 30, 1937, totaled \$73,404,160. Net of sinking-fund assets, the debt was \$72,590,502. On an assessed valuation of \$924,790,574 the State levied in the year ad-valorem taxes of \$6,011,139.

The State owned and operated two productive enterprises, of which the total receipts and expenditures do not appear above. These were a monopoly of alcoholic drinks and a harbor. The monopoly had receipts of \$2,647,964 and expenditures of \$1,861,129. It paid into the State's general revenue \$396,790.

Education. Inhabitants of school age (both white and Negro) were reckoned, for the academic year 1937-38, as 884,281, aged from 6 to 20 years. Enrollments in public schools totaled 669,959. They comprised 501,571 in the elementary group and 168,388 in high schools. The year's expenditures for public-school education were: Current, \$17,716,987; total, \$21,441,126. The year's salaries of the 18,635 teachers averaged \$638.

Political and Other Events. The steel-making industry in the Birmingham district gained the status, as to prices, that it had sought for two decades, when the quotations for steel at Birmingham were reduced to parity with those at Pittsburgh. The United States Steel Corporation, dominating the industry in Alabama by its possession of the Tennessee Coal and Iron Co., made the reduction as part of its general policy, carried out during the summer, of ceasing to base prices at other points of origin on the Pittsburgh price as bottom. The expected effect of the change on the industry in Alabama was favorable, since steel produced there, though sold for less, had a prospect of attaining a volume of sales so much greater as to increase profits and still more to increase employment.

The merchants of Huntsville started in April an agitation to "save Huntsville" from ruin and distress threatened by the idleness of the Dallas textile works, closed for many months on account of difficulty between the management and the Textile Workers' Organizing Committee, an industrial labor organization connected with the C.I.O. The management asserted that it had not received proper aid from the authorities and intended to keep the mill closed.

The intention of the Rockefeller and Carnegie foundations in conjunction to create at Tuscaloosa a medical center with an endowment of \$10,000,000 was announced by Governor Graves on March 26. This center was to operate in alliance with the University of Alabama and the State's mental hospitals; it was to include a medical school giving a four years' course, a nurses' school, a general hospital, and a psychopathic hospital; it was also to establish clinics about the State.

In the Scottsboro case (prosecution of a band of Negro boys for rape; see YEAR BOOK, 1937, p. 24), sentence of death pronounced on Clarence Norris, one of the defendants, in 1937 was upheld by the State Supreme Court (June 16); but Governor

Graves, on a recommendation of the State Board of Pardons, commuted the sentence (July 8) to imprisonment for life.

Under authority of an act of 1935 Mobile County had sought to install voting machines for use at the polls. In litigation on the subject, the State Supreme Court ruled (January 20) that an individual county's doing this would violate the State Constitution's requirement that the system of elections be uniform throughout the State.

Elections. On November 8, Frank M. Dixon (Dem.) was elected Governor, to succeed Bibb Graves. Lister Hill (Dem.), incumbent U.S. Senator by nomination to the seat formerly held by Justice Black of the U.S. Supreme Court, was elected Senator for a full term. Nine U.S. Representatives, eight of them actual incumbents, were elected. All the elected candidates were on the Democratic slate, and the vote merely ratified the generally unopposed choices made at the party's primaries earlier in the year. Senator Hill, though he held only by interim nomination in 1938, had been selected at a Democratic primary held on January 4 to serve out the year. Governor Graves nominated him to the seat after the January primary vote had been counted, to obviate the need of an election for the last year of the Senatorial term then running; Mrs. Dixie Graves, the Governor's wife, who had held the seat as temporary appointee for a few months, resigned to make way for Hill.

Officers. Alabama's chief officers, serving in 1938, were: Governor, Bibb Graves (Dem.); Lieutenant-Governor, none, there being an unfilled vacancy; Secretary of State, Howell Turner; Treasurer, John Brandon; Auditor, Charles E. McCall; State Superintendent of Education, A. H. Collins.

Judiciary. Supreme Court: Chief Justice, John C. Anderson; Associate Justices, William H. Thomas, Thomas E. Knight, A. B. Foster, Lucien D. Gardner, Virgil Bouldin, Joel B. Brown.

ALABAMA, UNIVERSITY OF. A coeducational State institution for higher learning at University, Ala., founded in 1831. For the autumn term of 1938 the enrollment was 5200; the summer school registration was 2521. The faculty for 1938-39 numbered 342. The productive funds of the university amounted to \$4,852,264, and the income for the year was \$1,499,117. The library contained 201,000 volumes. President, Richard C. Foster, LL.D., D.C.L.

ÅLAND ISLANDS, REMILITARIZATION OF. See FINLAND under *History*.

ALASKA. A territory of the United States; area, 586,400 square miles; capital, Juneau; population, 59,278 in 1930, 55,036 in 1920; whites (1930) numbered 28,640; Indians and Eskimos, 29,983.

Transportation. While coastal settlements and some places along the Yukon River had transportation by vessel for part of the year, the inland areas were in many cases difficult of access by reason of very low mileage of railroads and highways for the area. Road-building and the encouragement of airplane lines were among the chief public concerns. The Federally owned Alaska Railroad, connecting Seward, on the southern coast, with Fairbanks, on the Tanana River to the north, thus linking the seaboard to the Yukon basin, carried 26,026 passengers in the year ended June 30, 1938; its freight traffic amounted to 155,833 tons, two-thirds of it coal. The railroad operating revenue for the year, \$2,212,845, slightly exceeded the expense of operation, \$2,142,618, but gave the Government no material return on the cost of building the line. The Alaska Road Commission, a Federal agency, was

gradually adding to the Territory's mileage of roads. It had spent \$25,985,591 from 1905 to June 30, 1937, to build and maintain roads, trails, air fields, telephone lines, and shelter cabins. In addition to the trails, it was maintaining 1915 miles of roads; in the succeeding year it constructed 56 miles of road and improved a considerable mileage previously built. The separately organized Bureau of Public Roads constructed and maintained roads within the Alaskan National forests, totaling 246 miles.

Aviation played an increasingly great part in transportation: 155 airplanes were in service in 1938, as against 8 in 1929; passenger miles of flight in the year ended June 30, 1938, totaled 5,634,461; the transportation of freight attained about 1700 tons.

Mineral Production. Yearly production of minerals in Alaska (as estimated by the U.S. Geological Survey) attained \$27,036,000 for 1938; the total rather closely approximated the more accurately determined amount for 1937, which was \$26,989,000. Though these two totals nearly matched, their chief components showed sharp disparities between respective figures for the two years. For 1938 the estimated value of the production of copper fell short of that for 1937 by some \$1,807,000; those of silver and of tin by about \$100,000 each; and those of miscellaneous minor minerals by nearly another \$100,000. The yearly value of the predominant source of return, the production of gold, on the contrary, increased by some \$1,543,000, while a most striking jump in the formerly small production of platinum raised its yearly total by some \$628,000, and coal also was produced to somewhat greater value.

Gold contributed some four-fifths of the total value of minerals produced in 1938, as against three-fourths for 1937. Its yearly production rose in quantity to some 626,200 oz. (1938), from 582,100 oz. (1937); and in value, to approximately \$21,917,000, from \$20,373,000. The output of silver, wholly from ores mined mainly for other metals, fell to 444,000 oz. (1938), from 495,000 (1937); by value, to \$287,000, from \$384,000. Copper mining, in Alaska as elsewhere, slackened; the production of copper declined to some 29,614,000 lb. for 1938, from 36,007,000 for 1937; by value, to \$2,932,000, from \$4,741,000. It was reported that the mines in the Kennecott district, or Copper River region, the chief producers of copper in the Territory, expected to exhaust their known profitable ore and close about the end of 1938; they had produced about \$200,000,000, in value, of all the copper, \$237,000,000, of Alaska's production up to that time.

The great increase in the production of platinum was a remarkable feature of mining in 1938. The estimated yield of platinum (inclusive of allied metals, such as palladium) attained 28,310 oz. (1938), as against 8131 oz. for 1937; the yearly total by value rose to some \$1,025,000, from \$397,000. The higher production was attributed largely to the success of a single new dredging operation situated in the Goodnews district, in southwestern Alaska. The average price obtainable for the recovered metal was \$36.20 an oz.

There were mined 135,700 tons of coal in 1938, as against 131,600 in 1937; in value, \$570,000 (1938) and \$552,700 (1937). The coal had the distinction of being the principal mineral destined for consumption within the Territory. Most of it was described as a lignite of high grade, from the Healy River field, employed both for generating electricity in the Fairbanks district and for widespread

domestic use. Some bituminous coal, dug in the Matanuska field, supplied the Alaska Railroad and customers within reach of it.

Fisheries and Furs. Salmon taken in Alaskan waters and canned for the outside market held its place as the chief product of the territory. By value this product normally provided more than half of all exports. In 1938 the salmon fishery was hindered by a late start, which threatened, because of the highly seasonal nature of the industry, to affect the year's production. The vessels engaged in this industry were accustomed to sail from ports in the Pacific States; in 1938 the Alaska Cannery Workers, a union connected with the CIO, and other labor unions of employees required by these vessels, did not come to an agreement with the operators of the industry until late in May. Consequently, the departure for the salmon waters did not start until the end of the month. There remained, at the end of the year, some uncertainty as to the season's total production. For 1937 the total catch of salmon, as finally reported, numbered 109,114,923, of which over 66,000,000 were pink and nearly 31,000,000 were red salmon; the year's total fell below that of 1936 by 20,211,280 salmon. The decline was entirely in the area of southeastern Alaska, the central and western areas reporting somewhat higher catches. The year's shipments of canned salmon were valued at \$42,677,210; those of other fish and fish products, at \$7,547,815.

Early in 1938 Territorial Delegate Dimond of Alaska sought action in Congress to extend the United States' jurisdiction over the areas of sea adjacent to the Alaskan coast, with a view to preventing the reported operations of Japanese fishing vessels engaged in taking salmon from the off-shore beds where they lived between the seasons of migration to fresh water. Such operations tended to overthrow the good results of Federal work to increase the propagation of salmon for the domestic fishery. Japan agreed (March 25) to require its nationals to stop fishing in these waters.

The Federal monopoly of fur seals killed 55,180 seals at the Pribilof Islands for their skins in 1937. A computation made at the islands indicated, on Aug. 10, 1937, that the herd numbered 1,839,119, or about 8 per cent more than the year before. About 40,000 skins sold late in 1937 and early in 1938 brought nearly \$874,000. There was also considerable shipment from these islands of skins of white and blue foxes, there bred. Shipments of all furs from Alaska in the fiscal year 1938 attained the value of \$2,987,923.

Finance. There continued to exist side by side two systems of public revenue and expenditure particular to the territory: The territorial and that under the Federal authority, operating chiefly through the Alaska Fund. The receipts of the territorial government, for the calendar year 1937, attained \$2,710,973; the disbursements, \$2,503,216. Under acts of the territorial Legislature, revenues were derived from railroad gross receipts, from National forests, from a poll tax for schools, and from taxes on non-resident commercial fishermen, inheritances, profits, and industrial production; there was no territorial ad-valorem tax on property in general, but such taxation was locally levied, especially to support public schools. The territory supported all rural and special schools altogether and met 70 per cent or more of the cost of operating schools in incorporated communities. It received part of the means for this expenditure from the Alaska Fund.

The Alaska Fund, managed by the Federal

Treasury, was maintained by Federal receipts for licenses on occupations and trades conducted outside of the incorporated communities; its receipts for the fiscal year 1937 totaled \$271,923. They were available to the extent of 65 per cent for roads and trails, 25 per cent for support to schools, and 10 per cent for aid to indigents.

Education. There were, in 1938, four-year high schools, accredited by the University of Washington, in 11 cities. In addition to the public schools in regular districts, there were special schools outside of such districts, maintained by the territory in areas of scant population. The public schools in general educated the white children and those of mixed blood. Education for the native races was provided by the Federal Government through the Office of Indian Affairs. It operated, in 1938, 99 elementary schools, in which 4417 native children were enrolled, and two vocational schools, having 306 pupils. In connection with the schools, much work was done among adult Indians and Eskimos toward teaching them medical aid, organized co-operation, and the care of reindeer. These schools' support for the academic year 1937-38 cost \$690,000, inclusive of money for the aid of destitute persons.

Political and Other Events. Alaska had, in 1938, a system of old-age assistance and care for neglected children, in accordance with the Social Security system. The cost of the support of the aged poor for the fiscal year 1938 was \$236,396, of which the Federal Government contributed nearly half. The number of the aged poor receiving such support was 1019 on July 1, 1938. Alaska's system of unemployment compensation, created in 1937, had collected from the employers of some 25,000 persons more than \$500,000 by June 30, for the fund toward this purpose; it was estimated to approximate \$1,000,000 by the end of December, and payments from the fund were to begin in January, 1939.

Governor Troy, in his report for 1938, noted an increase in agricultural settlement and development, particularly on the Kenai Peninsula. The Matanuska Valley colonizing enterprise, started in 1935, continued in spite of some setbacks. New colonists replaced some who had left, so that the families in the colony in the summer of 1938 numbered 165, as against the original 200. About 2300 acres were wholly cleared and 1800 more partly so. Jurisdiction over the enterprise passed, in September, from the old Federal Emergency Relief Administration, then in dissolution, to the Department of the Interior. The colonists were at that time still receiving Federal aid.

ALBANIA, ăl-bă'ñ-ă. The smallest of the Balkan states, situated on the east shore of the Adriatic Sea, Albania has an area of 10,629 square miles and a population estimated at 1,100,000 on Jan. 1, 1937 (1,003,124 at the 1930 census). Capital, Tirana (pop. 30,806 in 1930). The 1930 populations of the other principal towns were: Shkodër (Scutari), 29,209; Korçë (Koritsa), 22,787; Elbasan, 13,796. Durrës (Durazzo), with 10,000 inhabitants, is the chief port. Reigning sovereign in 1938, King Zog I, who ascended the throne Sept. 1, 1928.

Education and Religion. Elementary education is nominally compulsory but illiteracy remains high. In 1936 there were 2017 pupils in infant schools; 50,889 in 631 state primary schools; and 5404 in 13 state secondary schools. The distribution of the population by religious faiths was estimated as follows: Moslems, 688,280; members of

the Orthodox (Christian) Church of Albania, 210,-313; Roman Catholics, 104,184.

Production. Primitive agriculture and livestock raising are the chief occupations. Only about 926 square miles of land are under cultivation, of which the state owns about 125,000 acres. The principal products are tobacco (1600 metric tons in 1936), wool (2100 tons in 1936), hides, timber, furs, cheese, eggs, fish, olive oil. The 1937 harvest of other crops was (in metric tons): Wheat, 39,900; barley, 5700; rye, 3800; oats, 11,200; corn, 137,900. Grapes, cotton, potatoes, and fruit are also grown. The 1936 livestock census showed 62,490 horses, 64,290 asses, 8400 mules, 382,658 cattle, 1,477,674 sheep, 975,428 goats, and 23,294 swine. Petroleum, bitumen, lignite, salt, and copper are produced in small quantities. Manufacturing is in the elementary stage, confined largely to the preparation of olive oil, flour, and cheese.

Foreign Trade. Imports in 1936 were valued at 16,777,691 gold francs and exports at 7,434,621 gold francs (20,315,687 and 10,175,065, respectively, in 1937). Italy, Great Britain, Yugoslavia, and Czechoslovakia were the chief sources of supply in 1936 and Italy and the United States the chief foreign markets. The principal exports are wool, hides and furs, cheese, eggs, cattle, and bitumen. Cotton and its textiles, benzine, woollen goods, petroleum, and sugar are the chief imports.

Finance. The budget estimates for the fiscal year ended Mar. 31, 1938, balanced at 26,224,787 gold francs; that for 1938-39 provided for receipts of 28,235,000 gold francs and expenditures of 28,565,000. The increase in 1938-39 expenditures was principally for higher salaries of the King, members of Parliament and government civil employees.

In return for political and economic concessions, Albania obtained a loan of 50,000,000 gold francs in May, 1925, and in June, 1931, another loan of 100,000,000 gold francs, to be paid in 10 annual instalments. The Albanian Government made a profit of 15,000,000 gold francs on the first loan through the rise in the value of the lira. The total sum of 65,000,000 gold francs was administered by the Italian Company for the Economic Development of Albania and guaranteed by both the Italian Treasury and the Albanian customs and monopolies receipts. Instalments on the second loan were suspended by Italy due to political differences after 17,500,000 francs had been paid. On Mar. 19, 1936, a new Albanian-Italian agreement annulled the 1931 loan and arranged for three new Italian loans to Albania totaling 28,735,000 gold francs. Another Albanian-Italian financial agreement signed Apr. 21, 1938, relieved the Albanian Government of the obligation to pay Italy interest and amortization in arrears to the amount of 69,900,000 gold francs, but Albania agreed to repay the face amount of its debt to Italy over a period of 15 years.

Transportation. There are no railways, but highways passable to motor cars extended 1755 miles in 1937 (number of automobiles, 829). Airlines connected Tirana with Rome, Salonika, Shkodër, Korçë, Vloneë, and other towns. A treaty signed in 1935 gave Italy a 10-year monopoly of Albanian air services.

Government. The Constitution of 1928 vests executive power in the King and a Council of Ministers appointed by him. The unicameral parliament of 58 members is indirectly elected. Premier in 1938, Koço Kotta. King Zog ruled the country along dictatorial lines with the aid of Italian advisers. A 20-year defensive alliance was concluded by Albania and Italy on Nov. 22, 1927.

History. Italy further tightened its political and economic control over Albania by a financial agreement signed in Tirana Apr. 21, 1938 (see *Finance* for terms). Coincident with this agreement, King Zog's government pushed through Parliament a bill granting a monopoly of fishing rights in Albanian waters to a company in which Italians held 51 per cent and Albanians 49 per cent of the shares. The company was authorized to employ armed fishery guards despite opposition protests that this established a foreign (Italian) armed force in Albania. In June, Mussolini made a move to lessen anti-Italian sentiment in Albania by sending 20 carloads of grain to Albanian districts that had been ravaged by floods. These developments all served to emphasize the increased strategic importance Italy attached to its domination of Albania following the annexation of Austria to Germany in March.

On Apr. 27, 1938, King Zog was married at Tirana to Geraldine Apponyi, a Hungarian countess whose mother was the former Gladys Virginia Stewart of New York. The ceremony was attended by Count Galeazzo Ciano, Italian Foreign Minister. While three of the King's sisters were visiting the United States in March, they were reported to have effected a reconciliation between Zog and Bishop Fan Noli, former President of Albania, whom Zog overthrew in 1924. An amnesty decree affecting all political refugees and freeing nine political prisoners was issued by King Zog at the beginning of September in celebration of the 10th anniversary of his accession to the throne.

ALBERTA, ăl-bŭr'ta. A province in western Canada. Area, 255,285 square miles; population (1938 estimate), 783,000 compared with 772,782 (1936 census). There were 12,029 Indians (1936). Chief cities (1936 census): Edmonton, the capital, 85,774 (88,887 in 1938); Calgary, 83,407; Lethbridge, 13,523; Medicine Hat, 9592. During 1936 there were 15,709 births, 6146 deaths, and 6016 marriages. The elementary and secondary schools had 167,193 pupils enrolled during 1936. In the University of Alberta there were 2069 students (1936-37).

Production. For 1937 gross agricultural revenue amounted to \$177,488,000 (\$149,000,000 in 1936) of which field crops from 13,408,800 acres represented \$130,474,000 (\$103,603,000 in 1936); dairy products, \$17,117,000. Wheat produced (1937) totaled 74,000,000 bu.; oats, 77,000,000 bu.; barley, 22,100,000 bu. Livestock in the province (1937): 1,457,300 cattle, 661,200 horses, 768,500 sheep, 773,700 swine, and 6,793,500 poultry. Fur production (1935-36): 1,274,919 pelts valued at \$1,696,383. Forest production (1936) was equivalent to 101,474 M cu. ft. valued at \$3,048,013. The fisheries catch in 1937 had a value of \$433,354.

Mineral production (1937) was valued at \$25,597,117 of which coal (5,562,839 tons) accounted for \$14,563,911; crude petroleum (2,749,085 bbl.), \$4,961,002; natural gas (20,955,506 M cu. ft.), \$4,766,437. The 905 manufacturing plants (exclusive of central electric stations, and cleaning, dyeing, and laundry establishments), with a total of 11,756 employees, had a net value of production of \$25,000,136 for 1936.

Government. For the fiscal year ended Mar. 31, 1938, revenue amounted to \$24,127,805; expenditure, \$21,359,739; net public debt, \$127,849,027. Executive power is vested in a lieutenant-governor (appointed by the Canadian Governor General in Council), assisted by the executive council or ministry of eight members which is responsible to the legislature. The legislature consists of 63 members

(including the ministry) elected by the direct vote of the people (in the provincial election of Aug. 22, 1935, 56 Social Credit, 5 Liberals, and 2 Conservative members were elected). Alberta is represented in the Canadian parliament at Ottawa by 6 Senators (appointed for life) and 17 elected members in the House of Commons. Lieutenant-Governor, J. C. Bowen (appointed Mar. 20, 1937); Premier, William Aberhart (Social Credit).

History. The decline in the fortunes of Premier Aberhart's Social Credit Government, noted in preceding YEAR BOOKS, continued during 1938. On March 4 the Canadian Supreme Court upheld the Dominion government's action in disallowing three bills passed by the Alberta Legislature in 1937 which authorized the regulation of credit, drastic control of the press, and confiscatory taxation of the banks. The Court's decision went much further and declared unconstitutional the Social Credit Act providing the legal basis for the entire Aberhart program. The tribunal at the same time upheld the right of the Lieutenant-Governor of the province to withhold his consent to legislation and also the power of the Dominion Government to disallow provincial legislation, both of which had been contested by Premier Aberhart. Aberhart then carried an appeal from the Court's ruling on the Bank Taxation Bill to the Judicial Committee of the Privy Council in London. The latter court on July 14 upheld the ruling of the Canadian Supreme Court by dismissing the appeal. It characterized the Bank Taxation Bill as "part of a legislative plan to prevent the operation within the Province of those banking institutions which had been called into existence and given the necessary powers to conduct their business by the only proper authority, the Parliament of Canada."

Meanwhile, the Alberta Legislature had proceeded to enact additional legislation designed to relieve the debt burden of the farmers. The moratorium on private debts was extended and a bill was passed outlawing by July 1, 1940, all debts incurred previous to July 1, 1936. A new Securities Tax Act imposed a 2 per cent tax on all first, second, and third mortgages. A Home Owners' Security Act required any mortgage holder beginning court action to post a bond of \$2000, which was to be forfeited to the mortgagee in the event of foreclosure regardless of the amount of property involved.

Premier Aberhart also sought to extend his movement into Saskatchewan and made a vigorous campaign on behalf of Social Credit candidates in the Saskatchewan election of June 8. Only two Social Credit advocates were elected out of the 52 legislators chosen. The defeat of the Aberhart invasion encouraged the Ottawa Government shortly afterward to disallow the newly enacted Alberta Securities Tax Act and Home Owners' Security Act, a move that had been delayed for fear of the political consequences. These successive setbacks weakened the Aberhart movement politically and adversely affected Alberta's finances. On June 1 the Province defaulted on its 1908 debentures. Up to the end of 1938, Premier Aberhart had not carried out his promise to distribute a monthly social credit dividend of \$25 to every adult citizen, the plank on which he captured control of the Alberta Government in 1935.

See CANADA under *History*.

ALCOHOL PROBLEM. See LIQUOR TRAFFIC.

ALEXANDRETTA, SANJAK OF. See SYRIA AND LEBANON AND TURKEY under *History*.

ALFALFA. As reported by the U.S. Department of Agriculture the 1938 production of 28,858,000 tons of alfalfa hay in the United States was 21 per cent above the 10-year average for the years 1927-36 and the acreage harvested for hay, 13,462,000 acres, was 10 per cent above this 10-year average. In 1937 the production of alfalfa hay was 26,944,000 tons harvested from 13,725,000 acres. Weather conditions in 1937 and 1938 favored the recovery of much of the lost or diverted acreage during preceding unfavorable seasons. Much of the increase in acreage was the result of substitution for abandoned grass and clover seedings in the North Central States. The yields of hay reported by the leading States were as follows: California 3,105,000 tons, Wisconsin 2,758,000 tons, Minnesota 2,715,000 tons, Idaho 1,992,000 tons, and Iowa 1,980,000 tons. These States, with Michigan, Colorado, Nebraska, and Montana mentioned in decreasing order of yield, produced nearly 69 per cent of the total yield. In acreage, Minnesota ranked first with 1,263,000 acres, followed by Wisconsin with 1,199,000 acres and Michigan with 1,040,000 acres. Nebraska, which for some years was the leading State in acreage, dropped to fifth place with 789,000 acres. California, with an average yield per acre of 4.3 tons as compared with 2.14 tons for the country as a whole, outranked by far all other States in this regard.

The 1938 production of alfalfa seed, estimated at 998,000 bu. and produced on 583,900 acres, was slightly larger than the preceding crop and above the average of 926,000 bu. for the 10 years 1927-36. The 1938 acreage, the largest on record, was 14 per cent larger than in 1937 and 26 per cent above the 10-year average. The average yield per acre, only 1.71 bu., was 11 per cent smaller than last year and 17 per cent below the average. Among the 21 States reporting production, Oklahoma stood first with 138,000 bu., Utah second with 105,000 bu., and Arizona third with 104,000 bu. A revised regulation by the Department of Agriculture requires that 5 per cent of any seed quantity for sale in this country be stained iridescent violet if of Canadian origin and green if produced in other foreign countries. In the fiscal year 1938 the United States imported 4,589,600 lb. of alfalfa seed of which 2,928,900 lb. came from Canada.

ALGERIA. A French colony in North Africa, with an area of 847,870 square miles, of which all except 222,206 square miles are desert. Capital, Algiers (Alger). At the 1936 census there were 7,234,684 inhabitants (6,592,033 in the Northern Territory and 642,651 in the Southern Territory). The total European population was 987,252, of whom 853,209 were French and 134,043 foreigners. The native population, entirely Moslem, numbered 6,247,432. Populations of the chief cities (1936) were: Algiers, 264,232; Oran, 200,671; Constantine, 113,777; Bona (Bone), 86,332; Philippeville, 66,112; Sidibel-Abbes, 54,754. There were (1936) 126 infant schools, with 21,576 pupils; 1210 primary schools, with 156,034 pupils; 17 secondary schools, with 12,638 pupils; 6 normal schools, with 506 students; a university at Algiers with 2258 students, and various special schools. In addition, there were 732 Moslem schools with 75,191 pupils and 3 higher Moslem schools with 171 students.

Production. The chief occupations are agriculture and stock raising. The cereal crops in 1938 were (in metric tons): Wheat, 872,700; barley, 594,300; rye, 1800; oats, 116,200; corn, 3300. Olive oil output (1937-38) was 17,700 metric tons. The yield of potatoes in 1937 was 131,200 metric tons;

tobacco, 17,600 metric tons; wine, 15,424,000 hectoliters (hectoliter equals 26.42 U.S. gal.). Livestock in 1937 included 185,000 horses, 841,000 cattle, 6,267,000 sheep, 189,000 mules, 351,000 asses, 2,930,000 goats, and 173,000 camels. The 1936 wool clip was 21,300 metric tons. The 1937 mineral production was (in metric tons): Coal, 14,000; iron ore (metal content), 1,265,000; lead ore (metal content), 4600; zinc ore (metal content), 8500; antimony ore (metal content, 1936), 2600; pyrites, 39,000; natural phosphates, 631,000. There are extensive fisheries.

Foreign Trade. The 1937 value of imports for consumption was 4,147,600,000 francs (3,233,800,000 in 1936) and the value of exports of Algerian products was 4,333,600,000 francs (3,469,300,000 in 1936). France in 1937 supplied 84.3 per cent of the imports by value and purchased 82.1 per cent of the exports. Textiles, machinery, automobiles, sugar, coal, petroleum products, iron and steel, and coffee are the principal imports, and wine, wheat, and other cereals, livestock, skins and hides, zinc and iron ores, olive oil, phosphates, tobacco products, etc., the chief exports.

Finance. Budget estimates for 1938 placed revenues at 1,862,473,182 francs and expenditures at 1,862,278,981 francs. A French decree of Jan. 11, 1938, authorized the Algerian Government to issue 600,000,000 francs of 6 per cent 20-year bearer bonds at 89.5.

Transportation, etc. In 1936 Algeria had 3048 miles of railway line open for traffic; railway receipts (1936) were 235,176,000 francs. Highways extended 47,479 miles in 1937 and there were 62,240 automobiles. Air lines connected Algiers with Marseille (France) and Brazzaville (French Congo), Algiers-Oran, Algiers-Tunis, and Oran-Elizabethville (Belgian Congo). In 1936, 4094 ships discharged 3,695,982 tons of merchandise at Algerian ports and 4438 ships loaded 6,651,881 tons.

Government. Administration is centralized in the hands of the Governor-General appointed by the French Government, with the exception of the non-Moslem services which are administered by the appropriate Ministries at Paris. There is no parliament or responsible ministry, but partial financial autonomy is exercised by financial delegations representing French colonists, French taxpayers, and natives and by an elected Superior Council. The departments of Algiers, Oran, and Constantine in Northern Algeria are represented in the French Parliament by a total of 10 deputies and 3 senators. Southern Algeria has a French military government. Governor-General in 1938, M. Le Beau, appointed Sept. 21, 1935.

History. In an effort to check the growth of political unrest among the natives of Algeria (see 1937 YEAR BOOK, p. 29), the French Government in 1938 drew up legislation extending French citizenship to Algerians on less onerous terms than before. (Previously no native might become a French citizen except through renouncing his status as a Moslem, including polygamy, the Moslem inheritance law, etc. Consequently, only a few thousand natives had even been naturalized.) The measure aroused strong opposition among French citizens of European origin in Algeria. In March, 11 French mayors of Algerian towns resigned in protest. The native leaders, on the other hand, declared that the bill did not go far enough to meet their demands for greater political rights and a larger share in economic security. See FRANCE under History.

ALIENS. See IMMIGRATION; INTERNATIONAL LAW.

ALLEGHENY COLLEGE. A coeducational institution of higher learning in Meadville, Pa., nonsectarian in policy but under the patronage of the Methodist Episcopal Church; founded in 1815. The enrollment for the autumn of 1938 was 673 and for the summer session 176. The faculty numbered 51 members. The productive funds of the college amounted to \$1,500,000, and the income for the year 1937-38 was \$471,000. The Reis Library contained 115,000 volumes. President, William P. Tolley, Ph.D., D.D., Litt.D., LL.D.

ALLIANCE FRANÇAISE, FÉDÉRATION DE L'. An association of clubs and groups, formed in 1902 for the purpose of encouraging and furthering the study and cultivation of the French language, literature, art, and history in the United States and Canada. By 1938 it comprised more than 290 local branches, including alliances, affiliated societies, and clubs in universities, colleges, and schools.

Each year the Alliance Française brings from France one or more lecturers who are prepared to speak before all the affiliated societies and clubs wishing to hear them. The official lecturers for the season 1937-38 were M. Pierre de Lanux, lecturer, journalist, and writer and the Duke de Lévis-Mirepoix, historian, author, and lecturer. The regional lecturers were Messrs. René Bellé and Vincent Guilloton. The Fédération also organizes lecture tours for distinguished French travelers and French lecturers who live in America, assists in organizing courses in the French language and literature in co-operation with the leading universities, and encourages its groups to engage in dramatic performances and debates in French. Its Assemblée Générale, attended by representatives of the various groups, was held in New York City, Apr. 23, 1938. The official periodical is *L'Écho de la Fédération*.

The officers in 1938 were: President, Frank D. Pavey; general vice-president, Roger Sherman; president of the executive committee, Albert Blum; treasurer, John F. Daniell; general secretary and director of lectures, Pierre A. Bédard. Headquarters are at 22 East 60th St., New York City.

ALSACE-LORRAINE. The provinces transferred from Germany to France by the Treaty of Versailles (June 28, 1919), now known as the Bas-Rhin, Haut-Rhin, and Moselle departments of France. Total area, 5605 square miles; total population (1936), 1,915,627. See FRANCE under History.

ALUMINUM. The production of bauxite ore, from which aluminum is obtained, reflects the industrial activity of the metal. The U.S. Bureau of Mines reports shipments of bauxite from mines in the United States in 1938, amounted to 319,000 long tons, valued at \$1,838,000 against 420,232 valued at \$2,444,686 in the previous year.

Exports of bauxite, according to the U.S. Bureau of Foreign and Domestic Commerce for 1938, were 43,759 tons of bauxite and other aluminum ores, and 13,967 tons of bauxite concentrates, valued at \$1,459,491. The tonnages for the corresponding period in 1937 were 76,539 and 37,823. Imports for 1938 were 455,693 tons, valued at \$3,521,325, a decrease of 8 per cent compared with the previous year.

New aluminum production in the United States during 1938 was only slightly less than the record output of 1937, according to the Bureau of Mines. A total of 286,882,000 lb. valued at \$56,659,000 was produced in 1938, compared with 292,681,000 lb.

valued at \$55,609,000 in 1937, a decrease of only 2 per cent. Though aluminum production declined only slightly in 1938, domestic consumption declined very sharply, and stocks of primary aluminum were increased by 112,959,000 lb. In previous years the large stocks accumulated prior to 1934 had been reduced steadily. Aluminum imports for consumption also declined in 1938. Since domestic exports of aluminum increased and metal production in most other countries increased, it appears that aluminum consumption outside of the United States increased appreciably in 1938.

Imports of aluminum in ingot, scrap, alloy, etc., into the United States decreased from 44,701,669 lb. valued at \$6,770,400 in 1937 to 17,511,819 lb. valued at \$2,430,828 in 1938; exports increased from 4,719,034 lb. valued at \$967,342, to 9,670,398 lb. valued at \$1,860,796. Of the 1938 foreign trade in ingot, scrap, and alloy, imports were chiefly from Norway, France, Switzerland, and Canada, and exports were chiefly to Germany, Switzerland, Japan, and Great Britain. Plates, sheets, bars, etc., were exported largely to U.S.S.R., Great Britain, and Japan.

Canada, according to the Dominion Bureau of Statistics, established a new record of aluminum ingot exports of 129,448,700 lb., as compared to 97,002,900 in 1937. Great Britain continued to be the leading importer of aluminum ingots from Canada in 1938, receiving nearly 68,000,000 lb. as against 26,000,000 in 1937. Japan was next with 31,000,000 lb. compared with 18,000,000 in 1937. Germany was third with 12,391,200 lb. against 85,700 the previous year. Other leading importers were the U.S.S.R. with 4,264,300, Sweden with 3,572,700, and China with 2,403,400 lb. Exports to the United States declined to 2,233,900 lb.

AMERICANA. See PHILOLOGY, MODERN.

AMERICAN ART. See ART EXHIBITIONS; PAINTING.

AMERICAN ASSOCIATIONS AND SOCIETIES. For various scientific and other organizations, whose official titles begin with the word American, see under the important descriptive word of the title.

AMERICAN FEDERATION OF LABOR. See LABOR UNIONS.

AMERICAN LEGION, THE. An organization of World War veterans, chartered by Congress in 1919. Its purpose, stated in the preamble of its constitution, is "to uphold and defend the Constitution of the United States; to maintain law and order; to foster and perpetuate a 100 per cent Americanism; to preserve the memories and incidents of our association in the World War; to inculcate a sense of individual obligation to the community, state, and nation; to combat the autocracy of both the classes and the masses; to make right the master of might; to promote peace and good will on earth; to safeguard and transmit to posterity the principles of justice, freedom, and democracy; to consecrate and sanctify our comradeship by our devotion to mutual helpfulness."

The Legion's twentieth national convention was held in Los Angeles, Calif., Sept. 19 to 22, 1938. There were 1341 accredited delegates in attendance, representing every State, the District of Columbia, the departments of Alaska, France, Hawaii, Italy, Canada, Mexico, Panama, Puerto Rico, and the Philippine Islands outside the continental limits of the United States, and seven outlying posts not attached to a department: China Post No. 1; China Post No. 4; Havana, Cuba, Post No. 1; Athens, Greece, Post No. 1; Tripolis, Greece, Post No. 2;

Patras, Greece, Post No. 3; and London, England, Post No. 1. Approximately 150,000 Legionnaires, their families and friends, attended the convention which reached its peak Tuesday, September 20, with an eight-hour parade up Figueroa Street and through the Los Angeles Memorial Stadium by 30,000 marchers, 159 bands and drum and bugle corps, and 70 floats, before 250,000 spectators, making this the greatest parade believed ever to have been held on the Pacific Coast. Chicago was selected for the twenty-first national convention, to be held Sept. 25 to 28, 1939.

The National Executive Committee at its meeting in Indianapolis, Nov. 19, 1938, designated the major legislative program of The American Legion during 1939 to be: 1) government protection for World War widows and orphans; 2) an adequate national defense; 3) Universal Service; 4) veterans' preference and unemployment; 5) and immigration.

The major accomplishments of 1938 were in the fields of Americanism, child welfare, rehabilitation, and legislation.

AMERICANISM. Nineteen Boys' States were conducted in 18 states, with 9632 boys enrolled. In these, boys are taught the practical theory of American government by having them organize a mythical 49th state. Participants go through the entire process of government from formation of political parties to elections, install their officers from governor to constable, enact and enforce their laws, and operate their boy state as adult citizens do in real life, to get accurate knowledge about their future citizenship obligations and responsibilities. More than 500,000 boys under 17 years enrolled in the 12th annual Junior Baseball national tournament, forming 31,000 teams which engaged in elimination play ending in a junior world's series. San Diego, California, had the winning team. 2700 Boy Scout troops were sponsored, to make The American Legion the second largest individual troop sponsor. 9683 school medals were awarded to encourage scholarship in public schools. A national high-school oratorical contest in which 4000 participated was conducted. 383,986 copies of the U.S. Flag Code were distributed. Its safety slide sound films were shown before 500,000. Support was given the Dies Congressional Committee to investigate un-American activities, and a report on subversive activities for presentation to this committee was prepared.

CHILD WELFARE. A new peak in the nationwide child welfare program was reached with splendid co-operation of the departments, posts, Auxiliary, Forty and Eight, Eight and Forty, and The Sons of The American Legion. 30,000 volunteers carried on this work. During the year incomplete reports showed expenditures, in part from its own resources, and in part from outside sources, with a known total of \$4,025,857 in emergency financial aid to 323,327 needy children. \$2,157,293 came from various Legion resources and those of its affiliated organizations, and \$1,868,564 represented local and government benefits obtained through Legion efforts. This represented a new high record in child welfare expenditures for the fourth consecutive year. A portion of the Legion's \$5,000,000 endowment fund income was appropriated for child welfare relief in families of World War veterans. Administrative expenses were paid from dues of members.

REHABILITATION. During the fiscal year ending June 30, 1938, the National Rehabilitation Committee, without cost to the beneficiaries, obtained for World War veterans, and their dependents, the total of \$3,032,919 in recoveries for adjusted compensation, emergency officers' retirement pay, government insurance, disability, death, burials, and other benefits. During this year there was put into effect a change of policy, giving preference in its rehabilitation services to members; and requiring non-members to secure the endorsement of the nearest Legion post. The committee reported there was a grand total of 81 hospital facilities in operation under the Veterans' Administration and that 159,008 World War veterans were admitted to these facilities during the fiscal year, of whom 50,640 were there June 30, 1938.

LEGISLATION. Signal progress toward the ultimate objectives of adequate national defense and government protection for World War widows and orphans was made. Seventeen of the 40 Legion-sponsored measures made law dealt with national defense. Public Law 514 further liberalized existing laws for World War widows and orphans. Thirty other bills in which the Legion was interested were partially enacted. Further progress was made toward enactment of Universal Service legislation. A Federal law making Armistice Day a national holiday received Presidential approval.

For the second consecutive year it was the second best membership year in the history of The American Legion and of its four affiliated organizations. Dec. 31, 1938, there were 974,854 members in The American Legion. This was in excess of the 1937 membership by 1013. The number of posts was 11,506, a new peak. The American Legion Auxiliary for the third consecutive year established an all-time record membership of 464,865 with 9049 units. The Sons of The American Legion for the sixth consecutive year increased its numerical enrollment with 60,383 members and 2911 squadrons. The Forty and Eight membership broke all former records again with 38,415 in 750 voitures. The Eight and Forty had a new high enrollment of 6503 in 251 salons.

The national officers elected for 1938-39 were: National Commander, Stephen F. Chadwick, Seattle, Wash.; Vice-Commanders, Edward J. Quinn, Portland, Me.; Charles W. Crush, Christiansburg, Va.; Earl T. Ross, Reno, Nev.; James T. Crawley, Kosciusko, Miss., and Henry C. Oakey, Osceola, Wis.; National Chaplain, Rev. Jerome L. Fritsche, Kearney, Neb.; National Historian, Thomas M. Owen, Jr., Washington, D. C.; National Adjutant, Frank E. Samuel, Indianapolis, Ind.; National Treasurer, John Ruddick, Indianapolis, Ind.; and National Judge Advocate, Ralph B. Gregg, Indianapolis, Ind. The latter four were elected by the National Executive Committee. National Headquarters were at 777 North Meridian St., Indianapolis, Ind. Legislative and rehabilitation offices of The American Legion were maintained in the Legion-owned building at 1608 K St., N.W., Washington, D. C. Editorial and advertising offices of *The American Legion Magazine* were at 15 West 48th St., New York City.

AMERICAN LITERATURE. See LITERATURE, ENGLISH AND AMERICAN.

AMHERST COLLEGE. An institution for the higher education of men in Amherst, Mass., founded in 1821. For the autumn term of 1938 approximately 880 students were enrolled. The active faculty numbered 80, with 15 assistants. The productive assets of the college amounted to \$11,731,000; the income for the year was \$981,500. The library contained 200,000 volumes. The recently completed Kirby Memorial Theater opened the season of a cycle of five Maxwell Anderson plays with *High Tor*, presented by The Masquers, the college dramatic association. This new theater is the first one at any college or university to be devoted exclusively to dramatic art. President, Stanley King, LL.D.

AMPHIBIA. See ZOOLOGY.

ANDORRA, ăn-dôr'a. A small republic in the Pyrénées between France and Spain, under the joint suzerainty of the Spanish Bishop of Urgel and the President of France. Area, 191 square miles; population, 5231. Andorra, the capital, had about 700 inhabitants in 1937. The language spoken is Catalan. The republic is governed by a council-general of 24 members (12 elected every 2 years) elected for 4 years by male citizens of 25 years of age or over. The First Syndic (President) and Second Syndic (Vice-President) are nominated by the Council-General. Sheep raising is the chief occupation.

History. In April, 1938, 100 French Mobile Guards maintained order while French workmen cleared snow from the highways in order to evacuate the 10,000 Spanish government refugees who had crossed the border to escape the Insurgent drive (see SPAIN under *History*). French skiers,

with supply packs, crossed into Andorra to provide food for the refugees and Andorrans whose supply was nearly exhausted.

Consult Karl Loewenstein, "Revolution Comes to Andorra," *Events*, July, 1938.

ANGLO-EGYPTIAN SUDAN. A British-Egyptian condominium of northeast Africa. Area, 969,600 square miles; population (latest estimate), 5,945,591 including 57,917 non-natives. Chief towns: Khartoum (capital), 46,676; Omdurman, 110,959; Khartoum North and Rural District, 107,720; Wadi Halfa; Merowé; El Damer; Atbara; Port Sudan; Suakin.

Production. The output of ginned cotton for 1937-38 amounted to 55,700 metric tons from 442,130 acres. Gum arabic (of which the Sudan is the world's chief source), sesame, groundnuts, senna leaves and pods, dates, mahogany, hides and skins, chillies, dom nuts (vegetable ivory), salt, ivory, gold, and shea seeds are other products. The staple grain crops are durra (great millet) and dukhn (bulrush millet). Forests rich in fibers and tanning materials exist along the banks of the Blue Nile. Livestock in the Sudan (1935) included 2,700,000 cattle, 2,000,000 goats, 2,500,000 sheep, 420,000 camels, 375,000 asses, 23,000 horses, 850 mules, and about 3500 pigs (kept by the Nubas).

Trade. For 1937 imports totaled £E6,283,500; exports, £E8,130,450. Imports are divided into Government (£E1,511,600) and public (£E4,771,900) groups. Cotton piece goods, tea, coffee, wheat flour, tobacco, and rayon were the main imports. Cotton (£5,392,500 exported in 1937), gum arabic, cottonseed, sesame, great millet, hides, and skins were the chief exports. Great Britain sent 23.4 of the imports and took 43.1 per cent of the total exports. The Egyptian pound (£E) of 100 piasters was linked with the pound sterling of 97½ piasters and fluctuated with sterling at an almost constant ratio.

Communications. Railway lines open to traffic totaled 2021 miles (of 3 ft. 6 in. gauge). A motor transport service is in service between Juba and Aba (Belgian Congo) and between Juba and Nimule (Uganda border). Government steamers ply the navigable arms of the Nile and its tributaries between Aswan (Egypt) and Rejaf. Caravan routes traverse the country. There is an air service connecting Nigeria and the Gold Coast with the Empire route to South Africa at Khartoum. Telegraphic communication (wire or wireless) is available with Egypt, Eritrea, Western Ethiopia, Kenya, Uganda, and Saudi Arabia. The Khartoum-Port Sudan trunk telephone was placed into operation during 1938. There are about 25,200 miles of roads.

Government. For 1937 the estimates were balanced at £E4,672,500. In the budget for 1938 revenue was estimated at £E4,769,263; expenditure, £E4,478,401. The country is administered by a governor-general (appointed by Egypt with the assent of Great Britain) aided by a governor-general's council. The Egyptian and British flags are flown together. The governor-general in council makes all ordinances, laws, and regulations. Governor-General, Sir G. S. Symes (appointed Oct. 30, 1933).

History. During the latter part of the year the governor-general visited Cairo and reached a settlement with the Egyptian government on most of the remaining financial matters existing between the two countries. It was decided to discontinue the Egyptian subsidy to the Sudan of £E750,000 after two years, during which time it is to be cut down. The agreement covers debts due to Egypt by the Sudan, minor matters of irrigation, barracks for

the Egyptian troops in the Sudan, and various commercial matters.

At the Fifth International Anti-Locust Conference held in Brussels in 1938, the Anglo-Egyptian Sudan was asked to appoint representatives to the single committee appointed to supervise and control the locust species in Africa.

The Inter-Territorial Conference on Higher Education met at Makerere (Kampala), Uganda, in May and the Sudan sent an observer. The conference decided that the Makerere site be used for the higher college. Egyptian troops received a warm welcome when they returned to the Sudan in 1938 after an absence since 1924. See EGYPT under *History*.

ANGOLA (PORTUGUESE WEST AFRICA). A Portuguese colony in central Africa. Area, 487,788 square miles; population (1936 estimate), 3,250,000 as compared with (1934), 3,225,015, including 58,098 Europeans and 19,872 half-castes. Chief towns: Nova Lisboa (capital designate), Loanda (capital), Benguela, Mossamedes, Lobita, and Malange. For educational purposes there were 70 primary, 3 secondary, and 106 professional schools.

Production and Trade. The production of chief crops, in 1936-37, in metric tons, was: Wheat, 1900; maize, 199,600; cane sugar, 29,300; tobacco, 2500; cotton seed, 1400; sesame, 400; groundnuts, 1000. It was estimated that 17,000 metric tons of coffee were produced in 1937-38. In 1936, 600 metric tons of palm oil and 1800 metric tons of palm kernels were exported. Other products are sisal, cacao, and wax. Livestock in the country (1931): 1,569,849 cattle, 363,252 goats, 286,784 swine, and 150,485 sheep. Rich deposits of diamonds exist and 483,448 carats were exported during 1933. Copper, lignite, and salt are found. In 1937 the estimated value of merchandise imports (in old U.S. gold dollars) was \$4,700,000 (1936, \$3,900,000); exports, \$10,200,000 (1936, \$8,200,000). Textiles, foodstuffs, and coal are the main imports; diamonds, maize, coffee, wax, and coconuts are the principal exports. Trade is mainly with Portugal.

Communications. In 1937 the length of railway line open for traffic totaled 2080 miles. There were 37,928 miles of roads, 5790 miles of telegraph lines, 259 miles of telephone lines, and 19 wireless stations.

Government. In 1937 the ordinary budget balanced at 213,834,000 angolares (angolar averaged \$0.0448 for 1937). On Dec. 31, 1937, the public debt was 836,228,873 escudos. Angola, according to a decree of May, 1934, was divided into 5 provinces and 14 administrative districts. A governor-general heads the government. Governor-General, Col. António Lopes Mateus.

History. In 1938 a military mission was sent to Angola and the need for a modern defense organization was found vitally necessary by Portugal. During July and August, President Carmona of Portugal paid an official visit to Angola. See PORTUGAL under *History*.

ANHALT. See GERMANY.

ANNAM. See FRENCH INDO-CHINA.

ANNELIDS. See ZOOLOGY.

ANNUNZIO, ǎn-nōon'dzē-ō, GABRIELE D'. An Italian novelist, dramatist, poet, and soldier, died at Gardone Riviera, Italy, Mar. 1, 1938. Born in Pescara, Italy, Mar. 12, 1863, the son of Don Francesco Paolo d'Annunzio and Donna Luisa de Benedittis, he was sent to the College of Prato in Tuscany at the age of 16, and in the same year (1879) published his first book of verse,

Primo vere. This was followed by *Terra vergine*; *Canto novo* (1882) and *Intermezzo di rime* (1884).

Joining the *Tribuna*, some of his best work was contributed to that paper under the pseudonym "Duca Minimo," and at this time he published *Il libro delle vergini* (1884). In 1898, the English translation of his first novel, *Il piacere* (1889), *The Child of Pleasure* was published and it, together with *Le vergini delle rocce* (1897); *The Virgin of the Rocks*, 1899), and *Il trionfo del morte* (1894; *The Triumph of Death*, 1897), established him as a writer of prose and confirmed his reputation as a searching psychological writer.

During the following years his literary ideals seemed to undergo an interesting evolution. Grouping together his earlier novels, *Il piacere*, *L'innocente*, and *Il trionfo*, as the *Romances of the Rose*, he conceived the idea of a triple trilogy, the second and third groups to be respectively known as the *Romances of the Lily* and *Romances of the Pomegranate*. The first of the "Romances of the Lily" was *Le vergini delle rocce*, and his *Fuoco* (1900; *Flame of Life*) the first of the "Pomegranate" series. The latter was an apotheosis of poetry, physical beauty, and sensual love and marks the beginning of a decline, more pronounced in his later novels, such as *Forse che sì forse che no* (1910).

D'Annunzio also turned his attention to the drama, which it was his unsuccessful ambition to restore to the grandeur and unity of the classic Greek tragedy. His first drama was *La città morta* (1898; *The Dead City*, 1900) for Sarah Bernhardt. This was followed by the tragedy *La gioconda* (1899; Eng. trans., 1901) for Eleanora Duse and *La Gloria* (1899), and the five-act tragedy *Franческа da Rimini* (1901; Eng. trans., 1902), which was played with great success by Mme. Duse, who for several years was closely associated with him. Much of his success on the stage was undoubtedly due to her interpretation of his work. They quarreled in 1890, and while she continued to act in his plays, their former friendship never was renewed. Other of his theatrical writings included *Il sogno d'un mattino di primavera* (1897), *Il sogno d'un tramonto d'autunno* (1898); *La figlia di Jorio* (1904); *La fiaccola sotto il moggio* (1905); *Le Nave* (1908), and *Fedra* (1909). In 1911 he composed in French *Le martyre de Saint Sebastian* which was produced in Rome in 1936 but withdrawn after protests from the Vatican.

In 1912 the author, harassed by financial difficulties, left Italy for France, where he resided until the outbreak of the War in Europe in 1914. His published works to 1912, except those already mentioned, included *San Pantaleone* (1886); *Isoteteo*; *Chimera*; *Elegie romane*; *Poema paradisiaco*; *Short Stories*, *Novelle della Pescara* (1902); *Le laudi* (vol. i and ii, 1904), which contained his later lyrical work and was generally regarded as his finest achievement in poetry; *Più che l'amore*, a tragedy (1906); *L'orazione e la canzone in morte de Giosuè Carducci* (1907); *Le contemplazione della morte* (1912); *Vita de cola di Rienzi* (1912), and *Parisina* (1912).

Returning to Italy, he addressed a series of papers to the Italian people, *Per la più grande Italia* (1915), which were considered influential in causing the Italians to join the Allied forces. D'Annunzio, although 51 years of age, volunteered for active service, taking part in torpedo and submarine raids and later joining the flying force. He was promoted to the rank of lieutenant colonel and made an officer of the Military Order of Savoy. At the end of the War, embittered by the attitude

of the Allied leaders toward Italy at the Versailles Conference, he published a series of letters and papers entitled *Contro uno e Contro Tutti* (1919).

Understanding that the city of Fiume was to be administered by the League of Nations and not given to Italy, D'Annunzio gathered together a few hundred youthful Italian soldiers and set out on what became known as the March of Ronchi, Sept. 10-11, 1919, to capture the city, which was then policed by Allied military detachments. Winning over the Italian commandant, General Pittaluga, who came out to war with him, he entered the city triumphantly. He was able to hold the city until 1920, when on November 20 Italy and Yugoslavia signed the Treaty of Rapallo making Fiume an independent sovereign State. He refused to submit to the Italian Government in enforcing the provisions of this Treaty and was finally overcame by the Italian Government and obliged to leave Fiume in January, 1921.

D'Annunzio held membership in the Italian Chamber of Deputies in 1898 and after the rise of Fascism embraced that political ideology. In 1924 when Italy formally annexed Fiume he received the title of Prince of Monte Nevoso for his services to the Government in attempting to establish Italy's eastern frontier. In the following year he was offered the Villa Falconiere outside of Rome by the Government but refused it, offering in turn his villa as a national monument, which he gradually turned into a war museum. In September, 1937, he was elected to succeed Marconi as president of the Royal Italian Academy and as such was an *ex officio* member of the Fascist Grand Council. In 1935 he was given the honorary rank of general in the air force.

His later works included *La Pisanella* (1913); *Le Chervrefeuille* (1914); *La Leda senza cigno* (1916); *La beffa di Buccari* (1918); *La riscossa* (1918); *Notturmo* (1919); *Per l'Italia degli Italiani* (1923); *Le faville del maglio* (1924); *Juvenilia* (1925); *Canto novo* (1925). In 1927 he began the compilation of a complete set of his works of almost 50 volumes, which was subsidized by the Italian Government. Most of the books were on the Catholic Index Expurgatorius, and with the publication of *Hundred and hundred and hundred and hundred pages of the secret book of Gabriele d'Annunzio tempted to die* (1935), which was largely autobiographical, this too was placed on the Index. Although considered inferior to his best work, it was found not without merit and typically D'Annunzian.

ANSCHLUSS. See AUSTRIA under *History*.

ANTARCTIC EXPLORATION. See POLAR RESEARCH.

ANTHROPOLOGY. General. The scientific tendencies of recent years continue, with no departures of note, save that the newer developments in all fields have come into increasing attention. This would apply to the study of growth and the life-cycle and use of X-ray techniques in physical anthropology; to increasing development of sociological and psychological studies in ethnology and social anthropology, as well as increased interest in acculturation and applied anthropology. Methodologically there is the tendency toward clearer statement of problems, and toward an integrated social science approach. Linguists continue to offer improved material on primitive languages, and to expand their research into as yet little-known areas. Archaeology continues its focal interest in early man in the Old World and the New,

prehistoric developments of human culture, and in better classification and analysis of materials from many areas.

The development of Fascism and Nazism abroad have had important impact on anthropology and anthropologists, embodying as they do a denial of scientifically established facts on man and race. Many German anthropologists were forced to leave their posts in earlier years. The recent mergence of Austria into Greater Germany has had similar repercussions in Austria, resulting in the disruption of the Vienna school of anthropology, led by Schmidt and Koppers, editors of *Anthropos*. The department has been disbanded. Schmidt went to Rome, and may continue to issue *Anthropos* from Italy. Koppers was dismissed and left for research in India. Schebesta went to Czecho-Slovakia. The impact of anti-semitism upon anthropological work increased. K. T. Preuss' *Lehrbuch der Völkerkunde* was withdrawn from circulation because of articles by Leonhard Adam. Wm. Muhlman's *Methodik der Völkerkunde* (Stuttgart, 1938) avoids reference to functionalists by name for political reasons. In Italy the development of anti-semitism as a state doctrine found anthropologists like L. Cipriani accepting and justifying it in the public press, though their past work could hardly prove anything but its opposite.

In America, along with scientists in other fields, anthropologists took increasing note of these tragic developments, and in public utterances of many kinds condemned the falsity of racialism. The American Anthropological Association at its annual meeting in December, 1938, unanimously adopted a resolution denouncing the use of racial falsehoods as political justifications and restating the simple facts on race which lend no support to discrimination or persecution in any form. At meetings of section H, Anthropology, of the American Association for the Advancement of Science, J. R. Swanton critically exposed the falsehood of racialism.

Among noteworthy events of the year were: The holding of the Second Session of the International Congress of Anthropological and Ethnological Sciences at Copenhagen in August; the opening of the Musée de l'Homme (the old Trocadero) in Paris, accredited as a remarkable research center, and one of the finest anthropological museums in the world; the founding of the Sociedad Mexicana de Antropologia in Mexico, evidencing the increase in Mexican and Latin American studies. In Mexico also a new Department of Anthropological Sciences was organized in the National School of Biological and Anthropological Sciences in Mexico City; and P. Kirchoff initiated proposals for a development of a Laboratory of Anthropology which could offer field training for Latin American research. The Arizona Anthropological Association was formed in Phoenix, and at Albuquerque a clearing house was established for southwestern museums of Colorado, Arizona, New Mexico, west Texas, and Southern California.

Several new serials began in America, including: *Anthropological Records* of the University of California for monographs of a documentary or record character; *Material Culture Notes* of the Ethnographic Laboratory of the Denver Art Museum; *New Mexico Anthropologist* of the University of New Mexico, now issued in printed form; and the forthcoming *Monographs of the American Ethnological Society*.

Tribal distribution and handbook surveys increased. Eastern Oregon distributions were de-

scribed by V. Ray and others (*Amer. Anth.*, 40: 384-415), Great Basin by W. Z. Park and others (idem, 622-638). D. S. Davidson issued a register of Australian hordes and tribes (American Philosophical Society) and an ethnic map of Australia (*Proc. Amer. Phil. Soc.*, 79, no. 3) which was the first since that of Curr in the 1880's. W. D. Hamblin's *Source Book for African Ethnology* (Field Museum of Natural History, 2 v.), and J. G. Frazer's *Native Races of Africa and Madagascar* (London), edited by R. A. Downie, were noteworthy. Latin American research was advanced by continued publication of the *Boletín Bibliográfico de Antropología Americana* of the Instituto Panamericano de Geografía e Historia of Mexico, and the *Handbook of Latin American Studies* edited by L. Hanke at Harvard University.

Among outstanding books were Franz Boas' revision of his epochal *Mind of Primitive Man* (Macmillan), bringing up to date research of a generation; and *General Anthropology* by F. Boas, R. Benedict, R. Bunzel, J. Lips, R. H. Lowie, J. H. McGregor, N. C. Nelson, and G. Reichard, which was the first systematic account of the whole field to appear in America (Heath). C. Wissler's third edition of *American Indian* (Oxford Press) brought linguistic classifications up to date and modernized its treatment of archaeological areas of the New World. Unfortunately, no account is taken in the revision of the progress of ethnological work of a decade.

The recent appearance of R. H. Lowie's *History of Ethnological Theory* (Farrar and Rinehart) stimulated methodological discussions. R. Linton discussed "The Present Status of Anthropology" (*Science*, 87:241-248) mainly with reference to archaeology and ethnology; and F. Boas "The Diffusion of Cultural Traits" (*Soc. Research*, 4: 286-295). Boas also discussed semantic problems in his "Anthropologist and Linguist." A. Lesser's "Problems versus Subject Matter as Directives of Research" stressed the necessity of orienting research from clear-cut problems and hypotheses if sterility and over-specialization are to be avoided.

Physical Anthropology. Growth and Related Problems. The problems of human growth continue increasingly important in physical anthropology. Anthropometric measurement is being more fully supplemented by X-ray study of maturation and an emphasis upon individual growth careers. Studies on the early years of life were numerous. K. Simmons and T. W. Todd showed that in well children from 3 months to 13 years stature is superior to weight as a measure of growth (*Growth*, 2:93-134); T. E. Raiford discussed the relationship between height and weight of infants two weeks to one year (*Human Biology*, 10:409-416); and H. Thompson found that "Bodily Proportions in the Growing Infant" (*Growth*, 2:1-12) are affected by factors from an indefinite number of sources. M. C. Hardy showed that frequent illness in childhood, when minor, if given immediate medical attention, has no permanent influence upon growth (*Amer. Jour. Phys. Anth.*, 3:241-260). R. M. Jenks and N. Bayley described a "Mathematical Method for Studying Growth of a Child" (*Human Biology*, 9:556-563); and C. B. Davenport offered an "Interpretation of Certain Infantile Growth Curves" (*Growth*, 1:279-283).

W. K. Krogman spoke of T. W. Todd's "Atlas of Skeletal Maturation in the Hand" as a milestone in use of X-ray methods. "For males age 3 months to 18 years 9 months, 40 standard X-ray photos are depicted; for females age 3 months to 16 years

3 months, 35 plates are shown. A table to equate the accelerated female standards with those of the males demonstrates the physical developmental precocity of the female." N. Michelson and W. Nussbaum continued X-ray study of maturation in the hand among Negro and white fraternities and found tempos in whites differing from those previously recorded. Michelson and Nussbaum are recording genealogical data to check "loss of ancestors" and attempt a correlation between the biological composition of the various groups and their psychological and mental manifestations.

The Society for Research in Child Development issued several important monographs. Greulich, Day, Lachman, Wolfe, and Shuttleworth's *Handbook of Methods for the Study of Adolescent Children* (Monographs, Soc. for Research in Child Development, 3, no. 2) outlines anthropometric, morphological, biochemical, physiological, metabolic, endocrinal, medical, and socio-psychological methods of study. Dearborn, Rothney, and Shuttleworth present *Data on the Growth of Public School Children* (idem, 3, no. 1); and Shuttleworth's *The Adolescent Period. A Graphic and Pictorial Atlas* (idem, 3, no. 3) offers curves and graphs for physical growth, skeletal development, sexual development, blood pressure, metabolism, health, intelligence, education, and socio-behavioral patterns. F. K. Shuttleworth described *Sexual Maturation and the Physical Growth of Girls Age Six to Nineteen* (idem, 2, no. 5). A. S. Beckham showed that city Negro boys and girls occupy a favorable position in weight and stature (*Human Biology*, 10:124-155). M. Steggerda and M. E. Grant reported statistically significant differences in growth of children of different races. S. D. Aberle described the growth of Pueblo children.

G. Wolff's "Tuberculosis and Civilization" (*Human Biology*, 10:106-123; 251-284) considered among etiological factors specific factors, heredity, socio-economic conditions, population, and medical prophylactics. J. C. Russell showed that "Length of Life in England, 1250-1348" (idem, 9:528-541) was shorter with a much higher proportion of persons under 40 and over 50. G. W. Beebe and C. J. Gamble discussed the "Effect of Contraception upon Human Fertility" (idem, 10: 372-387); and W. D. Wallis analyzed "Anatomic Lag" (*Child Development*, 9:87-121). M. F. Ashley-Montagu's "Aging of the Skull" (*Amer. Jour. Phys. Anth.*, 23:355-375) showed that, using suture closure and dentition as guides for age of the skull, adequate standards on normal skeletal material are approached only in the whites, with nothing exact known for other racial populations.

Race, Heredity, and Environment. In his "Heredity and Environment" (*Proceedings*, Int. Cong. on Population 1937, 83-92) Franz Boas found that "consideration of both the anatomical form and functions of the body, including mental and social activities, do not give any support to the view that the habits of life and cultural activities are to any considerable extent determined by racial descent."

Effects of changed environment on the body were studied by F. S. Hulse on immigrant and locally born Japanese in Seattle; and M. S. Goldstein (*Amer. Jour. Phys. Anth.*, 23:341-354) found that "the vault of the head in American-born Jews is appreciably greater than in the immigrant generation." J. Birdsall and N. Tindale studied Australian hybrids. W. D. Wallis (*Amer. Anth.*, 40:680-697) argued that the low variability found in some hybrid forms, as in Herskovits' work on the mulatto,

involved inadequate procedures and that most hybrids showed increased variability. B. S. Burk continued research for the Carnegie Institution on linkage of tooth deficiency and hair color, and of myopia and eye color.

Racial differences were studied by G. A. Seib (*Amer. Jour. Phys. Anth.*, 23:389-419) on the "M. Pectoralis Minor in American Whites and Negroes"; and by J. Dankmeijer (idem, 23:377-388) on fingerprints. S. D. Porteus' *Primitive Intelligence and Environment* (Macmillan) attempted to control environmental factors and establish innate differences between groups based on maze test performances. Porteus' treatment suffers from too narrow an interpretation of environmental factors as they affect performances. S. J. Holmes' *Negro Struggle for Survival* (Univ. of Calif. Press) was a thorough study of the physical problems faced by the Negro in America.

Anthropometrical Description. Attempts, such as that of Kretschmer, to classify body types were called in question by work of Stevenson, Sung, Pai, and Lyman on Chinese constitutional differentiation (*Human Biology*, 9:451-482); and Dearborn and Rothney (*Growth*, 2:197-212) who asserted that individuals cannot be accurately classified into body types. C. J. Connolly's *Physique in Relation to Psychosis* (Studies in Psychology and Psychiatry 1938) was a sampling of 100 cases as a test of Kretschmer's theory.

Descriptive studies included: M. J. Herskovits, "Physical Types of West African Negroes" (*Human Biology*, 9:483-497); D. J. H. Nyessen, "Racial Types of the Malay Archipelago" (*Amer. Anth.*, 40:341-344); C. T. Nelson, "Teeth of Indians of Pecos" (*Amer. Jour. Phys. Anth.*, 23:261-293); A. Hrdlicka, "Femur of Old Peruvians" (idem, 23:421-462). In research J. L. Angel worked on ancient Greeks; H. Field on Iran; J. M. Andrews on Siam; G. Seltzer on Syrians; W. D. Hambly on the Ovimbundu of Angola, Africa; C. Coon on South Arabic natives. G. Woodbury studied Basket Maker crania; and C. Seltzer physical types of Pecos River, Texas. C. Coon completed a revision of Ripley's *Races of Europe*.

W. Krogman reported that at Alishar Huyk, Anatolia, "the South European, or Mediterranean, longheads were basic to the southern half of Eurasia. The Central European, or Alpine, roundheads came in during the 24th century B.C., yielding in the 12th century to Phrygians of Mediterranean type." Though the Armenoid type was in Syria as early as 500 B.C., it does not appear at Alishar until the 11th century A.D.

L. Cipriani and C. Massari of Italy investigated populations of Eritrea; and L. Teglia of Italy studied castes and tribes of Southern India.

Linguistics. The anthropological approach treats language as a part of culture, fundamental to thorough social or psychological research. As yet, the bulk of research is in observing and recording languages of primitive peoples, viz., peoples who lack the art of writing, and recent advances are predominantly in phonemic techniques of transcription and analysis, developed under the inspiration and guidance of Edward Sapir. The anthropological interest in the origins and history of man has led linguists also to deal with historical problems of the relationships between languages, the reconstruction of families and stocks, and the temporal order of differentiation of languages and dialects. The use of linguistic methods in field study of culture has come to increasing attention. Made fundamental in early work of Franz Boas, the emphasis

continues into as recent a work as B. Malinowski's *Coral Gardens and Their Magic* in which field-work methods with reference to language are re-examined. The Group for American Indian Linguistics in America has continued to hold meetings of eastern and mid-western sections throughout the year, and discussions show increased attention to semantic and logical problems of language. Of special importance was the inauguration of a *Bibliography of American Linguistics in Language* (14, no. 4), which will hereafter appear annually.

As heretofore, the bulk of American attention has gone into languages of the American Indian. Research included: Algonquian (C. F. Hockett, M. Swadesh, J. A. Geary, T. Michelson); Eskimoan (M. Jacobs); Athapascan (H. Hoijer, J. P. Harrington); Iroquoian (M. Swadesh); Siouan (C. F. Voegelin); Muskogean (M. Haas); Wakashan (M. Swadesh, E. Sapir); Kalapuyan (M. Jacobs); Shoshonean (B. Whorf, D. Shimkin); Piman (G. Herzog); and Yuman (A. Halpern). M. J. Andrade continued work on Mayan.

American Indian grammars included: C. C. Uhlenbeck, *Concise Blackfoot Grammar* (Amsterdam, 1938); and in volume iii of the *Handbook of American Indian Languages*, edited by Franz Boas, Tonkawa (H. Hoijer), Quileute (M. Andrade), Yuchi (G. Wagner), Zuni (R. Bunzel), and Coeur d'Alene (G. Reichard). Text publications were H. Hoijer's of Chiricahua and Mescalero Apache (Univ. of Calif., 1938), B. Haile's of Navaho (*Yale Univ. Pub. Anth.*, 17), and E. Sapir and M. Swadesh's Nootka. Vocabulary studies included: R. J. Hunt's "Mataco-English and English-Mataco dictionary" (*Ethnol. Studies*, 5:1-98); and M. E. Bercera's vocabulary of Chol (*Anales, Museo Nacional de Arqueologia, Historia y Etnografia*, 2, 5th epoca, 249-278). E. Lewy discussed the Quiché of Guatemala (*Anthropos*, 32:929-958). C. F. Voegelin considered the "Direction of Linguistic Change" in Algonkian (*Proc., Indiana Acad. Sci.*, 47:48-49) and analyzed Shawnee stems (Indiana Hist. Soc., Prehistory Research Series 1, no. 5); M. R. Haas, "Geminate Consonant Clusters in Muskogee" (*Int. Jour. Amer. Linguistics*). C. Loutkotka discussed "La Familia Linguistica Corado" (*Jour. Soc. of Americanists*, 29:157-214), and J. A. Mason, *Current Opinions on the Groupings of Middle American Languages*.

The study of African languages has been greatly stimulated by work of the International Institute of African Languages and Cultures of London and Paris. French dissertations included those of M. Leiris on the secret language of the Dogon, and D. Lifszyc on religious texts from Abyssinia. In English appeared J. P. Crazzolara, *Study of Acoli* (London), J. Lukas, of the *Kanuri* (London), D. M. Beach, *Phonetics of the Hottentot* (Cambridge, 1938), H. Melzian, *Dictionary of the Bini of Southern Nigeria* (London, 1937), and I. Schapera, "Texts in Boloongwe Dialect of Sekgalagadi" (*Bantu Studies*, 12, no. 3, 1938). L. E. Armstrong's *Phonetic Structure of Kikuyu* and A. N. Tucker's *Eastern Sudanic Languages* were in press. In this country appeared M. H. Watkins, *Grammar of Chichewa*, a Bantu language of British Central Africa (Linguistic Soc. of Amer., *Dissertations*, 24).

Studies of Australian languages continued to appear in Oceania. Under A. P. Elkin's editorship was published *Studies in Australian Linguistics* (Oceania Monographs, 3). C. De Goeje of Holland studied the Oayana of Surinam.

Archaeology. Early Man. Further discoveries

in China, Java, and Africa necessitated reconsiderations of points of view on early man in the Old World. Three new *Sinanthropus* skulls were reported from the region of Peiping in China. F. Weidenreich, in discussing the "Relation of *Sinanthropus* Pekinensis to *Pithecanthropus*, *Javanthropus* and *Rhodesian Man*" (*Jour. Royal Anthropological Institute*, 67:51-65), said the *Sinanthropus* forms foreshadow the Neanderthal type and suggest possible connections with later mid- and late-pleistocene finds of Java. Weidenreich also compared "*The Dentition of Sinanthropus*" (*Paleontologia Sinica*, 101, n.s.D 1, 2 v.; Geological Survey of China, 1937) with that of all other known fossil forms. A third *Pithecanthropus* skull from Java differed from the other two and approached *Sinanthropus* in some cranial features. The newer evidence from Java suggests that the original cranium and femur of the first *Pithecanthropus* found do not belong together, the femur being later and more advanced anatomically.

Broom found at Komdraai in South Africa four large ape skulls with human-like dentition, probably from mid-pleistocene, and later than the Taungs ape form recently found. On the basis of these ape forms and human forms from Africa, Broom suggests a possible South African origin of man from an African pliocene form of about 3,000,000 years ago.

W. M. Krogman recently summarized work of the past few years on early man in America:

The problem of the "Folsom complex" has been considered among others by Roberts, Howard, Antevs, McClintock, Shetrone, Bryan, Harrington. At Folsom, New Mexico, the dating is probably to a period when glaciers larger than at present still lingered. Clovis, New Mexico, is dated by Antevs 12,000 to 13,000 years ago; Lake Mohave, California, to 15,000 years; Cochise, Arizona, to over 10,000 years ago. Dating at Lindenmeier site in Colorado is more unsettled, but the site is probably much later. Folsom material dates to the pluvial period following retreat of the last glacier. At Borax Lake, California, Harrington found man present before and during formation of an alluvial fan of post-glacial pluvial period. An early culture of the "Silver Lake" type of Lake Mohave was found to precede the Folsom type.

With respect to dating of man by associated faunal remains Colbert, Darbour and Schultz found man contemporaneous with the following forms now extinct: horse, sloth, giant beaver, mammoth, four-horned antelope, and several bovids and camelids. Colbert accepts that of these forms horse, camel, sloth, mammoth "persisted until a few thousand years ago."

Human remains associated with the Folsom complex are questionable. Jenks reports from Brown's Valley, Minnesota, a long-headed Amerind type, of ca. 8-12,000 years ago, associated with blades of an intermediate "Yuma-Folsom" type.

In 1935 Jenks advanced the claim for North America "Pleistocene Homo" found in glacial Lake Pelican of ca. 20,000 years ago. Jenks stated the type to be a primitive Mongoloid (possibly pre-Eskimoid). The age of the find has been questioned by Antevs. The type has been challenged by Hrdlicka, who feels it is preferable to a recent Sioux female. In 1938 Howells reported from Wyoming four crania similar to the Minnesota type and substantiating in part Jenks' assertion of primitiveness.

J. Bird found traces of Folsom and other early horizons in Manitoba and Saskatchewan. L. Cressman found in eastern Oregon cave sites remains of an early culture estimated at from 5000 to 15,000 years old. In South America, J. Bird studied inland cultures of Tierra del Fuego which flourished 5000 years ago when native horse and sloth still persisted.

Old World Prehistory. Gradually the prehistoric horizons and the interrelationships of prehistoric cultures of Asia are being worked out, particularly as regards conditions in India, Burma, Java, and China. The paleolithic Soan cultures of Northwest India were further excavated by D. Sen of Calcutta. H. de Terra, who established the

Early Stone Age chronology of Northern India, found and dated in Irrawaddy Valley and the Shan States of Upper Burma a sequence of Lower Paleolithic, Upper Paleolithic, and later cultures, the last with polished stone tools and hand-made pottery. Ancient implements from the gravel terraces resemble the Indian Soan cultures, characterized by absence of hand axes. The Burmese tools, however, are cruder than the Indian, and are typologically related to the Choukoutien ancient horizon in China and the old Paleolithic of Java. This suggests a wide Asiatic distribution of a new Paleolithic tool of complex type fundamentally different from types of Europe or Africa. The Paleolithic of Europe and Africa involve tool types which are basically form-conscious; while the Choukoutien and related types from Asia are essentially without form-consciousness of the same degree and suggest rather an attention to functional use regardless of perfected form. The expedition of the Carnegie Institution, led by de Terra, visited Java for possible correlations with Burman-Indian conditions.

D. E. Garrod and D. M. A. Bate's *Stone Age of Mt. Carmel* (New York) showed that paleolithic horizons as revealed in excavations in Palestine are less sharply defined than in western Europe. Successive industries, however, essentially resemble their west European equivalents. Explorations of M. Waterlot in northwestern Africa resulted in discovery of an Acheulean paleolithic phase over a wide area of southern Mauretania, as well as numerous neolithic workshops. Recent work on conditions in south Africa was discussed in P. Sohng, O. J. Visser, and C. van R. Lowe, "Geology and Archaeology of the Vaal River Basin" (Geological Survey, Dept. of Mines, South Africa, *Memoirs*, 35); and A. J. H. Goodwin and others, "Archaeology of Oakhurst Shelter, George" (*Trans., Royal Soc. of So. Africa*, 25, part iii).

American Archaeology. J. Steward and F. M. Setzler's "Function and Configuration in Archaeology" (*Amer. Antiquity*, 4:4-11) discussed recent methodological questions. C. Wissler's third edition of *American Indian* (New York, 1938) presented an up-to-date summary of archaeological areas and cultures of the New World.

In the Plains, efforts to link prehistoric sites and historic cultures continued. E. H. Bell and A. T. Hill worked in Nebraska on protohistoric Siouan, prehistoric Upper Republican, and Woodland sites. W. R. Wedel surveyed Kansas. E. B. Renaud described the "Black's Fork Culture of Southwest Wyoming" (*Archaeol. Survey of High Western Plains*, 10, Denver, 1938). Sayres studied Yellowstone River horticultural sites in Canada, probably attributable to early Crow. An expedition from Columbia University under W. D. Strong (R. Elder, M. Hauben, J. Jablow, A. Mitchell, E. Milligan, S. Sameth, C. Smith) excavated protohistoric Cheyenne sites in eastern North Dakota and Mandan sites on the Missouri. Earlier sedentary conditions of the Cheyenne, who, in historic times, were a nomadic hunting people of the Plains, are clearly established by this work.

In Texas, F. Setzler showed that the Big Bend cave dweller culture, a non-ceramic, non-agricultural horizon, extended to the Great Bend Region of the Rio Grande.

The relations between "Ethnology and Archaeology in the Southwest" were discussed by E. C. Parsons. The manner in which ethnological and archaeological work mutually supplement one another in understanding the history and culture of the

southwest is becoming increasingly clear. Technical studies on southwestern problems included: J. Gillin, "Method of Notation for Description and Comparison of Southwestern Pottery Sherds by Formula" (*Amer. Antiquity*, 4:22-29); F. M. and F. G. Hawley, *Classification of Black Pottery Pigments and Paint Areas* (*Univ. N. Mex. Bulletin*, 321); H. S. Colton and L. L. Hargrave, *Handbook of Northern Arizona Pottery Wares* (Museum of Northern Arizona, *Bulletin*, 11); and G. C. Baldwin, "Basket Maker III Sandals from Northeast Arizona" (*Amer. Anth.*, 40:465-485). W. S. Glock's *Principles and Methods of Tree-ring Analysis* (Carnegie Institution, no. 486) was a basic primer; and W. S. Stallings, Jr., brought tree-ring chronology of the Rio Grande from 870 A.D. to the present.

Reports on excavations completed and work in progress included: J. Brew on ancient Hopi sites; P. Reiter on Jemez pueblo (Univ. N. Mex., *Bulletin*, Monograph series 1, 3, 4, 5); H. P. Mera on southeastern New Mexico (*Amer. Anth. Asso., Memoir*, 51); W. S. Fulton on Texas Canyon, Arizona (Heye Foundation, *Contributions*, xii, 3); P. S. Martin on Ackmen-Lowry area of southwestern Colorado (Field Museum of Natural History, Anthropological series 23, no. 2:219-304); J. Gillin on Nine Mile Canyon, Utah (Univ. Utah, *Bulletin*, 28, 11); and H. S. Gladwin, E. W. Haury, E. B. Sayles, and N. Gladwin on Snaketown (Medallion Papers, 25, 26).

Work of San Diego Museum revealed artifacts in San Diego County, California, 16 feet beneath a camp of historic aborigines (San Diego Museum, papers, 3), constituting evidence of the greatest antiquity of man on the Pacific Coast yet discovered.

University of Oklahoma co-operating with WPA continued excavations in Oklahoma. Horizons there show that western Oklahoma is anciently linked with the Southwest, and eastern Oklahoma with general eastern areas. Southwestern links include: Basket Maker II traits, weaving, metates, but no corn or pottery, are found in caves and shelters of western Cimarron River regions; while in the Panhandle are found four-posted sub-rectangular pit houses, earth-covered, with plain or cord-padded pottery, remains of corn, and bison and deer bones. The Great Spiro mound reveals eastern affinities.

In the Southeast, Webb and Lewis excavated sites soon to be flooded by development of the TVA, including large village sites of the horticultural period. Beneath horticultural horizons they found two non-agricultural levels, one with bone and stone work and antler dart throwers, and a deeper and earlier level with bone projectile points alone. Reports included: A. R. Kelly on Macon, Georgia, excavations (Bureau of American Ethnology, *Bulletin*, 119:1-68); W. S. Webb on Norris Basin, eastern Tennessee (idem, 118); W. K. Moorehead and others on Susquehanna River areas (Andover, 1938); and W. A. Ritchie's "Perspective of Northeastern Archaeology" (*Amer. Antiquity*, 4:94-113).

Extensive work continued in Mexico and Central America under the auspices of Carnegie Foundation, American Museum of Natural History, National Geographic Society, Bureau of American Ethnology, University Museum, Harvard University, Tulane University, and other institutions. The connections of northwest Mexico with southwest and higher centers of culture are still undetermined. Work was begun in Vera Cruz near Oaxaca, re-

gion of the little-known Olmec, an early pre-Aztec people. S. K. Lothrop found the "Southeastern Frontier of the Maya" (*Amer. Anth.*, 41:42-54) defined by Copan in northern Honduras. J. A. Mason surveyed the problems of Mexican and Middle American archaeology (*Amer. Antiquity*, 3:206-225; 300-318). Monographs of note were: S. K. Lothrop, "Coclé, an Archaeological Study of Central Panama" (Peabody Museum, Harvard, *Memoir* 7); W. D. Strong, A. V. Kidder II, A. J. D. Paul Jr.'s preliminary report on work in northwestern Honduras (Smithsonian Miscellaneous Collections, 97, no. 1); E. H. Thompson, "High Priest's Grave, Chichen Itza, Yucatan" (Field Museum of Natural History, Anthropological Series 27, no. 1). Shorter studies included: G. Vaillant, "Correlation of Archaeological and Historical Sequences in the Valley of Mexico" (*Amer. Anth.*, 40:535-573); and L. Satterthwaite, "Maya Dating by Hieroglyph Styles" (*Amer. Anth.*, 40:416-428).

The higher centers of culture in western South America were extensively surveyed and studied. Work included research by H. J. Spinden (Colombia, Ecuador, Peru, and Bolivia), H. Doering of Munich (coastal Peru); H. Diesselhoff of Berlin (coastal Ecuador); W. C. Bennett (Peruvian islands); A. V. Kidder II (Peruvian and Bolivian highlands); S. Ryden of Stockholm (Bolivia). Bennett showed that early coastal Chavin type of pottery from Peru was part of the sequence in the Peruvian highlands. S. K. Lothrop published "Gold and Silver from Southern Peru and Bolivia" (*Jour. Royal Anthropological Institute*, 67:305-325). H. W. Krieger continued work in the Virgin Islands; B. I. Rouse in Puerto Rico.

Ethnology and Social Anthropology. Field Research. Field research on native peoples continued extensive, with increasing tendencies toward concentration in the field upon specialized problems, rather than general ethnography, although a great deal of descriptive reporting continues. The main research work of the year has been carried on by American, English, French, Australian, Scandinavian, and Indian scientists.

North American Indian research included: Montagnais (R. Flannery) of the northern Woodlands; Winnebago (L. Srole) of the Great Lakes area; Blackfoot (J. Richardson, D. Collier, J. M. Cooper), Cree (D. Collier), Dakota (D. Collier), Arikara (P. Holder), Hidatsa (J. Landgraf), Crow (D. Collier), and Osage (W. Whitman) of the Plains; Seminole (A. Spoehr) of the southeast; Northwest Coast tribes of British Columbia (P. Drucker); Modoc (W. Ray), Oregon Paiute (B. B. Whitney), Kalispel (A. H. Smith, J. M. Cooper), and other tribes of Washington and Oregon (M. W. Smith); Kawaiisu (M. L. Zigmund), Washo (E. E. Siskin, O. C. Stewart), Paiute (O. C. Stewart), Chukchansi Yokuts (B. Thrall), Hupa, Yurok, and Karok (H. Barnett) of California; Santa Ana (L. White), Navajo (M. Carr, C. Kluckhohn, H. Tschopik), Hopi (C. Kluckhohn, E. Kennard), Papago and Yuma (J. M. Cooper) of the Southwest.

In Mexico, G. Stresser-Pean and M. Halpern of France were among the Huastec and Tarascans, respectively. J. Mirsky was in Guatemala, and W. von Hagen among the Miskito of Honduras.

South American research included: In Brazil, Levi-Strauss and Velard from France among the Nyambikwara of Matto Grosso; C. Nimuendaju among Kamukan; W. Lipkind on Caraja; B. Quain on Trumai; and R. Landes on Negroes of

Bahio. B. Mishkin worked in Peru; W. Z. Park among Kagaba of Colombia; and P. Sangnier among Rio Maroni natives of French Guiana.

Research was extensive in Africa, mainly under the direction of the International Institute of African Languages and Cultures of Paris and London. Investigations included work of: M. Galal (Nilotic tribes of Sudan), M. Lhote (Touareg of Sahara), L. Cipriani of Italy (northern Eritrea), M. Labouret of France and J. Harris of U.S. (Nigeria), J. Greenberg (Hausa), W. R. Bascom (Yoruba), G. Bolinder of Sweden (Kpwessi of Liberia), L. Mair (Baganda), G. Wagner (Bantu Kavirondo of Kenya), G. B. Wilson (Nyakyusa of Tanganyika), M. Read (Nyasaland), J. D. Krige (Balobedu of northern Transvaal), H. Kuper (Swazi of Swaziland), and Z. K. Matthews (Barolong of Bechuanaland). J. Faublee worked in Madagascar.

K. P. Chattopadhyay of India studied the Santals, and the Korkus of the Melghat forests in Central Provinces; and J. K. Bose worked on the Plains Garos; Mlle. Gomes of France also did research in India. From the U.S., D. Mandelbaum was among Kheta and Badaju; G. T. Bowles in Tibet; and A. E. Hudson among Turcomans of Iran. O. Janse and K. G. Isikowitz of Sweden studied natives of Indo-China, the latter Lamet mountain tribes; and Cuisinier and Delmas of France were among Muong and also in Annam.

Indonesian research was more extensive including: Bali (M. Mead, A. Kistner); Timor (C. Du Bois, M. M. Nicolspeyer, P. P. Arndt, B. A. G. Vroklage); and Borneo (R. Blomberg). M. Mead was in Sepik River region and G. J. Held in Waropen district of New Guinea; D. L. Oliver in Bougainville of Solomon Islands. From Frankfurt, Germany, an expedition went to the Moluccas and New Guinea. Interest in Indonesian research was focused by the Congress of students of Balinese culture in Bali in 1937.

Extensive research in Australia was carried on by ethnologists of the University of Sydney. A Northwest Australian Expedition from Germany began extended research. A. Leroi-Gourhan of France carried on research in areas of Japan. C. Osgood of U.S. studied a Chinese village in Yunnan.

Publications. Studies of the American Indians included: K. Birket-Smith and F. de Laguna's *Eyak Indians of the Copper River Delta, Alaska* (Copenhagen, 1938); C. Osgood's on the Tanana (Yale University Publications, 16); G. A. Nomland's "Bear River Ethnography" (*Anthropological Records*, 2, no. 2); P. Drucker's "Tolowa and Their Southwest Oregon Kin" (Univ. Calif. Publications, 36, no. 4); E. W. Voegelin's on Tubatulabal (*Anthropological Records*, 2, no. 1); and W. Cline's and others on "Sinkaietk or Southern Okanagon of Washington" (General series in anthropology, 6). Culture element distribution studies were issued for southern California (P. Drucker), southern Sierra Nevada (H. E. Driver), and the Oregon Coast (H. G. Barnett), (*Anthropological Records*, 1, nos. 1, 2, 3).

On peoples of Latin American areas appeared: B. Bevan, "Chinantec" (Institut. Panamericano de Geogr. e Hist.); J. Soustelle, "La Famille Otomipame" (*Trav. et Memoires de l'Institut d'Ethnologie*, 26) and "La Culture Materielle des Indiens Lacandons" (*Jour.*, Society of Americanists, 29:1-95); H. Wassen, "Original Documents from the Cuna Indians of San Blas, Panama" (*Ethnologiska Studier*, 6:1-178); H. Cunow, *Geschichte*

und Kultur des Inka-Reiches (Amsterdam); and volume ii of M. Gusinde's "Die Feuerland Indianer" on "Die Yamana; vom Leben und Denken der Wassernomaden am Kap Hoorn" (Vienna). Of note also were C. Nimuendaju's "Gamella Indians" (*Primitive Man*, 10, nos. 3-4); F. Taylor's *Caribs of Dominica* (Bulletin 119, Bureau of American Ethnology, 103-159); A. Serrano's *La Etnografia antigua de Santiago del Estero y la Llamada civilizacion Chaco-Santiaguena* (Paraná, Argentina, 1938); and M. W. Stirling's *Historical and Geographical Material on the Jivaro Indians* (Bulletin 117, Bureau of Amer. Ethnology).

Polynesian reports appeared on Pukapuka (E. and P. Beaglehole), Mangareva (P. H. Buck), Easter Island (A. Metraux) (B. P. Bishop Museum, Bulletins 150, 157, 160). A. W. Lind described *An Island Community: Ecological Succession in Hawaii* (University of Chicago Press). M. Mead described "The Mountain Arapesh I. An Important Culture of New Guinea" (Anthropological Papers, American Museum of Natural History, 36, pt. iii), and shorter New Guinea studies included L. G. Vial's on the Morobe district (*Oceania*, 8: 383-397), and A. Schaefer's (*Anthropos*, 33:401-423). In Oceania appeared numerous shorter papers of note on Melanesian and Australian peoples by A. P. Elkin, P. M. Kaberry, C. H. Wedgwood, I. H. Hogbin, and others. R. Thurnwald's "Ein Vorkapitalistisches Wirtschaftssystem in Buin" (Archiv für Rechts- und Sozialphilosophie, 31, 1-37) was noteworthy. D. S. Davidson discussed "Northwestern Australia and the Question of Influences from the East Indies" (*Jour.*, Amer. Oriental Soc., 58, no. 1).

Major African monographs included M. J. Herskovits, *Dahomey* (2 v., N. Y., 1938), a rich and comprehensive study; I. Schapera's *Handbook of Tswana Law and Custom*; C. K. Meek's *Law and Authority in a Nigerian Tribe*, and M. J. Field's *Religion and Medicine of the Gb People* (Oxford Press). L. F. Nalder edited a *Tribal Survey of Mongalla Province* (Oxford Press); D. Westerman's revision of his *The African Today* was in press; and A. I. Richards' *Land, Labor and Food in Northern Rhodesia; An Economic Study of the Bemba Tribe* was forthcoming. Studies of the Laboratory of Ethnology in Paris included a series of treatments of aspects of the little-known Dogon of Sanga by S. de Ganay, G. Dieterlen, D. Palme, M. Griaule, and A. Schaeffner. Other French studies completed on African groups were by T. Riviere, G. Tillion, and P. Mus. E. Charles and C. D. Forde offered population data on a southern Nigerian village (*Sociol. Rev.*, 30:145-160); and S. F. Nadel analyzed a fertility cult of the Nupe of Northern Nigeria (*Jour. Roy. Anth. Inst.*, 67: 91-130).

Descriptive studies of Asiatic peoples included: E. S. Drower, *The Mandaeans of Iraq and Iran* (Oxford); G. Montell, *Durch die Steppen der Mongolei* (Stuttgart); and Y. Ching-Chi and others on the Yao in Northern Kwangtung (*Jour. Chinese Folklore*, Canton, 1938, 1, no. 3). On India appeared S. S. Sarkar, *The Malers of the Rajmahal Hills* (Calcutta) and D. N. Majumdar's *Tribes in Transition* (Calcutta) on the Munda. In shorter essays W. Y. Len described the Shanam boat people (*Nankai Soc. and Econ. Quar.*, 9, no. 4:807-854); V. A. Riasanovsky, "Customary Law of the Kirghiz" (*Chinese Social and Political Science Review*, 21, no. 2:221-67); and H. Stevenson food division among the Zahau Chins of Burma (*Jour. of Royal Anth. Inst.*, 67:15-32). Of note were

I. H. N. Evans, *Negritos of Malaya* (Macmillan); and M. Vanoverbergh's papers on the Negritos of Eastern Luzon (*Anthropos*, 32:905-928; 33:119-164). Hsiao-Tung Fei's *Peasant Life in China; Life in a Chinese Village Community* was a forthcoming functional study.

Technology and Material Culture. W. W. Hill described Navaho agricultural and hunting methods (Yale University Publications, 18); F. G. Speck skin-dressing techniques of Labrador (*Ethnos*, 2:345-353); W. W. Hill, Navaho pottery manufacture (*Bulletin*, Univ. N. Mex., Anthropological series 2, no. 3); A. Woodward, Navaho silversmithing (*Bulletin*, Museum of No. Ariz., 14); H. P. Mera, Navaho weaving (Laboratory of Anthropology, General series 2, 3, 5, 6); J. M. Cooper, Northern Algonquian and Athapascan traps (Catholic Conference of America, Anthropological series 5); and N. Joffe, *Patterns of Food Preservation among American Indians*.

In a general statement on *Methods and Scope of the Study of Material Culture*, G. Welfish pointed out the tendency to employ our own distinctions as to technique and materials, and showed the importance of approaching primitive technology and its role in economic life in terms of the native outlook on function and material.

Noteworthy was the posthumous appearance of Laufer's "The American Plant Migration, Part I. The Potato" (Field Museum of Natural History, Anthropological series 28, no. 1) edited by C. M. Wilbur.

Music and Folklore. Publications in primitive music included: G. Herzog's "Comparison of Pueblo and Pima Musical Styles" (*Jour. of American Folklore*, 49:283-417); F. Densmore's "Music of Santo Domingo Pueblo" (Southwest Museum Papers, 12); and C. Sachs, *World History of the Dance* (New York). Wyman and Kluckhohn described "Navaho Classifications of Their Song Ceremonials" (*Amer. Anth. Asso. Memoir*, 50). R. Underhill in *Singing for Power* (University of California) showed the place of songs in Papago religious life. F. Densmore described Maidu musical instruments (*Amer. Anth.*, 41:113-118); and C. Sachs instruments of Madagascar (*Trav. et Mém.*, l'Institut d'Ethnologie, 28).

Speck and Herzog worked on Cherokee dances and music; Herzog on Pima poetry. D. Woolley recorded Pima songs. Herzog discussed "Music in the Thinking of the American Indian" (*Pebody Bulletin*, May); and stressed the importance of an anthropological and sociological approach to the study of folksong (*Southern Folklore Quarterly*, 2:2:59-64).

Additions to material on American Indian folklore included: Thompson, by J. A. Teit (*Jour. of American Folklore*, 50:173-190); Coast Yuki, by E. W. Gifford (idem, 50:115-172); Jicarilla Apache, by M. E. Opler (American Folklore Society, *Memoir* 31); Mandan-Hidatsa, by M. Beckwith (idem, 32); Hopi, by M. Titiev (*Amer. Anth.*, 41:91-98); Navaho, by B. Haile (Yale University Publications, 1938); and Iroquois, by J. J. Cornplanter, *Legends of the Longhouse* (Philadelphia, 1938).

M. J. and F. S. Herskovits published "Tales in Pidgin English from Ashanti" (*Jour. Amer. Folklore*, 50:52-101); S. Sylvain-Comhaire, "Creole Tales from Haiti" (idem, 207-295); and S. Davidson and E. Phelps, "Tales from New Goa, India" (idem, 1-51).

Religion. W. Z. Park presented a thorough analysis of "Shamanism in Western North America:

A Study in Cultural Relationships" (Northwestern Univ. Studies in the Soc. Sci., 2). F. G. Speck continued documentation of "Oklahoma Delaware Ceremonies" (*Memoirs*, Amer. Philos. Soc., 7). F. Lambrecht completed presentation of "Mayaw-yaw Ritual" of the Philippine Ifugao (*Cath. Anth. Conf.*, Pub., 4, nos. 1-3). B. Haile (*Amer. Anth.*, 40:639-652) and C. Kluckhohn (idem, 359-369) discussed Navaho ceremonialism. W. La Barre analyzed the "Peyote Cult" (Yale Univ. Pubs., 19); M. E. Opler discussed Apache use of peyote (*Amer. Anth.*, 40:271-285); and R. E. Schultes described its appeal as a medicine (idem, 698-715). Short studies included: C. Du Bois, "Feather Cult of Middle Columbia" (General series in anthropology); M. Lantis, "Whale Cult and Its Affinities" (*Amer. Anth.*, 40:438-464); and B. Coleman, "Religion of Minnesota Ojibwa" (*Primitive Man*, 10:33-57).

Economics and Sociology. M. J. Herskovits criticized the tendency to equate the merely technological or sociological with primitive economics and urged a broader economic viewpoint in ethnological research and publication. R. Bunzel proposed distinctions of economic types of social structure in terms of differences in modes of distribution. M. Edel described "Property Among the Ciga in Uganda" (*Africa*, 11:325-341). C. Wagley's "Economics of a Guatemalan Village" and B. Mishkin's "Land Tenure in an Andean Village" discussed effects of changing land conditions on social life. Of major importance was L. B. Simpson's "Studies in the Administration of the Indians in New Spain III. The Repartimiento system of native labor in New Spain and Guatemala" (*Ibero-Americana*, 13). Historical and sociological problems connected with use of the horse in North and South America came increasingly to attention as in studies by F. Haines (*Amer. Anth.*, 40:429-437) and M. W. Nichols (idem, 41:119-129). G. Landtman attempted to derive the "Origin and Inequality of the Social Classes" (Univ. Chi. Press) from non-economic factors, primarily personal and personality differences.

Social units and groupings were treated in A. E. Hudson's study of Kazak (Yale University Publications, 20); V. Garfield's "Tsimshian Clans" (University of Washington); and T. F. McIlwraith's work on Bella Coola. E. G. Burrows' "Breed and Border in Polynesia" (*Amer. Anth.*, 41:1-21) considered kinship versus territorial factors in Polynesian local group structure. R. L. Sharp discussed "Land as Totem in Northeast Australia" and C. W. M. Hart compared Australian hordes and American bands. J. M. Cooper found that the Algonquin family hunting ground system was essentially aboriginal and pre-Columbian (*Amer. Anth.*, 41:66-90).

Marriage and its problems were discussed in Hallowell's "Incidence, Character and Decline of Polygamy among Cree and Saulteaux" (idem, 235-256); Mandelbaum's "Polyandry in Kota Society" (idem, 574-583); and Rossignol and Flannery's studies of Cree cross-cousin marriage (*Primitive Man*, 11:26-28; 29-33).

Fortune's discussion of Arapesh warfare (*Amer. Anth.*, 41:22-41) criticized some aspects of Mead's interpretation of Arapesh behavior. K. Oberg showed how Banyankole kinship bonds were affected by British rule (*Africa*, 12:129-159). J. Richardson's "Status and the Prosecution of Crime among the Kiowa" showed that primitive legal procedure is affected by relative and absolute status of the litigants. M. W. Smith described the "War

Complex of Plains Indians" (*Proceedings, Amer. Philos. Soc.*, 78:425-464).

The application of anthropological methods of research to sociological problems of modern communities was carried forward at University of Chicago by W. L. Warner and staffs on Newburyport; Natchez; and Mexican and Negro communities in Chicago. Natchez contrasts with Newburyport in the addition of caste to class factors in the community situation. In studying Mexicans in Chicago, main attention is focused on the dynamic, changing social situation. The work on Chicago Negroes offers a contrast with the Negro situation in Natchez. Publications on these studies are forthcoming and should have marked influence on anthropological method and research.

Acculturation and Applied Anthropology. Problems of cultural impact, as descriptive inquiries, and as problems of administration of native peoples, received increasing attention here and abroad. In America, M. J. Herskovits discussed general questions of *Acculturation* (New York, 1938); and P. Nash and J. Gillin considered methods in the study of acculturation, the latter describing use of the life history approach. F. S. Cohen discussed "Anthropology and the Problem of Indian administration" (*Southwestern Soc. Sci. Quar.*, 18, no. 2). R. Linton edited a series of descriptions of American Indian acculturation, including Fox (N. Joffe), Shoshoni (J. Harris), Ute (M. Opler), Wailaki (A. Sussman), San Ildefonso (W. Whitman), Puyallup (M. Smith), Arapaho (H. Elkin), and Carrier (I. Goldman); D. Rodnick described acculturation of Montana Assiniboin (New Haven, 1938); K. Luomala of the Navaho (National Park Service). E. J. Lindgren discussed as "An Example of Culture Contact without Conflict: Reindeer Tungus and Cosacks in Northwestern Manchuria" (*Amer. Anth.*, 40:605-621); and M. B. Emeneau described "Toda Culture 35 Years After" (*Annals, Bhandarkar Oriental Research Inst.*, 19:101-121). F. Eggan completed preparation of "Culture Change among the Tinguian of Abra Province, Luzon, Philippines."

In England particular attention was given applied anthropology with relation to African native peoples and their administration. Many monographs of a general nature were in part directed toward that end. Three studies in particular (*Africa*, Memoranda xv, xvi, xvii) were devoted to applied anthropology. B. Malinowski, L. P. Mair, M. Hunter, I. Schapera, A. T. and G. M. Culwick, A. I. Richards, M. Fortes, and G. Wagner offered "Methods of Study of Culture Contact in Africa"; M. Read, "Native Standards of Living and African Culture Change"; and M. Fortes, "Social and Psychological Aspects of Education in Taland." In two contributions on "The Scientific Basis of Applied Anthropology" and "Modern Anthropology and European Rule in Africa" (Reale Accademia d'Italia, Rome, 1938), B. Malinowski "attempted to outline some of the basic principles of functional anthropology" and "to show that the functional method supplies a type of anthropology which covers the same ground, works on the same subject matter, and is interested in identical problems with which the practical man has to deal in Africa." In India, D. N. Majumdar, along similar lines, discussed "Tribal Cultures and Acculturation" (26th Indian Science Congress, Section vii, Lahore, 1939).

Culture and Personality. The year saw marked advances in work toward a psychological

and sociological approach to culture and personality. The Committee on Personality in Relation to Culture of the National Research Council surveyed possibilities of co-operative research in universities, medical schools, hospitals, etc. A sub-committee, under chairmanship of Edward Sapir, continued preparation of a *Handbook of Psychological Leads for Ethnological Field Workers*, and reported as ready an Introduction; the Life-Cycle; Economics; and forthcoming a section on utilization of time, space, and number concepts. Field research included that of J. Richardson, A. Maslow, and L. Hanks among Blackfoot, and L. W. Simmons among Hopi. Hallowell experimented with Rorschach methods among Berens River Indians. Abnormalities were treated in R. Landes, "Abnormal among Ojibwa" (*Jour. Abnormal and Soc. Psych.*, 33:14-33); W. W. Hill's note on Pima berdaches (*Amer. Anth.*, 40:338-340); and Devereux's "Institutionalized Homosexuality of the Mohave" (*Human Biology*, 9:498-527). Hallowell analyzed "Fear and Anxiety as Cultural and Individual Variables in a Primitive Society" (*Jour. of Social Psychology*, 9:25-47).

R. Benedict reported on Columbia University studies of "Culture and Personality" of recent years. In "Some Comparative Data on Culture and Personality with Reference to the Promotion of Mental Health" (*Proceedings, American Association for Advancement of Science*, December, 1938), Benedict showed that "the incidence of psychic breakdown on a wide scale bears some relation to specific cultural factors." Benedict's "Continuities and Discontinuities in Cultural Conditioning" (*Psychiatry*, 1:161-167) defined the difference between social structures which demand of the individual a sudden, radical change in behavioral adjustment and those which stress continuous and uninterrupted development of the individual's adjustment, and illustrated their effects. F. C. Bartlett discussed "Psychological Method and Anthropological Problems" (*Africa*, 10:401-420); and J. M. Reinhardt's *Social Psychology* (Chicago) stressed environmental factors. R. Linton's "Culture, Society and the Individual" (*Jour. of Abnormal and Social Psychology*, 33:325-436) suggested an approach to problems of culture and personality in terms of a distinction between culture and society. In Chicago, under the sponsorship of the American Youth Commission of the American Council on Education, research was inaugurated by W. L. Warner and a staff to investigate the effects of the Negro's minority status on Chicago in Negro personality.

ANTIGUA. See LEeward ISLANDS, BRITISH.

ANTI-LYNCHING BILL. See UNITED STATES under CONGRESS; LYNCHING.

ANTIOCH COLLEGE. A nonsectarian, co-educational, liberal arts college in Yellow Springs, Ohio, operated on the co-operative plan of alternate work and study periods. The college was founded in 1853 and reorganized in 1920. The number of students enrolled for the autumn term of 1938 was 746, of which 475 were men and 271 were women. The faculty numbered 100. For the year 1937-38 the productive funds of the institution amounted to \$291,204, and the operating income was \$466,833. The library contains 54,000 volumes. President, A. D. Henderson, LL.B., M.B.A.

ANTI-SALOON LEAGUE OF AMERICA. A federation of church and temperance organizations in the United States whose object is the extermination of the beverage liquor traffic. It was established in 1895 by a coalition of the Anti-Saloon

Leagues of four states and the District of Columbia. In 1937, to meet the changed situation resulting from repeal of national prohibition, the League's constitution was revised to place the major emphasis on state work and to enlarge the activities of the State Leagues in the states and local communities. At the end of 1938 it embraced 40 state or territorial Leagues, held membership in the National Temperance and Prohibition Council, and was affiliated with the World League against Alcoholism (q.v.).

During 1938 the organization's chief exertions have been directed toward the development of adequate scientific temperance education; legislative restrictions that will subordinate revenue to social considerations by measures tending to insure that the demand for alcoholic beverages shall be a progressively diminishing one; to prohibit the stimulation of sale and consumption of liquors by liquor advertising; to prevent the issuance of licenses in rural and inadequately policed territory or in excessive numbers, and to secure the right of the people under local option laws to express themselves upon legislative measures relating to the liquor traffic.

The officers in 1938 were: President, the Rev. J. R. Hobbs, Birmingham, Ala. (president-elect, Bishop Ralph S. Cushman, Denver, Colo.); vice-president, Andrew Wilson, Washington, D. C.; treasurer, Charles E. Coleman, Chicago, Ill.; secretary, George W. Crabbe, Baltimore, Md. The legal department and national headquarters are located at 131 B Street, S.E., Washington, D. C.

ANTI-SEMITISM. See JEWS.

APPENDICEAL PERITONITIS. See MEDICINE AND SURGERY.

AQUEDUCTS. Three great aqueducts were under construction during the year—all of them giant projects which set records in this type of construction and indicated the great advances of modern engineering in increasing man's mastery over his environment. These projects have all been described in earlier YEAR BOOKS. Progress during the year is here noted.

Colorado River. The tremendous task of constructing a 240-mile aqueduct, to carry water from the Colorado River to the Metropolitan District centering around Los Angeles, was about 90 per cent completed as the year came to a close. All major features of this project (see previous YEAR BOOKS) were expected to be completed in 1939 and water will then be delivered to the terminal storage reservoir (Cajalco) at the west end of the aqueduct. In the meantime, plans were completed to put the intake pumping plant, which takes water from the basin formed by the Parker Dam on the Colorado (see DAMS), in operation on Jan. 7, 1939. This plant will lift the supply 291 ft. to a 2-mile tunnel through which it will flow by gravity to the Gene Basin—one of the intermediate reservoirs on the aqueduct line.

The San Jacinto aqueduct tunnel, last of 38 tunnels, totaling 108 miles in length—the world's greatest tunneling project—was holed through on November 19. Inflows of water under high pressure and badly broken rock held up the completion of this work. Some 6 miles of the tunnel remain to be lined before the work can be put in service. It should be noted that whereas the Colorado River aqueduct proper leading to the terminal reservoir is 240 miles in length, the distribution system adds another 150 miles to the length of this great work. (See also TUNNELS.)

Delaware. The new Delaware supply for New

York City has also been under construction and many of the shafts for this work have been carried down to tunnel level. This entire line will be in deep-pressure tunnel and will tie up the new high-level sources of supply in the Western Catskills with the upper reservoirs of the older Croton system in Putnam County. Thus part of the Croton will be made available as a high-pressure supply.

Contracts for approximately 54 of the 85 miles of deep-pressure tunnel constituting the Delaware Aqueduct between Hill-View Reservoir near the City Line and the Lackawack Reservoir on Rondout Creek, amounting to about \$113,000,000, have been awarded and payments aggregating about \$13,000,000 have been made. Contracts for the remainder of this aqueduct, for the main dam on the Rondout Creek, and for the necessary highway relocation in the vicinity of the reservoir it is expected will be let early in 1939.

The first stage of construction, providing 170 m.g.d. from Rondout Creek and Neversink River, was estimated to cost about \$210,000,000. The second stage of construction, comprising the development of the East Branch of the Delaware River, from which an additional supply of 370 m.g.d. will be obtained, was estimated to cost about \$63,000,000 more, a total at the end of the second stage of approximately \$273,000,000. (See map on page 42.)

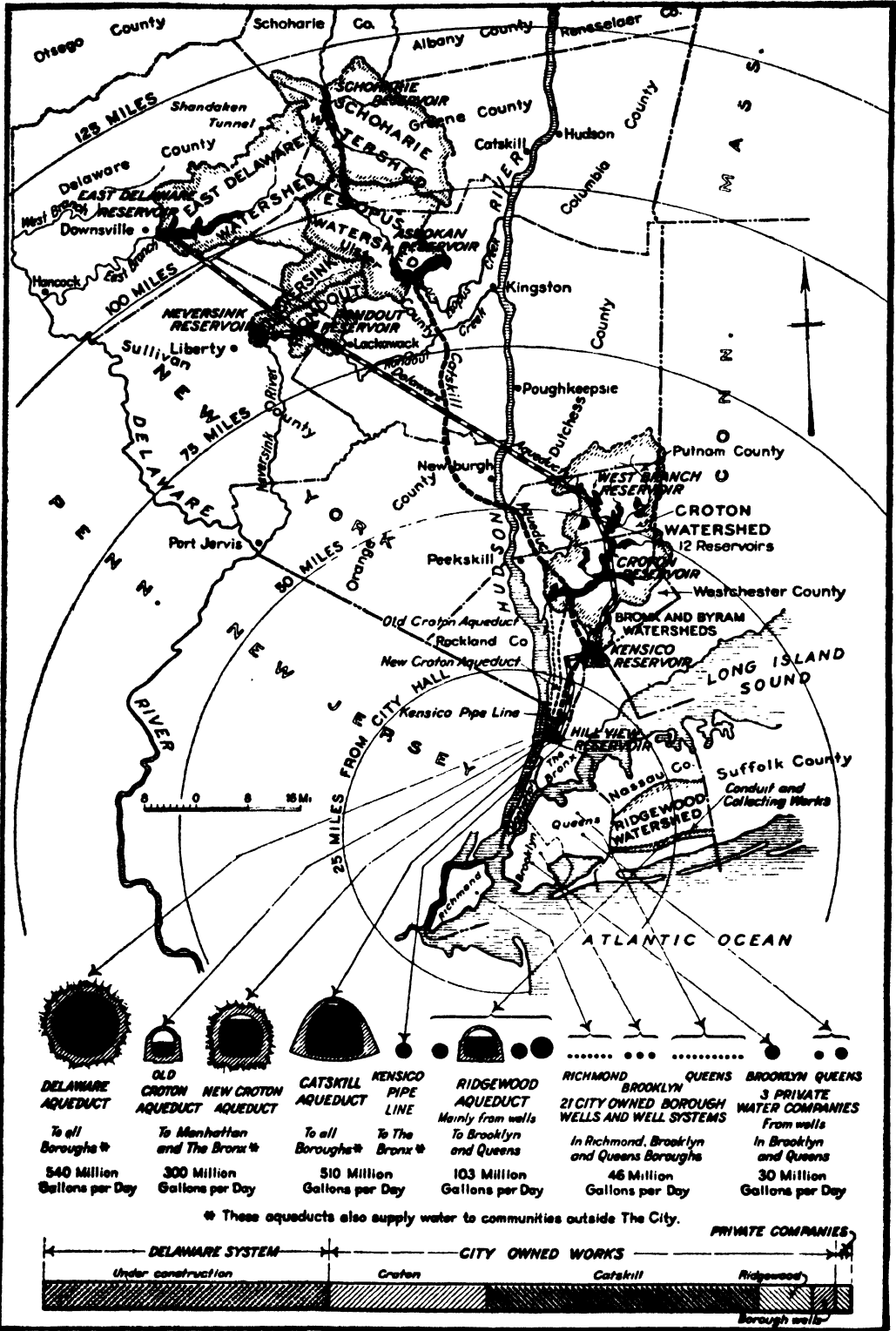
Boston. The Metropolitan District Water Supply for Boston brought forward early in the year a proposal to build a pressure aqueduct and tunnel to bring the new Ware-Swift River supply into the city, to replace the present grade-line aqueduct east of the old Wachusett Reservoir, and to abandon several older, intermediate reservoirs. This proposal has certain features similar to the deep-pressure tunnel-main distributing system of New York. In September a PWA grant was made to provide for the completion of the new Quabbin Reservoir (clearing some 20,000 acres, regulating dams, etc.) and also for work on the proposed aqueduct.

Miscellaneous. Beside these giant projects several other water supply constructions should be noted. Progress on the 6.6-mile Gunpowder Falls-Montebello aqueduct tunnel for the water supply of Baltimore, Md., was interrupted by a premature explosion on July 20 in which 10 men lost their lives. This project, involving a 12-ft. diam. tunnel, is being carried out from six headings run from three shafts and a portal.

Another work of particular interest is the new supply for Salt Lake City which originates in the Wasatch Mountains southwest of the city. From Deer Creek Reservoir on the Provo River, a 40-mile aqueduct is to skirt the mountains and bring in additional water for domestic use. The project, however, furnishes both an irrigation and a domestic water supply. It is being built under the U.S. Bureau of Reclamation and the city is to carry 46 per cent of the cost of the development plus the entire cost of the aqueduct. See WATERWORKS AND WATER PURIFICATION.

ARABIA. A large peninsula in southwestern Asia. Area, 1,000,000 square miles; population, assumed to be 10,000,000. The divisions of Arabia are given below. For the Arab countries outside of the Arabian peninsula, see separate articles on EGYPT, IRAQ, PALESTINE, SYRIA AND LEBANON, and TRANS-JORDAN.

Aden, a'den. A British colony and protectorate occupying the southern coastal region of the Arabian peninsula from the Strait of Bab el Mandeb to Oman. The colony consists of the important naval base and fortified seaport guarding



Courtesy, Board of Water Supply, City of New York.

THE WATER SUPPLY OF THE CITY OF NEW YORK

Total dependable present supply from all sources, 989 million gallons a day. Total dependable supply upon completion of the Delaware System, 1529 million gallons a day.

the entrance to the Red Sea, 75 square miles of adjacent territory on the mainland, and Perim Island (area, 5 sq. mi.). Population in 1931, 48,338 (54,923 in 1921). Aden Protectorate, comprising the hinterland of the colony, was greatly enlarged in March, 1937, by the Order in Council incorporating therein the entire stretch of coastal territory from the colony northeastward to the Sultanate of Oman. This region, known as the Hadhramaut (Hadhramaut), was previously under loose British control. The area of the colony and protectorate combined is officially estimated at 42,000 square miles, but Aden's frontiers with Yemen and Saudi Arabia on the north are vaguely defined and some authorities place the area at over twice the official estimate.

Aden is a free port and a commercial and transshipment center for the Arabian peninsula. The colony produces little apart from the manufacture of salt and cigarettes. Dates, indigo, tobacco, and gums are the chief products of the protectorate. Numerous cattle, sheep, and goats are raised and some butter is exported. The colony's imports by land and sea in 1936-37 were valued at Rs70,886,985; exports, with 4500 metric tons of coffee from the protectorate and Yemen, Rs43,070,424 (rupee averaged \$0.3733 for 1937). In the same year 1911 merchant ships of 7,598,074 tons entered the port of Aden.

Revenues of the colony in 1936-37 totaled Rs1,410,048 and expenditures Rs1,137,432. Aden was separated from the government of India on Apr. 1, 1937, and made a British crown colony. Governor and Commander-in-Chief, Lt.-Col. Sir Bernard R. Reilly (assumed office Apr. 1, 1937). The protectorate is indirectly controlled by the governor of Aden through local rulers.

Bahrein (ba-rân') **Islands.** An archipelago in the Persian Gulf, 20 miles from the Arabian coast. The important islands are Bahrein, Muharrak, Sitra, Nebi Saleh. Area, 213 square miles; population, 120,000. Chief towns: Manama (capital), 25,000 inhabitants; Muharrak, 25,000. The main industries are pearl fishing, date cultivation, boat building, and the breeding of fine white donkeys. Oil was discovered during 1932. In 1937 there was an estimated production of 7,848,180 bbls. of oil. In 1935-36 total imports were valued at Rs13,302,010; exports, Rs9,395,690 (rupee averaged \$0.3696 paper in 1935; \$0.3752 paper in 1936). A political agent represents the government of India, which has been in treaty relations with Bahrein since 1820. Ruling Sheik, Sir Hamad bin Isa al Khalifa (succeeded, Dec. 9, 1932).

Kuwait. A semi-independent state along the northwest coast of the Persian Gulf, under British protection. Area, 1930 square miles; population, 50,000 exclusive of an indeterminate number of Bedouins. In 1933-34 imports were valued at £258,857; exports, £94,516—pearls, horses, and wool were the chief items. Ruling Sheik, Sir Ahmed Ibn Jabir al Subah (succeeded, Feb. 23, 1921).

Oman. An independent state in southeast Arabia. Gwadar, a port on the Persian side of the Gulf of Oman, belongs to Oman. Total area, 82,000 square miles; population, 500,000 (estimated), mainly Arabs but there is an infusion of Negro blood along the coast. Chief towns: Muscat (capital), 4500 inhabitants; Matrah, 8500. Dates, limes, pomegranates, and dried fish are the principal products. In 1936-37 imports were valued at Rs4,465,861; exports, Rs3,241,641. Rice, coffee, and sugar are the chief imports. In 1936-37, 135 steamships (484,911 tons) entered and cleared the port of Mus-

cat. The revenue of the Sultan is between Rs600,000 and Rs700,000 a year (rupee averaged \$0.3752 paper for 1936; \$0.3733 paper for 1937). Sultan, Sayid Said bin Taimur (succeeded, 1932).

Oman, TRUCIAL. The six Arab states north of Oman, under treaty relations with Great Britain. Area, 6000 square miles; population (1916 estimate), 80,000 including 8000 nomads. Chief capital, Abu Dhabi (6000 inhabitants). The export of pearls to India is the main trade of the coast ports. The British Political Resident at Bushire in the Persian Gulf is the recognized adviser and arbiter for Trucial Oman. The six states and their ruling sheiks are: Shargah, Muhammad Sultan bin Saqar (succeeded, 1924); Ras al Khaimah, Sultan bin Salim (succeeded, 1919); Umm ul Qawain, Ahmad bin Rashid (succeeded, 1929); Ajman, Rashid bin Humaid (succeeded, 1928); Debai, Said bin Maktum (succeeded, 1912); Abu Dhabi, Shakput bin Sultan (succeeded, 1928).

Qatar. The peninsula to the west of Trucial Oman. Area, about 8000 square miles; population (1916 estimate), 25,000. Capital, El Bida (Doha). Qatar's relations with Great Britain are regulated by the treaty of Nov. 3, 1916. Sheik, Abdullah Ibn Jasim eth Thani (succeeded, 1913).

Saudi (sa-ōō'dē) **Arabia, KINGDOM OF.** The country formerly known as the Kingdom of Hejaz and Nejd and its Dependencies. Ruler, Abdul Aziz ibn Abdur Rahman al Faisal al Saud.

Nejd extends over some 800,000 square miles of central Arabia and includes the Nafud and Dahna deserts. Population (estimated), 3,000,000. Chief towns: Riyadh (capital), 30,000 inhabitants; Hufuf, 30,000; Mubarraz; Shaqra; Anaiza; Buraida; Hail; Jauf; Sakaka; Hauta. The raising of camels and sheep is an important industry. Dates, wheat, fruits, wool, barley, hides, clarified butter, and woven cloaks are the main products. Nejd is governed in patriarchal manner by the King. His first son, Emir Saud, acts as Viceroy in Nejd where he normally resides.

Hejaz extends along the west coast from Trans-Jordan to Asir. Area, 150,000 square miles; population (estimated), 1,500,000. Chief towns: Mecca, the capital and holy city of Islam, 80,000; Jidda, the seaport for Mecca, 30,000; Medina, the site of Mohammed's tomb, 20,000; and Yenbo (Yanbu), the seaport for Medina. Honey, dates, butter, fruit, hides, and wool are the principal products. The main income of the country is derived from the annual pilgrimage of Moslems from abroad to Mecca and Medina. The Hejaz is governed by a council of ministers under the presidency of the King's second son, Emir Faisal, who acts as Viceroy during the King's absence.

Asir, a province between Hejaz and Yemen, was ruled as an independent state by the Idrisi dynasty until 1926, when it accepted the suzerainty of Ibn Saud. In 1933, because of the Idrisi uprising, it was incorporated in Ibn Saud's dominions. Area, 14,000 square miles; population, 1,000,000. Sabiya, the capital, has 20,000 inhabitants.

Yemen. An independent state between Saudi Arabia and the Aden Protectorate. Area, 75,000 square miles; population, 3,500,000. Chief towns: Sana (capital), 25,000 inhabitants; Hodeida (chief port), 40,000; Taizz; Ibb; Yerim; Dhamar. The chief agricultural products are barley, wheat, millet, and coffee. A large number of hides are exported. Ruler, Imam Yahya ben Muhammed ben Hamid el Din.

HISTORY

Events during 1938 demonstrated the rapidly increasing importance of the Arabian peninsula in the calculations of the great European powers. Its strategic importance dominating the main shipping route to India and the Far East had been enhanced by the development along the western coast of the Persian Gulf of the trunk airlines from Europe to eastern Asia. The economic interest of the powers in this region was greatly increased by the discovery of rich oil deposits in the Bahrein Islands and on the adjacent Arabian coast beginning in 1935. By 1938 the Bahrein Islands had been transformed from a quiet and remote little Arab state dependent upon the pearling industry to the headquarters of an extensive petroleum industry employing hundreds of British and American citizens. Oil concessions were yielding substantial incomes to native rulers and arousing dreams of greater riches in the future. The establishment of air services and improvement of steamer services from Bahrein to Iraq and India, together with their new-found oil wealth, was rapidly transforming the outlook of the Arabs of Bahrein and Trucial Oman. The development of Saudi Arabia and Iraq as relatively strong and independent Arab states and Italy's rivalry with Great Britain in the Red Sea region following her conquest of Ethiopia in 1936 all served to stimulate the pace of the peninsula's political and economic development.

British Activities. To offset Italian propaganda designed to undermine British prestige throughout the Arab world, the British Broadcasting Corporation on Jan. 3, 1938, began daily broadcasts in Arabic to the Near East. Guest speakers at the opening ceremony in London were Emir Seif al Islam Ahmad, son of the Imam Yahya of Yemen, the Ministers of Saudi Arabia and Iraq to London, and the Egyptian Ambassador. At the same time the British undertook to strengthen their relations with the Arab rulers of the peninsula.

Late in February the Earl of Athlone, younger brother of Queen Mary, accompanied by his wife, the Princess Alice of Albany, and his nephew, Lord Frederick Cambridge, arrived at Jidda on an official visit to Saudi Arabia. They were met at Jidda by King Ibn Saud, his sons and officials, and were lavishly entertained there and during their subsequent journey across Arabia to the Persian Gulf by automobile. From Jidda they traveled to Taif, Riyadh, Hasa, Rumaihiya, Hofuf, Alhasa and by launch to the Bahrein Islands. Honored by this first visit of a member of the British royal family, Ibn Saud responded by inviting Princess Alice along with his male visitors to a banquet. It was the first time he had dined with a woman. In August the Crown Prince of Saudi Arabia, the Emir Saud, made a private visit to London.

While the Earl of Athlone was in Saudi Arabia, the Sultan of Oman paid a state visit to Great Britain, where he received flattering attentions. The fact that Oman's deep-water port of Muscat controlled the entrance to the Persian Gulf and that the Sultan's overseas possession of Gwador on the Mekran coast of Baluchistan was an important station on the British air route to India was stressed by the London press in connection with his visit.

Kuwait's Difficulties. The British were also concerned lest the controversies of the Sheik of Kuwait with both Iraq and Saudi Arabia lead to the absorption of the principality by one of its neighbors. In November, 1914, the British agreed to recognize Kuwait as an independent principality

under their protection and to guarantee the Sheik's control of his date groves in Iraq in perpetuity in return for his aid in capturing Basra from the Turks. The pledge regarding the date groves was not included in the Anglo-Iraqi treaty of 1932 establishing Iraq's independence. Consequently the Iraq Government imposed heavy taxes upon the groves. The Iraqis declared that the Sheik took advantage of the British promise to increase his property holdings in Iraq and to claim tax exemption for the new acquisitions. With influential Iraqi circles represented as eager to acquire the good harbor at Kuwait as their only alternative outlet to Basra on the Gulf, the British feared that a bargain might be made between the Sheik of Kuwait and the Iraq Government that would lessen British control over the strategically important principality.

Kuwait's difficulties with Saudi Arabia were due to the action of King Ibn Saud in closing the Kuwait-Saudi Arabian border to trade, ostensibly to lessen smuggling through Kuwait but apparently to encourage commerce through the Saudi Arabian port of Uquair. A closer association between the two states appeared to be the only course that would revive Kuwait's former trade with Saudi Arabia, but this would involve an increase in Ibn Saud's influence in Kuwait at British expense.

Anglo-Italian Pact on Arabia. The British took steps to check Italian political and commercial penetration on the eastern shore of the Red Sea by the Anglo-Italian treaty signed at Rome on Apr. 16, 1938. The two powers agreed to respect the independence and integrity of Saudi Arabia and Yemen, to seek no privileged position of a political character in these territories, to jointly oppose the acquisition of territory or of privileged positions in this region by any other power, and not to claim sovereignty over or fortify certain islands in the Red Sea to which Turkey renounced her rights in the Treaty of Lausanne. They also agreed not to intervene in any conflict that might break out between or within Saudi Arabia and Yemen and to oppose such intervention by any other power. The Italian Government recognized for the first time the addition of the Hadhramaut to the British Aden Protectorate and agreed not to attempt to acquire political influence in this zone or in the other Arab territories of the peninsula under British protection. The British in return agreed to respect the autonomy of the Arab rulers under their protection and to permit Italians to trade, travel, and reside in such territories. See GREAT BRITAIN and ITALY under *History*.

Although sympathetic to the Arab cause in Palestine (q.v.), the Governments of Saudi Arabia and Yemen did not intervene in the Palestine conflict in 1938 except to support a proposal for an Arab-Jewish settlement submitted to the British by the Iraqi Government in July (see IRAQ under *History*). Traffic between Yemen and Aden was resumed in the latter part of 1938 after the settlement of their dispute.

ARBITRATION, INTERNATIONAL. An arbitration Convention between the United States and the Netherlands relating to the sufficiency of the payment made by the United States for military supplies was signed Mar. 18, 1938. Michael Francis Doyle, a Philadelphia attorney, was named to the Permanent Court of Arbitration on February 16 by President Roosevelt, to succeed the late Newton D. Baker. With Mr. Doyle was named Henry L. Stimson, former Secretary of State, who will take the place of John Bassett Moore, whose term

expired. Other American members of the court were Judge Manley O. Hudson and Green H. Hackworth, State Department legal advisor.

The determination of the Republics of the American Continent to settle their international differences by pacific means was demonstrated in the solution of the question that developed between the Dominican Republic and Haiti. In 1935 the two countries had settled their old and vexatious boundary problem, but in October, 1937, a new issue arose out of certain events which occurred on the border of the two countries. After a series of conversations and negotiations, the Permanent Commission of Washington was requested to exercise the functions of conciliation granted to it by Article 3 of the Conciliation Convention of 1929. Under the auspices of the Commission an agreement was signed at the Pan American Union on Jan. 31, 1938, settling the dispute.

Further confirmation of the principle of pacific settlement of international controversies was given in the steps taken during the past year in the dispute between Honduras and Nicaragua over their common boundary. When the question began to assume serious proportions in the fall of 1937, the Governments of Costa Rica, United States, and Venezuela tendered their good offices, which were immediately accepted by the two Governments. On December 10th, the two countries signed a protocol in San José to avoid misunderstanding with respect to the boundary dispute, and since then negotiations have been in progress looking toward a solution of the basic question.

Representatives of Ecuador and Peru have continued in Washington during the past year under the terms of the agreement signed at Lima on July 6, 1936, looking toward the settlement of their boundary dispute. Since the inception of the meetings in Washington on Sept. 30, 1936, various proposals have been advanced, and it is hoped that eventually a solution will be found to this long-standing controversy.

Trail Smelter Case. As far back as 1924, residents of Stevens County, Washington, complained about damage to their crops, etc., from the fumes emanating from the stacks of the Consolidated Mining and Smelting Co. at Trail, British Columbia. Because of the insistent demands for redress, Canada and the United States referred the matter to the International Joint Commission for investigation and report. That report was rendered in 1931. By a convention signed Apr. 15, 1935, the two Governments resolved to constitute a tribunal to pass upon the questions arising out of the controversy. The chairman of the tribunal was Jan Frans Hostie, a jurist from Belgium. The other members were the Hon. Charles Warren, of Massachusetts, and Judge R. A. E. Greenshields, of the Province of Quebec.

The tribunal convened at Washington on June 21, 1937, for organization, adoption of rules of procedure, and hearing of preliminary statements. In the early part of July it traveled over and inspected the area involved in the controversy in the northern part of Stevens County in the State of Washington and also inspected the smelter plant at the Consolidated Mining and Smelting Co. at Trail, British Columbia. It held sessions for the reception and consideration of evidence, oral and documentary, at Spokane, Washington, Washington, D. C., and Ottawa, Ontario, Canada, extending from July 7 to Oct. 19, 1937.

An ad interim decision has now been rendered in which a previous monetary sum which the De-

partment of State received from Canada brings the total sum for damages to Oct. 1, 1937, \$428,000. The tribunal found that the controversy was one between the United States of America and the Dominion of Canada, involving damage occurring in the territory of one of them by an agency situated in the territory of the other, for which damage the latter has assumed by the convention and international responsibility.

In the course of its deliberations the tribunal found that approximately 300 to 350 tons of sulphur were being emitted daily in 1930. There were three questions presented to the tribunal for determination. The first question was: "Whether damage caused by the Trail Smelter in the State of Washington has occurred since the first day of January, 1932, and if so, what indemnity should be paid therefor?"

The tribunal found that damage had so occurred and made an award of \$78,000 for such damage from Jan. 1, 1932, to Oct. 1, 1937, with respect to damage to cleared land and uncleared land, and uncleared land used for timber. The United States, in addition to the claim for damage to land and timber, asserted damage in respect of livestock, damage in respect of property in the town of Northport, and damages in respect of business enterprises. But the tribunal failed to uphold the contention of the United States that damage had occurred to these properties.

The second question which the tribunal was asked to rule upon was: "In the event of the answer to the first part of the preceding question being in the affirmative, whether the Trail Smelter should be required to refrain from causing damage in the State of Washington in the future, and if so, to what extent?" The tribunal decided that until the date of its final decision the smelter should refrain from causing damage in the State of Washington in the future to the extent set forth in a temporary regime provided for in the decision until Oct. 1, 1940, and thereafter to such an extent as the tribunal should determine.

The third question was: "In the light of the answer to the preceding question, what measures or regime, if any, should be adopted or maintained by the Trail Smelter?" The tribunal was of the opinion that with the information at hand it was not able to determine upon a permanent regime for the operation of the smelter. However, it did set forth in detail a temporary regime which was to be put into operation by May 1, 1938, to cover the remainder of the crop-growing season of 1938, the crop-growing seasons of 1939 and 1940, and three months beyond Oct. 1, 1940. This temporary regime is to be under the technical supervision of two experts who will act as consultants to the tribunal and be under its authority. As a part of the regime it is provided that for the entire period until Oct. 1, 1938, the sulphur dioxide recorder which measures the sulphur content of the air shall be continuously operated. When, between the hours of sunrise and sunset, the sulphur dioxide concentration exceeds one part per million for three consecutive 20-minute periods, and the relative humidity is 60 per cent or higher, the smelter shall be immediately notified and the sulphur emission from the stacks of the plant maintained at five tons of sulphur per hour or less until the sulphur dioxide concentration at the recorder falls to 0.5 parts per million. The regime, however, is intended to be elastic and under the complete control of the tribunal. The expenses for this temporary regime will be undertaken by the Dominion of Canada.

ARCHAEOLOGICAL INSTITUTE OF AMERICA. A society for the promotion of archaeological investigation and research, founded in Boston in 1879 and incorporated by Act of Congress in 1906. It has accomplished its purpose in part through the American School of Classical Studies at Athens, the School of Classical Studies of the American Academy in Rome, the American Schools of Oriental Research in Jerusalem and Baghdad, the School of American Research in Santa Fe, N. M., The American School of Prehistoric Research at Peabody Museum, Yale University, and the Committee on Medieval and Renaissance Studies. Further work of the Institute is the support of lecture programs before its local chapters and aid given to excavations. In 1938 it had 36 societies or chapters with a total membership of about 1633. The official organ is the *American Journal of Archaeology*, a quarterly. The officers for 1938 are: President, William B. Dinsmoor, Columbia University; general secretary, H. T. Westbrook, Columbia University; treasurer, Seth T. Gano, Boston, Mass.; and recorder, Stephen B. Luce, Boston, Mass.

ARCHAEOLOGY. One of the most interesting finds made this year in Egypt was that of the diorite quarries worked by King Chephren (c. 2750 B.C.) at a place in the desert about 50 miles northwest of Abou Symbel. Here were found two new diorite quarries. The first revealed a great series of diggings about a half kilometer in length. The site was marked by a platform constructed of large blocks of diorite on the top of which was placed a black granite stele bearing the cartouche of the king, Cheops. According to this the name of the place was "The Hunting Grounds of Khufu." On each side of the stele were two blocks of diorite, triangular in shape and weighing about a half ton each. At another quarry was found a fine bronze chisel belonging to the old kingdom. It weighed about a kilogram.

At the other end of the Nile, at Hermopolis, has been found a third underground gallery dedicated to the worship of the Ibis and Cynocephalus, the baboon-headed deity symbolic of the god Thoth. This gallery is connected with two other galleries which had been previously found. The find of this year is supplied with a monumental staircase which leads up to the surface of the ground. At this point was found an open-air chapel on the walls of which appears the name of Alexander Aegus, the son of Alexander the Great and Roxanna, together with the name of Ptolemy Soter I. The gallery uncovered this year differs from those previously found in having a balustrade of sandstone carried around it. To the north of the gallery has been located a well-preserved embalmers' workshop. In it were materials as they had been left on the floor. The embalmer's bed with its circular drain was intact. It was in this room that the great numbers of ibises and baboon-headed gods were deposited by pilgrims from all parts of the country. Behind the balustrade was uncovered a mud building in which the priests of the place collected their fees from the visitors.

The monumental staircase already referred to led down to a labyrinth of streets lighted by shafts reaching up to the surface of the ground. Under the ground the excavators discovered a long, narrow chapel on the walls of which were painted scenes representing the worship of the Ibis. On the ceiling were signs of the Zodiac.

Although the place had been plundered at some time in the past, a mummified baboon was found

adorned with jewelry. It was walled up in a niche and dates about 2500 years ago.

About 2000 feet to the south of the gallery already described were uncovered the remains of a large temple and the residences of the priests of the place. Here was found a huge well 20 feet in diameter and 118 feet in depth. There are also traces of a garden where ibises were bred.

At Sakkara one of the most interesting finds was that of the tomb of King Aha, probably the first dynasty king, Menes. It dates around 3400 B.C. The tomb is of the Nagadeh type with a maximum height of 1.70 m. and is decorated with "palace façade" paneling. The part above ground was divided into 27 magazines. Under the center are five underground rooms. The partitions were of mud, faced with reed mats arranged in a pattern. The tomb had been already robbed. In it were found hundred of bits of pottery bearing the name of the king.

Also at Sakkara, 12 mastabas have been opened. The most remarkable proved to be that of Her-Neb-Kaw, a royal son of the vizier of the sixth dynasty. Originally the tomb belonged to a vizier by the name of Akhet-Hetep, who seems to have belonged to the time of King Unas. The mastaba contained a chamber, the roof of which was held up by pillars of white limestone, on each of which was painted a figure, name, and titles of the deceased. On one wall he is represented as seated and playing draughts while he watches a group of dancers. Servants are filing past with food. Many scenes in all are represented, forming the largest collection of paintings we have from the Old Kingdom.

One of the most important discoveries at Sakkara this year is that of the route which connects the valley temple with the funerary chapel of King Unas. The pavement and the walls on either side are made of white limestone, which material was also employed for the ceiling. The latter was painted blue and spangled with stars to imitate the sky. On the side walls were scenes and inscriptions. This unusual passageway is 765 yards long and 7 feet wide by 9 high. A central slit down the center admitted light. Not far from the chapel of Unas was found a sun-boat about 49 yards long by 7½ wide. This was built in connection with the pyramid. In the vicinity of the valley temple more than 300 stelae and false doors came to light. In the mastaba of Ra-Khuf, a provincial governor and "President of the Judgment Hall," were recovered two fine wooden statues.

Under the causeway from the valley temple to the chapel of Unas has been found an ancient cemetery which contains at least 20,000 burials. It dates late in the fifth dynasty. On the walls of the causeway itself inscriptions speak of a school for stonemasons near the quarries at Assuan.

At Tell el-Kheleif, the site of ancient Ezion-Geber, on the Gulf of Aquabah, Transjordan, the American School of Oriental Research, Jerusalem, has uncovered the remains of an ancient town which is probably Solomon's seaport and naval base, Elion-Geber. The site is now 556 meters from the gulf, but that is to be explained by the continuous drifting of sand from the north. The digging has revealed a practically complete copper-smelting plant and this as well as other evidence establishes the fact that the town manufactured copper implements, ropes, baskets, matting, made beads of crystal, agate, carnelian, and mother-of-pearl. It was also apparently a place where ships were built. So far about 45 rooms have been ex-

cavated. Of these about a quarter belong to a separate building unit devoted to the smelting and refining of copper. Nothing so complete has been found up to now. Masses of ashes and wood found in some of the rooms tell of the use to which they were put. Much handmade pottery has been found on the site, none of which antedates the 13th century B.C. At Megiddo the Oriental Institute of the University of Chicago dug down to the bed rock. The evidence accumulated points to a walled city at this place as early as 3000 B.C. The original wall of this town was 12 feet in thickness. The diggings went through 20 levels before they arrived at a cave which contained neolithic pottery and flints. These objects belong before 3500 B.C. About the time the walls of the city were erected an ornamental, flagged pavement was laid for a structure of sun-dried brick which was probably a shrine since it contained an altar. Horned animals with long tails were cut in the stones. Excavations along the walls of the city showed that in places these walls had later been increased to a thickness of 24 feet. The city was found at the eighteenth level of the mound.

At Atchana in North Syria, near Antioch, the British Museum Expedition has found a palace dating about 1600 B.C. The building had been burned in the first half of the 15th century. The palace was not of one period. Originally it was a great complex, uniform in plan with separate units grouped around different courtyards. Later on this structure was pulled down and a new one was erected on the site but set at a different angle. Later still against two sides of this building an official annex was added.

From the ruins nearly 300 written documents were recovered. From these were learned the names of two kings, Nigmepa and his son Iluna-ili, rulers of the city of Ala-lakh—the Atchana mound.

The front of the palace presented an imposing appearance. Here was a splendid façade with basalt stairs which led up to a colonnaded doorway. The walls were of polished basalt below and mud brick and timber above. In all there were two stories. From the entrance hall a door led to the residential part of the building; another on the right led to the state offices. The private quarters of the royal family were upstairs whither one went by means of a wide flight of wood stairs which were built into a brick stairwell. On the ground floor were the quarters of the personal servants of the family, with the men on one side and the women on the other. Each set of apartments was independent with its own bedrooms, bath, and lavatory.

The annex was built around three sides of a court with the greater portion given over to two long rooms of large size, divided in two by a central column which was flanked by piers which projected from the walls. Against the outer wall was built a staircase around a brick column which served as a newel. Under this staircase was a cupboard and next to it a suite of rooms consisting of a workroom, a bedroom, and a lavatory. This apartment seems to have belonged to the archivist since at the end of the building is a regular archive room with a cemented floor, and all around the walls a low bench on which the tablets could be piled in baskets properly labeled. On the floor of this room were scattered tablets which the tenants were unable to remove.

At Chagar Bazar in Syria, the British Museum and the British School of Archaeology in Iraq

have found an ancient record office containing some 70 tablets dating about 1900 B.C.

Also at Tall Brak the same scholars have excavated the mound which marks the site. In the upper part, which dates about 1500 B.C., they found late examples of Habur ware. Between 2000 and 3000 B.C. the occupants of the place were Sumerians. In the southern part of the mound was found a large Sumerian palace whose walls of mud brick were well preserved. The palace, which has been burned, dates about 2300-2500 B.C. In a house near the palace was found a private chapel. In the latter was a semicircular clay altar connected by a hole with a secret chamber in which the priest might conceal himself and whisper through the hole to give the effect of an oracle.

At Mari in Mesopotamia the French have worked on the palace discovered in 1935. It has proved to be the most complete example of architecture of about 2000 B.C. found in Mesopotamia. From the great court of the palace a succession of stairs and landings formed a kind of processional way that led to a sanctuary. Near the palace was discovered a Ziggurat still rising to the height of 50 feet above the plain. An excellently preserved temple had been cut in the side. This opened on a large terrace with sacrificial altars on either side of the entrance. The sanctuary was entered by a long passage which led to a large room against the walls of which were placed beds which were probably related to the marriage rites. Facing the door inside the sanctuary were two bronze lions—that is to say, wooden forms covered with bronze leaf.

The excavations of the American School in the Agora at Athens have produced important results this year. Just east of the Tholos has been found the 6th century B.C. boundary stone of the market place. It consists of a marble post 3 feet 10 inches in height by 1 foot in width. Across the top and down the right side is an inscription which reads "I am the boundary stone of the agora." The stone was fixed in a hole hewn in the bed rock. By finds of typical vases and reliefs the site of the Eleusinion has been fixed. One dedicatory relief shows Trip- toleμος in a chariot with serpent wheels.

Some very fine pieces of sculpture have been uncovered. Among them is a perfectly preserved head of Hermes which had been broken from a post. It wears a mustache and is a copy of the work by Alcámenes. Besides this was recovered a well-preserved small standing Hermes. The figure is posed with the weight on one leg and the other slightly bent. The head was made separately. This figure, like the last, is of Roman workmanship.

Many early vases have been found, one being a proto-Attic oinochoe of the 7th century B.C. Another object was a large stand handsomely decorated in the orientaling style of the first quarter of the 6th century B.C. The list of ostraca has been increased by the finding of one bearing the name of Hyperbolos who was the last Athenian to be ostracized. This happened in the year 417-16 B.C.

ARCHERY. See SPORTS.

ARCHITECTS. THE AMERICAN INSTITUTE OF. A society founded in 1857 to organize and unite in fellowship the architects of the United States, to combine their efforts so as to promote the aesthetic, scientific, and practical efficiency of the profession; to advance education in architecture and in the arts and sciences allied therewith, and to make the profession of ever-increasing service to society. The corporate membership of its 70 local chapters in 1938 numbered more than 3000 of the practicing

architects in the United States. The official organ of the society is *The Octagon, a Journal of The American Institute of Architects*.

The officers elected at the convention held at New Orleans, La., on Apr. 19-22, 1938, were: President, Charles D. Maginnis, Boston; Vice-President, Frederick H. Meyer, San Francisco; secretary, Charles T. Ingham, Pittsburgh, Pa.; and treasurer, Edwin Bergstrom, Los Angeles, Calif. The executive secretary is Edward C. Kemper. Headquarters are in The Octagon, 1741 New York Ave., Washington, D. C.

ARCHITECTURE. The year 1938 brought forth no buildings that promised to serve a grateful future as landmarks of design. It was a year heavily shadowed by politics and war. English architects were suddenly made aware that a new architectural problem had been seriously and systematically posed in Germany since 1933, had been taken up by France since 1935, and had now come to England: the problem of air-raid protection. "For the first time in England since, I suppose, the end of the 15th century," lamented Sir Samuel Hoare to the Royal Institute of British Architects, "we are beginning to think once again about the fortification of private houses."

In Germany the new art was well advanced, especially among new armament factories. A prominent part of the German architectural output consisted of vast public buildings. In Berlin a ponderous new Chancellery was added to the heavily bomb-proofed Air Ministry of 1936. Such developments tended to obscure the steady growth, throughout the world, of work-a-day building.

Architects in the United States still found their opportunities sadly limited; competitions and other theoretical pursuits occupied a disproportionate share of their time. Residential construction rose well above the 1937 level but made only a slight impression on the calamitous shortage. The central problem, struggled with by architects, industry, and Government, was the discrepancy between finished building costs and consumer income. One good omen was seen in the entry of private enterprise into the upper part of the low-cost housing field, hitherto occupied only by public authorities, when the Metropolitan Life Insurance Co. inaugurated a \$50,000,000 project in New York City.

United States. Housing. This was the field in which American architecture made its most energetic and independent contribution. Not only was the influence of the new housing projects upon private building enormous, because of the enthusiasm it aroused in the public for basic decencies and amenities rather than gew-gaws, but a habit of skeptical analysis, instilled by such early leaders as the late Henry Wright, led to fresh innovations upon European practice. Thus German "row planning" was not accepted as the last word but subjected to modifications in a country where straight rows would often admit howling winds. Among the many deviations (see 1937 YEAR BOOK on the Williamsburg project in New York) was the bending of the continuous rows into series of *chevrons*, a device skilfully used by Russ & Harrison in the site plan of the Lockefield Garden apartments at Indianapolis so as to make an equivalent ground area yield each apartment an enlarged and enhanced view. So, too, the American climate led away from the favored European building type giving access to the individual apartments from long open balconies; the trend was toward T or X plans giving access to the largest possible number of dwellings from each stairhall. The highly original Y-shaped

buildings for the Queensbridge project in New York had not yet been built.

Among the projects, the following might be mentioned as architecturally outstanding: Westfield Acres, Camden, N. J., perhaps the finest in its architectural forms (Chief: Joseph N. Hettel, associates: MacNelly, Radley, Gill, Stonorov, Moffett, Hall, Jefferies, Neutze); the Langston project, Washington, D. C., with its pleasant contrast between horizontal and tall units, and its good use of sculpture (Chief: Hilyard R. Robinson, associates: Porter, Williams); Trumbull Park Homes, Chicago (Chief: John A. Holabird, associates: Armstrong, Jensen, Maher, Grunsfeld, Chatten, Merrill, Walcott, Huszagh, Hodgdon; mech. eng.: Neiler); Meeting Street Manor & Cooper River Court, Charleston, S. C., with its pleasant gabled two-story house rows (Chief: Samuel Lapham, Jr.; associates: Hyer, Burden, Thomas).

Domestic Architecture. HOUSES. The intensive interest in house building that had outstripped the skyscraper interest in America was beginning to blossom forth into fresh and vigorous design. Architects who preferred "traditional" dress were concerned with demonstrating the functional elasticity of their planning; the progressives whose pride had been based upon getting down to essentials were becoming more inventive in caring for traditional amenities. The effect was to break down both the traditionally eclectic and the doctrinaire modern types and render design more fluid.

Perhaps the most striking innovations in domestic design are found in the fresh handling and relating of different kinds of space; particularly in the relations set up between indoors and outdoors. Some designers went so far in their effort to "open up the house to nature" as to introduce within the house-mass a gap, open or transparent, making it possible to see through the house from one side to the other. One method of doing this was illustrated by W. W. Wurster's charming small house for Louis Le Hane at Palo Alto, with its entrance hall glassed from top to bottom both front and rear, framing a delightful view of the patio. Another method was adopted by Kenneth Kassler in the design of his own house at Princeton, where the semi-isolated studio was united to the main house by the extension of the main roof across an open passage.

Many efforts were made in extending the influence of the house upon the surrounding open space by means of semi-enclosure. Thus the tall Southern portico was given new forms. In a "modern" house at Shreveport, La., the architects Jones, Roessle, Olschner, and Wiener carried not only the roof-slab but the entire attic space well out over the south wall, and dropped a two-story porch screen from one end of this slab down to the ground; but the effect was not wholly successful. At Cambridge, Mass., Edward D. Stone and Carl Koch were able on a very small plot to produce a large variety of delightful garden vistas by economizing the first-floor house space and projecting a well-planned second story far enough forward to create a covered terrace below. This modest and well-studied little house won a well-deserved prize from the Pittsburgh Glass Institute for its highly appropriate use of glass.

Natural growth was used to shade a house in hot sunlight more effectively than overhangs alone, when Lloyd Wright supplied the ranch house of Raymond Griffith at Canoga Park, Cal., with an extensive and rhythmical grape trellis; in winter the leaves drop off to let the sunlight in. This ranch house was laid out L-shape in two long wings, an

effective example of a spreading but not random plan, one room wide, organized upon well-defined house-zones. A small group of supplementary farm structures constituted a very pleasant feature with its rhythmical play of roof slopes against the delicate horizontal lines of corral fences.

Porches as a form of transition from "outside" to "inside" received considerable attention. A frontless box type, enclosed at the top and two sides, made several appearances; one good example of its use was provided by the sophisticated and formal little beach house at Hobe Sound, Fla., designed by Henry Corse. On a monumental scale the same idea of an open box or hood was used as the dominant feature of a large concrete house designed for Richard Halliburton by Alexander Levy. This hood, bracketing two stories and a roof-deck, had enough formal strength and gathered enough shadow to stand forth boldly even when isolated on a wild hilltop between the ocean and a canyon inlet.

An effective variant of the boxed porch was devised by W. W. Wurster for a smart little beach house in Aptos, Cal. Here two porch wings, surrounded not by walls but by glazed screens, created a form midway between the traditional porch and an outdoor room. The house was sheathed in a novel and distinguished manner with wide vertical redwood boards running uninterrupted from foundation to roof and contrasting with narrow, brightly painted trim.

A brilliant example of flexible planning which, in a temperate climate, permitted a calculated series of transitions from open to enclosed space was supplied by W. W. Mayhew in the Harold V. Manor house at Oakland, Cal. Placed between the sheltered patio and the glass-walled living room was a glass-walled and glass-roofed winter garden, with full-height glazed doors sliding their full length to form flexible partitions that would permit the three spaces to be opened or closed for use in any combination. The pattern of the simple door frames along with the rafters and roof glazing bars was as subtly decorative in its own way as the customary use of similar materials in Japan.

The planning of interiors was equally characterized by increasing flexibility. The planning skill of R. J. Neutra was displayed in a clover-leaf arrangement for the principal rooms of the Edward Kaufmann house in Los Angeles (Peter Pfisterer, collaborator). Boundary planes were treated with new freedom. Walls and partitions laid out in large curves were becoming increasingly common and were handled with better skill. Sloping ceiling planes were carried beyond the realm of purely utilitarian expediency and employed for psychological effect. Thus Schindler, who had previously experimented with ceilings slanted so as to open up a large living room to a beautiful view, reversed the procedure in the Walker house, Los Angeles, so as to emphasize, with equal effectiveness, the seclusion of the house. Harwell Hamilton Harris, a designer of increasing power in producing quiet and natural effects by subtle and sophisticated means, contributed two noteworthy houses to the year's record. The surprising feature in the Bauer house at Glendale, Cal., was the placing of many partitions on hexagonal lines in a manner that enhanced rather than disturbed the quiet charm of the house. The Kershner house, Los Angeles, embodied on an unusually noble and soothing navelike living space.

Other praiseworthy houses remain for brief mention. In the desert near Tucson, Grosvenor Atterbury with John Tompkins as associate gath-

ered the local boulders, with their many beautiful colors, into a masculine composition of blocky polychrome masses, extensive enough for a whole pueblo village, at "Stone Ashley." In Chicago the Herbert Bruning house, by Fred Keck, with its monumental half-cylinder glass-block stair tower carefully balanced against the cubical mass and with unusual protruding window frames, was carefully studied in every respect. The trend toward the free use of classical forms was illustrated in a Regency house for Herbert Trix at Grosse Point, Mich., by Hugh Keyes—a "large house without trickery or ostentation"—and in the spirited reworking of the Greek Revival by Evans, Moore, and Woodbridge in the alumnae house of Smith College at Northampton, Mass.

APARTMENT HOUSES. A city apartment house was still considered up-to-date if it had corner windows; a suburban apartment house was still genteel if provided with little false-work gables. Distinguished examples were few.

An apartment house at 25 East 83d Street, New York City, by Frederick Ackerman, showed a daring faith in simplification supported by good proportions. Here the corners were cut off diagonally to give the building a pleasant prismatic appearance; and the uniform horizontal "window" rectangles turned out upon closer examination to be panels of glass blocks admitting light but no view; conventional windows were inserted into these panels only in walls facing outward. This building was clean technically as well as in design, and typified the new trend in elaborate air conditioning.

In San Francisco, J. S. and J. Rolph Malloch capitalized the view from precipitous Telegraph Hill in an apartment building with extensive superposed balconies that recalled similar efforts in Paris. The fresh conception of the building was slightly marred by an immature Bohemianism in the decoration, notably in the sgraffito relief on the external wall.

INDUSTRIALIZATION. In their effort to produce wholly "prefabricated" or "packaged" houses, certain industrial interests not only roused bitter controversies but stimulated competitive efforts toward mass-production among builders already in the field; both of these moves had a similar effect upon design. Architects were increasingly called upon to act in the manner of industrial designers, establishing standards and types rather than individual expressions both in planning and equipment.

Standards were undoubtedly raised by mass production in certain low-cost fields, for example among the Missouri share-croppers whom the Farm Security Administration supplied with ready-made \$930 houses. The effect in other fields was subject to a wide variety of interpretations.

Industrial and Business Buildings. **Factories and Office Buildings.** As befits a country exercising industrial leadership, the United States continued to enjoy a high standard of factory design. The factory that was most strikingly presented to the public was the one designed by Frank D. Chase and Childs & Smith for the Campana cosmetic works at Batavia, Ill. Adding no meretricious "architectural" trappings, the architects achieved their effect by the opposite approach of dramatizing only what was utterly essential and typical. A long horizontal front of white terra cotta tile alternating with uninterrupted bands of glass blocks was bisected by an equally clear-cut projecting stair tower with the company name tastefully lettered across the top. The result came close to typifying "the factory" of 1938.

Typical factory design continued to favor the single-story, top-lighted type covering a large ground area, over the multi-story types or types isolating different processes in separate wings; the reasons were economy and, more especially, flexibility in expanding or contracting different departments. For lighting purposes, monitors (alternate longitudinal bays raised over clerestories), lighted from both east and west, were generally preferred over north-lighted sawtooth arrangements.

First-class examples of the large monitor-lighted factory were to be found, as usual, in the work of the firm of Albert Kahn, Inc. The Glenn Martin airplane assembly plant at Baltimore covered, without columns, a floor area of 300 by 450 ft., large enough to house hypothetical future transoceanic planes; the plan also involved a splendid 300-ft. sectional door. Other Kahn factories were the Chrysler half-ton truck plant at Detroit, the Ford tire plant at River Rouge, and a strip mill for Republic Steel at Cleveland.

An exceptionally clean-cut factory design was the one for the Industrial Rayon Corp., at Painesville, Ohio, by Wilbur Watson & Associates, eng. The Spreckels sugar works, at Woodland, Cal., by Harry A. Thomsen, Jr., built up into a handsome group.

In designing the Columbia Broadcasting System's Los Angeles studios, Lescage was confronted with an intricate problem involving technical, commercial, and entertainment factors. The suave handling of the concrete building envelope helped to make interesting instead of restless the high degree of articulation introduced in the masses. Novel details, capitalized by the designer, were such acoustical devices as the tilting inward of the studio walls to avoid the "flutter" caused by the usual parallel wall planes; in playful spirit the architect carried a similar vertical splaying of partitions out into such features as the information booth.

A structural novelty with many possible applications was a scientifically evolved concrete column or cylinder flaring out widely at the top and used as a kind of super-umbrella around street kiosks or filling stations. The rippled form of the overhang was derived by the architect, James M. Workman, from analysis of water ripples formed by the impact of a rain-drop; and its extraordinary structural strength promised future load-bearing use.

DISPLAY AND EXHIBITION. The two fairs that were begun in 1938 to open in 1939 had not been completed. Quite evidently the Golden Gate Exposition at San Francisco was pointed at fairyland; it was built on "Treasure Island" in a motley of exotic forms from the Orient and from Mayan temples, treated with "modernistic" fluting and carving. The effect was quite certain to be Hollywood, but on what level had not yet been ascertained. Both this fair and the World's Fair at New York were based upon academic ground plans with grand avenues laid down in geometric patterns. At New York the planners, expecting uncertainties to develop in the renting of exhibition space, had spotted the various types of exhibit, such as shelter, communication, etc., in a loose set of nuclei, each of which would be free to expand or contract as occasion required. This useful idea, however, lost any visible expression as the plan unfolded. One certainty was that the exhibit structures would bear a family resemblance to those popular essays in symbolism that had formerly received undeserved scorn from the educated: those brown derby restaurants and milk-bottle refreshment stands whose attention value had been so immediate and easy. Thus the Fair was to include as "maritime" display

a façade representing two ship-prows; the aeronautic exhibit was to resemble a huge plane; a prominent chemical manufacturer was to set up in front of his exhibit a tower shaped like a 100-ft. test tube. As compared to the Chicago fair of 1933, the New York venture showed more fluidity in the individual structures, a quality arising in part from the frequent use of curved and domed structures; it remained to be seen whether the orgy of individualism would pull itself together, and how. Certain buildings promised to be of more generalized interest and usefulness, among them the station of the Long Island Railroad, designed by the Fair Construction Department.

Architecture for display purposes, when it came to stores and store fronts, followed trends already laid down in recent years. New or remodeled department stores and other large store buildings continued to depend on electric lighting inside and to use blind outside walls with areas of glass block admitting diffused light. A good example was Coulter's in Los Angeles, with horizontal glass-block bands striping its rounded contours (S. O. Clement, Architect). Like other new western department stores, this one had a second "front" (marred by fire-escapes) opening to the important parking lot. In New York the prize of the Fifth Avenue Association went to the new building for Lilly Daché, by Shreve & Lamb, Harmon, and Letellie; this was an undistinguished "distinguished" building in limestone, stucco, and glass blocks. The remodeling for Lord & Taylor, by Raymond Loewy, designer, and C. E. Swanson Associates, store planning engineers, furnished an able exposition of the latest display principles for the more elegant store. On the upper levels the typical older form of an uninterrupted floor area studded with showcase islands was modified in favor of an arrangement that lined the periphery of the room with variously shaped alcoves, making possible more intimate and personal service. Examples of effective small store fronts and interiors were Peck & Peck, New York, by J. M. Hatton; Wilmington Blue Print Service (Del.) by V. & S. Homsey; San Diego Federal Savings & Loan Association branch bank, by F. L. Hope. Chain stores continued to "clean up" and standardize their fronts with simpler designs. In California a new type of store, the "super-market," branched out into chains with vigorous speed. These grocery department stores had left behind, for greater respectability, their former wide-open fronts, but still retained their vast interiors, bountiful with fruit and vegetables, and characteristically spanned by the criss-cross of arched "lamella" roofs.

TRAVEL AND ENTERTAINMENT. The remodeling of railroad trains reached a climax of prestige with the redesign of a whole Pennsylvania fleet by Raymond Loewy and of the 20th Century Limited by Henry Dreyfuss. Many elements in the Pennsylvania designs, overstuffing in a new equivalent for Victorian bulk, seemed to imply that the traveler was no longer interested in landscape; in the Century observation car, by contrast, a good balance was achieved between privacy and openness. The boundary between fixed and mobile architectural classifications was broken down still further in a fleet of luxurious trailer-hotels built in America from designs by Alexis de Sakhnoffsky for use in the Belgian Congo. In use these mobile suites were intended to remain stationary; "streamlining" ideals seemed to have molded every possible form into a curve. Among theaters the outstanding creation was the Esquire in Chicago, a motion-picture house

by Pereira & Pereira. As in no recent American examples, the baroque handling of "modern" forms characteristic of theaters was managed in bold asymmetric balance without loss of dignity and with a certain richness.

Institutional Buildings. SCHOOLS. Several very competent schools were produced. At Fitchburg, Mass., the firm of Coolidge, Shepley, Bulfinch & Abbott struck a nice balance, blending Greek Revival details in the belfry, roof pediments, and entrance frames with modern fenestration; especially fresh and effective were the brick end-walls, blank except for the strong and graceful vertical accent given by a narrow hall-light reaching uninterrupted from the top of the entrance pediment to the cornice. The plan, however, with its somewhat labyrinthian basement, revealed by implication why an increasing number of school designers have been deserting compact classical symmetry in favor of asymmetric, articulated plans permitting narrower wings and easier functional grouping of the disparate elements that make up a modern school. At Bloomfield Hills, Mich., Eliel Saarinen contributed a distinguished and happily craftsmanlike science building to Cranbrook Academy; it was more direct in form than this architect's more eclectic previous essays. Boulder High School, Boulder, Col., by Frewen, Morris, and Huntington, demonstrated that a straightforward high-school plan could be given an exterior of vigorous and interesting composition, and that a rich texture could be achieved with rough-hewn native sandstone played against the glass of windows well grouped in sturdy wooden frames. Two eastern institutions combined small size with an air of simple distinction. One was the community building for Jersey Homesteads, by Alfred Kastner, with an exterior severe but very carefully studied, focusing attention upon the low relief sculpture of the entrance doors in hand-hammered aluminum, by Otto Wester; the interior was carefully planned to care for community as well as school activities. The other handsome achievement on small scale was a crippled children's beach house at Lewes, Del., in which a beautifully adjusted plan and beautifully economical structural elements raised sane unostentatiousness to a high virtue.

MUSEUMS. Museum directors have always faced difficulties in presenting full-scale archaic architectural material. The Cloisters, opened in 1938 at Fort Tryon Park, New York City, as a branch of the Metropolitan Museum of Art, presented a solution both bold and logical. The new building, neither a copy nor a composite of the Romanesque and Gothic cloisters and chapter house whose fragments it incorporated, served instead as a framework expressly arranged for their display. Though coeval in style with the exhibits, all new construction was kept unobtrusive and free of "antiquing." The result was as delightful to the casual visitor as it was clear to the student. The architects were Allen, Collens & Willis; the landscape architects, Olmsted Brothers.

The Brooklyn Museum opened in its remodeled building from which the monumental approaching stairway had been removed and in which numerous large halls had been converted into display space with a more neutral background. Not the least omen for a better display architecture was found in the great improvement in the architects' own shows, especially the Architectural League show in New York and the A.I.A. show in San Francisco.

CHURCHES. Churches followed, in general, the conventional Gothic and Georgian models. A strik-

ing exception among religious buildings was furnished by the Navajo House of Religion, by Wm. P. Henderson, at Santa Fe. This was a beautifully conceived well of contemplation enclosed in a polyhedral form built of concrete in the lower part and logs above. Another church that departed from the norm with the unusual result of enhancing the sense of worship instead of distracting from it was the Third Unitarian Church at Chicago, by Paul Schweikher. This modest rectangular brick hall gained power by an architectural treatment of extreme simplicity and thoughtful reticence.

HOSPITALS. Hospitals were typically designed in long wings. The city group on Welfare Island, New York City, by Butler & Kohn and York & Sawyer, was laid out herring-bone fashion in a series of open V's strung together on a spinal unit. Turrets placed along the balconied wings added a quality of vivacity to the building mass. A cleanly handled skyscraper hospital was the Medical Center at New Orleans, marred only by indecisive carving at the crown. The architects were Weiss, Dreyfuss & Seiferth. An interesting smaller, one-story hospital was the La Vina Sanatorium in the Sierra foothills, by Myron Hunt and H. C. Chambers. A happy feature was the continuation of the quake-proof steel framing members outward to form a decorative pergola; an interesting distortion was the gentle tilting of the floor and roof to follow the slope of the ground, since true levels would have seemed to tilt the building back toward the mountain.

Public Buildings. The city of Washington was caught in a lull, though large new projects were being formulated. The only major structure to be finished in 1938 was the extension to the Library of Congress, a building chiefly remarkable for the completeness and efficiency of its mechanical installations. The behind-the-scenes appointment by a Congressional Commission of John Russell Pope, the architect of the Mellon art museum, as architect for the proposed Jefferson Memorial led to a bitter controversy. The younger architects demanded that such public monument projects be thrown open to competition in accordance with the successful methods of England and Germany, and a group of society women made a dramatic gesture to save the cherry trees on the chosen site on the Tidal Basin. Pope died before the question was settled; but in the end his office was empowered to proceed with substantially the original plan in a slightly shifted location. The shrine for the Jefferson statue was to be a circular, peristylar building capped with a saucer dome, in the genteel classic so peculiar to Washington; and future historians may well wonder why it was considered worth the fuss.

Elsewhere throughout the country the erection of public buildings was scattering. In the general gloom that could produce the routine pseudo-classic monsters used as court houses or capitols, the new architectural policy governing post offices shone like a beacon; a typical product was the restrained monumental branch office in the Bronx, New York City, by T. H. Ellett.

Great Britain. The event of the year was the Empire Exhibition at Glasgow. English commentators expected that this fair might easily do for England what Stockholm in 1930 had done for the Continent, by way of dramatizing and consolidating new trends. The site was wooded Bellahouston Park, dominated by an oval hill. Instead of using the hill for a climax of construction, the site plan very wisely left this promontory free except for a tower and some restaurants, giving the public the

height from which to enjoy the gay pageant spread in a horse-shoe curve below.

A spirited harmony was preserved, in all this "cardboard" architecture, through the single control exercised by Thomas S. Tait. Especially happy was the soothing standardization among the innumerable minutiae that bulk so large in a fair: the lighting standards, kiosks, exhibition stands, and small booths. The buildings were faced with large rectangular sheets, all alike in size and proportion whether made of glass, of "asbestos cement" (flat or corrugated), or, occasionally, of corrugated steel; the joints were left showing to establish this rectangle as a universal module. The large glass areas were used as drama, e.g., in the monumental curved bay of the Hall of Industry North, or in the transparent building volumes acrobatically balanced against opaque ones in the excellent Concert Hall Restaurant; glass exteriors permitted such structures as the Atlantic Restaurant to be built around living trees, upon the fine old Crystal Palace precedent reaffirmed in Paris in 1937; even a bank, the Union Bank of Scotland, permitted itself a glass front, abandoning the old bank idiom of the solid vault with new-found confidence in being able to achieve its miracles in plain sight.

The use of wood was made especially intriguing in the Hall of the Timber Development Association by R. Fournieux Jordan. The remarkable distinction felt in a form that was basically just a tall porched shed arose from the subtle obliquity of its walls and the searching balance between such details as a high plaque and a low entrance porch at the corner. Inside, the new industrial resources of plywood made possible an exciting contrast between a series of oblique booth screens on one side and a continuous wavy screen on the other; again between the roof trusses and the racing shell hung from them as a superb example of modern craftsmanship in wood. In exhibition technique it was the Government itself that had made the greatest progress. For the first time among fairs its display had been freed of parasitic commercialism and was homogeneously conceived to dramatize the Empire. A high point was the plastic handling of the mechanical man in the display devoted to "Fitter Britain." Only two buildings in the fair were jarringly discordant, one the "modernistic" bulk of the General Post Office building and the other an architectural cipher erected by a dissident newspaper.

Public buildings wavered in their allegiance, from straight classic to a type that implied lively commerce between the heirs of George III and their traditional friends in Sweden. Among the larger structures, the municipal buildings at Chesterfield, by Bradford, Gass and Hope, were in fairly strict and not unpleasant classic garb. The Norwich Town Hall attempted more. On the whole it was a studied example of imposing brick architecture with delicate smallish details, in the manner of the Swedish architecture of the '20's. A portico placed symmetrically against the main wall did not quite blend with the otherwise happy composition.

A number of smaller structures maintained a good standard of simplified traditionalism in brick construction; notable were the unpretentious and often graceful anti-aircraft stations, for example the one at Albany Street, London N.W.1, by Wm. G. Newton & Partners, poised lightly over the slender posts framing its garage doors.

The largest group of office buildings, designed by Stanley Hamp for Adelphi Terrace, failed to achieve much more than size. Competent smaller groups were erected on Charing Cross Road, Lon-

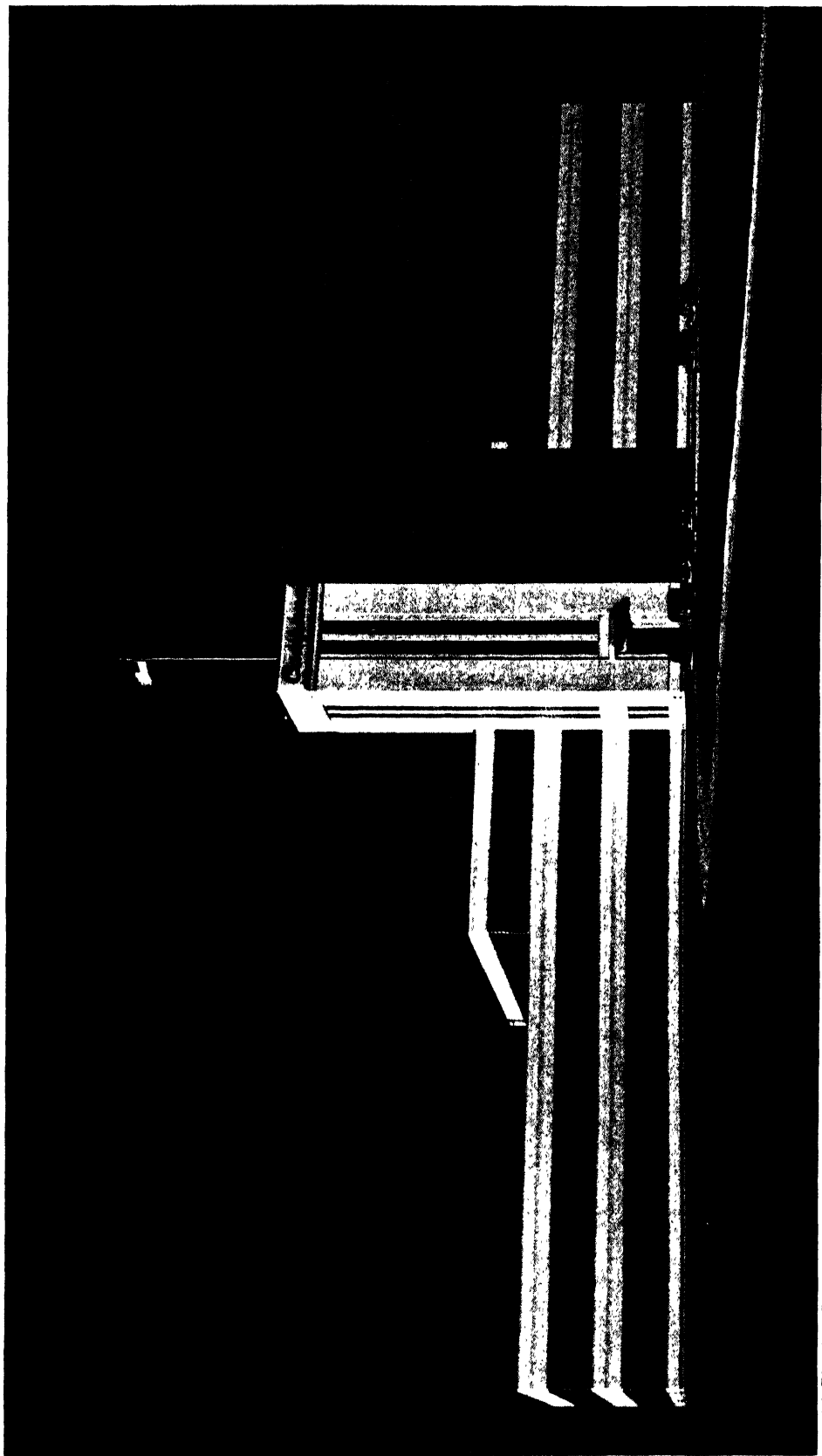
don, from plans by Andrew Mather & Harry W. Weedon, and at Leicester Square, by Wimperis, Simpson & Guthrie.

Industrial building yielded some very fine examples. At Welwyn City, O. R. Salvisberg in association with G. Stanley Brown produced a remarkably fine grouping for Messrs. Roche Products; at Balchley near Manchester, Serge Chermayeff gave smart and colorful precision both inside and out to a large laboratory; H. V. Miles Emerson (Robert Lutyens, associate) designed a factory entirely in terms of welded sheet steel for Steel Ceilings, Ltd.; Stanley Peach & Partners gave distinction to a warehouse for Penguin books at Harmondsworth. Among the more interesting stores were the Co-operative Store at Huddersfield, with its fine front, by W. A. Johnson, and the large vitrolite-faced furniture store at Leicester by Raymond McGrath. Maxwell Fry arranged some especially light-hearted pyrotechnics around a spiral stairway set up for an electrical display behind a Regency front in a shop on Regent Street itself.

The year saw fewer new churches of merit than did the previous one. The Church of St. Alban at Harrow, by A. W. Kenyon, built of concrete faced with brick, gave picturesque and beautiful massing to the traditional medieval forms unchanged except for extreme simplification. A smaller brick Methodist Church at Friern Barnet, by R. C. White-Cooper & Sidney R. Turner achieved a lesser success by similar methods. The Catholic Church at Androssan, by Gillespie, Kidd & Coia, used a heavy lanceted front vaguely suggesting a medieval fortress; the reinforced concrete synagogue at Dollis Hill, by Sir Owen Williams, succeeded better in the interior than with its curious prismatic and hexagon-eyed façade; the Willesden Green Federated Synagogue, by F. J. Landauer in collaboration with Wills & Kaula, was in danger, by contrast, of a craftsmanship somewhat finicking.

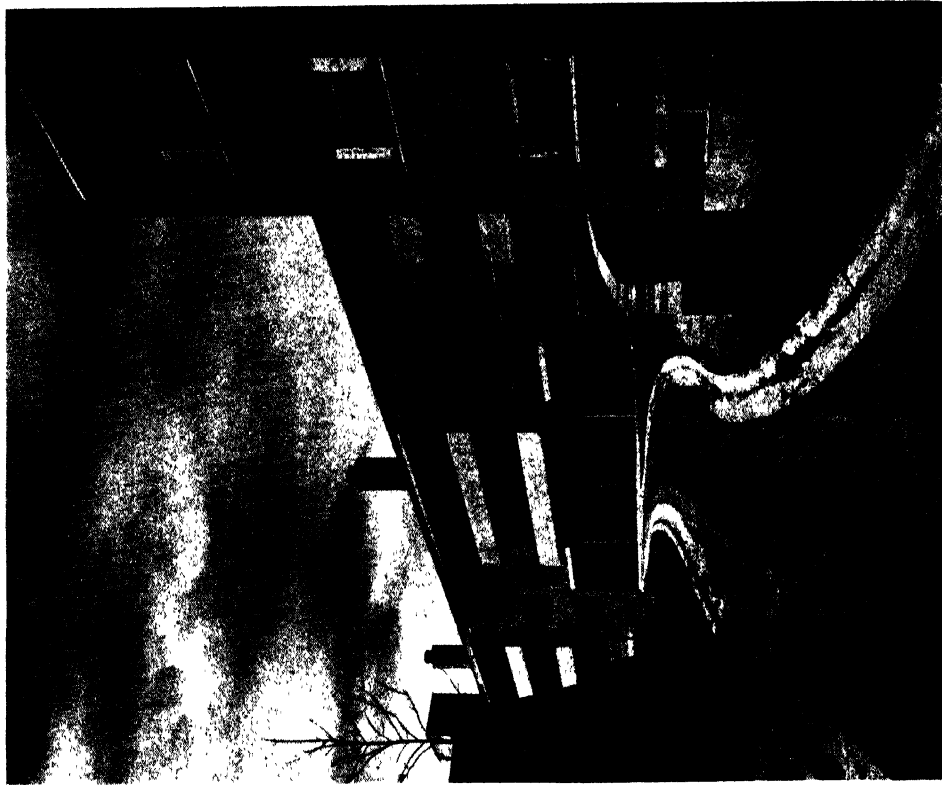
Among small libraries, the one added by L. H. Keay to the housing development at Norris Green, Liverpool, was a charming and gem-like building; a library at Leicester, by Symington, Prince & Pike followed in miniature the central-tower plan of Asplund's library at Stockholm; the curved corners of its outlying building masses were a refreshing departure.

School problems brought forth solutions in wide variety. The use of spreading, articulated plans had become nearly universal. The most bothersome of school problems, the large school so often rendered in abused factory forms, found a conspicuously successful solution in the large school at Sidcup by W. H. Robinson with John W. Poltock as assistant. The general disposition of its forms had been deliberately borrowed from a school by Dudok at Hilversum, Holland, especially the stunning off-the-end curve of the monumental glass stair hall. In Dudok's scheme, however, the composition had dominated the individual parts, whereas Robertson had been able to build stock parts into a composition ultimately both richer and more clear. A masterpiece of planning and articulate form was achieved by Gropius & Fry in the splendid squared S disposition of Impington Village College. The Luton Modern School for Boys, by Marshall & Tweedy (Moore, assistant) was interesting if a little tricky. Other educational buildings were the large School of Anatomy at Cambridge, by Stanley Hall & Easton & Robertson, a contemporary design oddly at home among Gothic neighbors; the small and vivacious Marylebone Health Society building with its day nursery, by the same architects; the L.M.S.



Hedrick-Blessing Studio

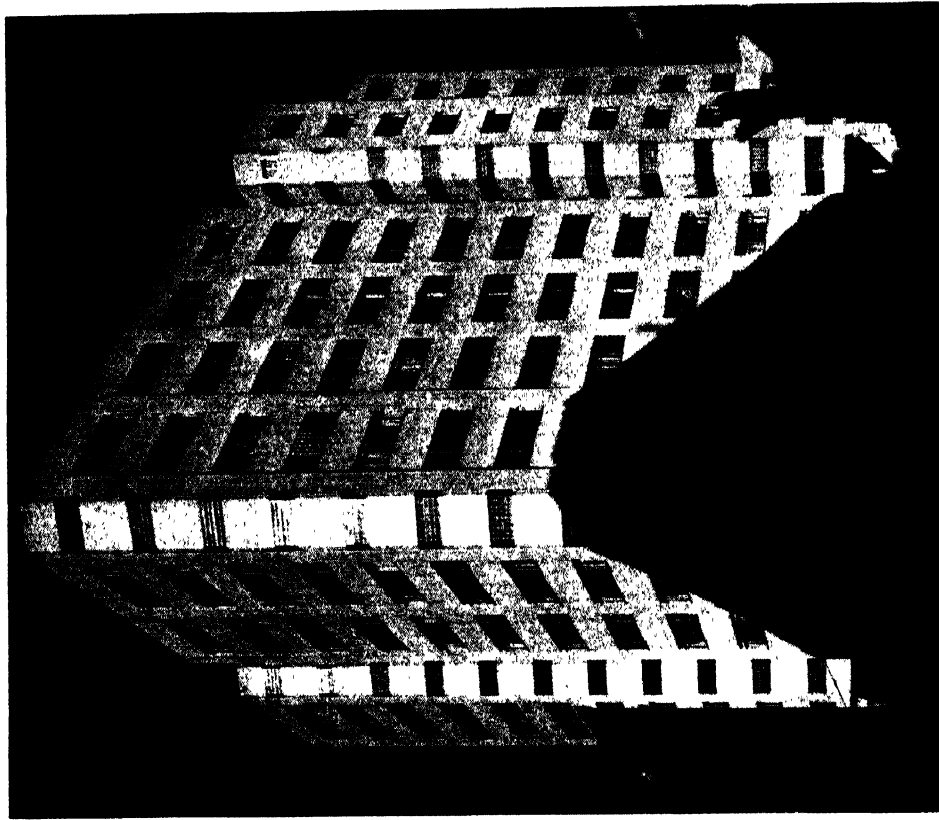
THE CAMPANA BUILDING, BATAVIA, ILL.
A factory designed by Frank D. Chase and Childs & Smith
ARCHITECTURE



F. S. Lincoln

WESTFIELD ACRES HOUSING DEVELOPMENT

A view of one of the sections of this U.S. Government Housing Project at Camden, N. J.



Robert M. Damora Photograph, Courtesy of Frederick L. Ackerman

AN APARTMENT HOUSE AT 25 EAST 83D STREET, NEW YORK CITY

Frederick L. Ackerman, Architect

School of Transport, by L. M. Hamlyn, in polished "neo-Georgian."

The most fluently planned apartment group was Highpoint No. 2, a set of *maisonnettes* by Tecton. The smooth and elegantly polished front, deliberately formalized, was set off by a piquant *porte-cochère* supported on caryatids, testifying to the rapid development within the modern idiom of rococo fancy. A group of flats on Exhibition Road, Kensington, S.W., by Adie, Button & Partners, presented a similar stripped elegance in a more conventional symmetric manner. Marine Court, St. Leonards-on-Sea, by Dalgliesh & Pullen, piled continuous ships-bridge balconies one above the other to a height of 12 stories, producing an effect not unlike two superimposed liners, but very vigorous. The less costly flats or apartments were usually found in long blocks about five stories high, the monotony of identical plans and fenestration being relieved by a play of balconies, protruding stair towers, rounded tower-like bays, and breaks in plan, upon precedents recently developed either in Holland or Germany. Such were the satisfactory block of inexpensive flats at Surbiton by Ronald Ward, the competent working-class flats at Stockwell, London S.W., by Louis de Soissons, and at Maida by Carøe & Passmore, and three large projects by Edward Armstrong: at Glebe Place for the London County Council (his best), a rehousing scheme at Southwark, and a large multi-unit scheme for 398 families done for the Guinness Trust on the Loughborough Estate, Brixton.

A whole section of Albert Park Road along St. Regent's Park had been lined within recent years with a series of blocks overlooking the park, among them Vice-Roy Court, Bentinck Close, North Gate, Oslo Court. The last-named, with its herring-bone apartment plan and its tiers of box-balconies jutting obliquely for a view of the park, illustrated the degree of bizarreness that would be tolerated by current taste so long as the appearance was logical and the pattern strictly repetitive. A high quality of creative thought went into a block of three-story flats at Ellington Court, High Street, Southgate, by Frederick Gibberd. The plan was broken down, as in current American practice, into domino plan-units composed of the paired apartments across each stair-hall; these dominoes were then variously strung together in straight lines, or staggered, or T'd, according to the exigencies of orientation and ventilation—a very flexible planning method. The same careful thought went into the adjustment of direct, economical building methods so as to produce beautifully proportioned building details, such as the full-width windows.

The house of the year was the one by Christopher Nicholson near Henley-on-Thames, a fluent plan worked into a grouping that was incisive and interesting from any approach, but especially good from the garden side, on which two blank white end-areas of wall served as a handsome foil for the play with glass through the middle. Other houses: at Angmering-on-Sea, Sussex, by Yorke & Breuer; a group on a sloping street at Hampstead, by Ernest L. Freud; two timber houses, one at Mongewell, Oxfordshire, by Smith & Booth, another at Sevenoaks, Kent, by Gropius & Fry.

Hospitals composed a sizable part of the year's architectural output. Quite unprecedented among hospitals was the health center of the very progressive Borough of Finsbury, designed by Tecton. The insouciance of glass building wings shaped like airplane wings, of halls converging toward the end,

of wedge-shaped piers supporting a curved forward-leaning parapet, and all the rest, was of a kind possible only through firm mastery of planning and finesse with technical procedures. The largest of city hospitals was the vast health center at Birmingham with its highly organized wing plan. The National Hospital, Queen Square, by Slater, Moberly & Wren, presented a handsome face to the street; the Kent and Canterbury Hospital by Cecil Burns was incisively drawn on an interesting triangular plan and made use between rooms of a prefabricated screen carrying all service elements ready for connection; the South Middlesex Fever Hospital was invitingly spread out among trees and straightforwardly executed in brick; the Convalescent Home at Rustington, Sussex, by Stanley Hall, Easton & Robertson, with a gabled roof and shutters to lend a traditional appearance, was very fine in its proportions and had an unusually pleasant continuous balcony forming a loggia below.

France. The number of brilliant examples was smaller than usual. Government buildings of the better kind continued in that simplified pseudo-modern manner that constitutes the new academism, an example being the regional post office at Lyons by Roux-Spitz. The best feature was the use of glass-prism vaulting over the central workspace. Swimming pools, such as the city pool at Pantin by Molinice, eng., & Auray, arch., were often pleasant; this one celebrated a good plan with a gay use of port-holes in its balanced façade. Among schools the most interesting was the large one at Puteaux, Seine, which combined a very intelligent grouping of plan elements—especially the imaginative play spaces—with an attractive exterior making sensible use of glass brick. The City Hospital at Lille, by Walter, Cassan & Madeline, vast beyond comprehension with its 4800 beds, had resort to every planning expedient available and thus became a new school for hospital study; it incidentally revived the useful American wheel-spoke plan for several of its units. Ginsberg & Heep's two Paris apartments combined luxurious open planning with carefully studied exteriors, in one case a little more than chic. A tour-de-force with a huge glass stair tower was achieved by Otto Bauer in the transformation of a house at Garches.

Germany. Official attention was concentrated not on the housing programs that had characterized the old Republic but on colossal public programs such as the North-South and East-West axial scheme for Berlin, a series of squares, circles, and avenues lined with public buildings by the mile, now revealed almost in its entirety through models. The new Chancellery by Albert Speer and the greatly enlarged new Tempelhof airport by Ernst Sagebiel were nearing completion. The style was Herr Speer's official classic. The agrarian program was meanwhile producing subsistence homestead types alike in their cumbersome poverty of plan and the awkwardness of such features as steep peasant-like pantile roofs; the regional differences consisted in small differences chiefly of surface. The trend toward vacation centers took form in group units, sometimes of considerable sentimental charm, e.g., the Freizeitenkirche at Eichenau near Munich by Gustav Gsaenger. Middle-class housing projects made use of more constricted plans, and exteriors of a decent middle-class inoffensiveness. Industrial plants alone continued in unhampered functionalism, the new airplane plants in particular displaying their keen efficiency, and sometimes remarkable feats were achieved with re-used materials, as in a factory at Fuerstenwalde by Karl

Schramm. But the general picture was of a skillful corps of designers hampered by an all-pervasive official bathos.

Italy. Italian architecture, under official inspiration, was succeeding incomparably in its one chosen mission: to give the contemporary movement monumental form. Future historians will be able to catalogue the elements, such as the projecting and handsomely modeled door and window surrounds, the stilted building blocks, the free spiral stairs, the impeccably executed stone or brick veneer paneling—much as one can catalogue the forms of the Renaissance. Symbolic was the physical incorporation of a Renaissance corner bay and portal, by Pietro da Cortona, within the strictly contemporary façade of a group of apartments by Vittorio Morpurgo; both elements in the combination were enhanced. The largest architectural opportunities seemed to cluster around aviation. Hence the Civil Airport at Milan, by Gianluigi Giordani, the school of aviation at Florence by Raffaello Fagnoni, and the little "city of the air" Guidonia, a self-contained village planned and built in a single operation under the direction of Alberto Calza Bini; hence too the beautiful hangar type developed by Pierluigi Nervi out of the diagonally ribbed concrete vault. Among them these projects presented a whole range of mood, a wealth of planning innovations, all serenely assured in their imposing monumentality. What they lacked, apart from the hangar, was the northern sense of humanity and athletic fitness.

A second rural town built as a unit like Guidonia, was Aprilia, deliberately held less sophisticated by its architects Petrucci & Tufaroli and engineers Paolini & Silenze. The residential product was best in the large middle-class and luxury range; outstanding as examples of planning management and plastic form were some Rome apartments by Ugo Luccichenti, a group of suburban apartments by Baniconi & Pediconi, Milan apartments by Lingeri & Terragni, a large sea-side hotel at Genoa by Luigi Carlo Daneri.

Japan. Among European models, Japan now tended to favor Italian ones; certain Japanese groups such as the Daisyo Village Office, Hyogen, by Togo Murano, could easily have fitted into above-mentioned Guidonia. Public and commercial buildings tended toward simplified, monumental, sometimes brutal forms in the most up-to-date fashions. Traditional houses, like the one by K. Osima, received little attention. They were more difficult for European taste than, say, two houses by T. Yoshida, one in brick, one wood, both with refined but more obvious relationships. Westerners were best able to appreciate the blend achieved in collaborations between Japanese and sensitive European designers, such as the Troeddsen house by A. Raymond & M. Amano.

U.S.S.R. Some of the pleasure structures, such as those in the Park of Rest & Culture at Tiflis by Khmelnitskaia & Kourdiani, recalled to Americans the early prototypes in Central or Prospect Park, while the offices for the Central Council of the Syndicates in Moscow by A. V. Vlassar could find a parallel of native exuberance only in the Saratoga of 1870. Both had more expressiveness than the neo-classic Lenin Library at Moscow by Schouko & Helfreich, whose virtue lay in the mechanism installed for the universal dissemination of knowledge. The U.S.S.R.'s best contributions were in national and town planning.

Other Countries. The generalization might be risked that whereas Italy has made contemporary

forms monumental, Scandinavia has made them humane. The northern architecture continued to be fresh, vivid, intelligently democratic in its unpretentious subordination of architectural display to human use and human scale. Sufficient evidence would be found in the endless variety of the modest vacation cabins and week-end houses, and the loving care devoted to the design of facilities for sport. Thus in **Denmark** the new National Museum, mildly rococo to conform to the old part, and well planned in long wings, presented a far less typical architectural opportunity than such modest and popular structures as the Boldklub Sports Club, which needed make no pretense of style but was devoted to the bold beauty of athletic form in its structure as well as its facilities. Other good Danish buildings were the block of two- and three-story apartments in Bellavista Park by Arne Jacobsen and the informal house that Poul Henningson sloped cleverly down the side of a hill for his own use. **Sweden** contributed, apart from her orderly planning of residential areas, such democratic innovations as Eric Friberger's inexpensive "prefabricated" houses, remarkably refined in design and in the delicate use of wood.

Finland produced an astonishing quantity of up-to-date building, and even seemed capable of securing a direct design approach from its public designing boards, as expressed in two hospitals, a maternity hospital at Viborg by the City Building Department and the General Hospital at Pori by the Medical Board. Other handsome Finnish achievements were Aalto's large pulp mill with its connected houses, the tourist hotel on the Karlberg by M. Blomstedt & M. Lampin, the church at Nakkila with its waved wooden acoustic ceiling, the somewhat heavy customs warehouse by G. Taucher, and the commercial school at Helsinki (Helsingfors) by V. Kauppaoppilaitos. This school was almost too good to be true; that is, there had been a tendency to conform the design to an artificial monumentality, a temptation inherent in Finland's classical tradition.

In **Belgium** the prize-winning villa by A. & Y. Blomme at Uccle was in the tradition of Van de Velde in the free-flowing curves of its opulent plan; the large sanatorium at Tombeek by M. Brunfaut gave handsome pictorial composition to the large hospital, although some of the details were just composition. **Holland's** architectural virility struck out in several directions. There was Dudok's bank at Schiedam with his usual sober composition; there was the large Schunk store at Heerlen, by F. P. J. Peutz, a striking cube supported in refined factory construction of mushroom columns, and sheathed entirely in glittering transparent glass cut only by the narrow framing bands; naturally many technical adaptations had to be made, as in the heating. In their Grand Hotel Gooiland at Hilversum, Duiker & Bijvoet struck out in what might at first seem like abandon, with wide sweeping curves in plan, and with a great terrace over the first-floor lobby; close attention would reveal the most careful study, and especially a brilliant solution of the special framing problem that bothers all hotels.

Czecho-Slovakia continued its new tradition of artistic cleanliness. The art museum at Prague by J. Gocar gave studied top-lighting to its painting galleries, and was properly equipped—after the experience of the Prado at Madrid—with air-raid shelters. The new French schools at Prague by J. Gillar were resolved into small units that brought the educational process down more nearly to human

scale. The **Swiss** Reformed Church at Zurich-Wollishafen by W. Henauer & E. Witschi did not quite succeed in its original interior use of wood. In the Doldertal was a phenomenon typical of the year. Here were two lovely small blocks of apartments, most carefully oriented so as not to interfere with one another, arranged so as to make the most of the beautiful landscape and proportioned so as to be worthy of it. It was Swiss and international at the same time. The architects were A. & E. Roth & M. Breuer.

ARCTIC EXPLORATION. See **POLAR RESEARCH**.

ARGENTINA. A Federal republic of South America, consisting of 14 Provinces, 10 Territories, and the Federal District including the Capital, Buenos Aires.

Area and Population. With a land area of 1,079,966 square miles, Argentina had a population estimated on Jan. 1, 1938, at 12,761,611, compared with 7,885,237 at the 1914 census. The increase during the year 1937 was 199,149, of whom 43,900 were immigrants and 155,449 represented the natural increase in the population. The estimated population of Buenos Aires on Jan. 1, 1937, was 2,290,788; Rosario, 509,604; Córdoba (1935), 302,232; Avellaneda, 233,910; La Plata, 192,225; Santa Fé, 144,871; Tucumán (1936), 136,258; Bahía Blanca, 109,660; Río Cuarto (1932), 89,600; Lomas de Zamora (1936), 84,177; Mendoza (1936), 81,106; Paraná, 72,288; Santiago del Estero, 65,718.

Education and Religion. Illiteracy among voters declined from 35 per cent in 1916 to 21.98 per cent in 1930. In 1937 there were 1,543,317 pupils enrolled in 13,036 primary schools, 25,840 students in national secondary schools, 22,538 in normal schools, 8795 in commercial schools, 8207 in industrial, technical, and vocational schools, 204 in the School of Mines and Industries, 7654 in trade schools, 5577 in various institutes, and 19,487 in 355 private schools with official standing. The national universities at Córdoba, Buenos Aires, La Plata, Tucumán, and Santa Fé, the latter with branches in Rosario and Corrientes, had a combined 1936 enrollment of 27,885. The large majority of Argentines profess the Roman Catholic religion, which is supported by the State; all other creeds enjoy freedom of conscience.

Production. Movable goods produced in Argentina in 1937 were valued at 6,450,000,000 paper pesos (2,141,000,000), or a per capita production of around 511 pesos (\$170), according to estimates by the Argentine economist, Dr. Alejandro E. Bunge. Of Argentina's movable production, 33 per cent was exported in 1936 against 6.8 per cent in the United States. The value of goods consumed in Argentina in 1936 was estimated at 4,883,000,000 paper pesos, of which 75.8 per cent was produced in Argentina and 24.2 per cent imported.

According to the agricultural census of June 30, 1937, there were 439,874 agricultural and livestock holdings (164,871 operated by owners, 197,174 by tenants, and 77,829 by others under special working arrangements). The livestock census of the same date showed 33,100,512 beef cattle, 43,790,166 sheep, 3,975,716 swine, 8,527,181 horses, 4,875,990 goats, and 905,041 mules and asses. Wool production (1937) was 187,500 metric tons. The area under grain in 1937 was 46,840,000 acres. Preliminary returns for the principal 1937-38 crops were (in metric tons): Wheat, 5,030,000; corn, 4,545,000; linseed, 1,539,400; cotton, 51,445. Oats, barley, rye, birdseed, sugarcane, grapes, maté, tobacco, rice, peanuts, sunflower seed, and various fruits are

other leading crops. The output of the chief minerals in 1937 was (in metric tons): Petroleum, 2,308,000; tungsten ore (tungsten trioxide content), 455; lead, 15,000; zinc, 3700. Some copper, gold, silver, coal, borate, salt, and limestone is mined. Fisheries production rose from 22,153 tons in 1920 to 45,378 tons in 1936.

The 1935 industrial census (final figures) showed 40,613 industrial establishments, with 526,495 employees and executives and a motive force of 2,573,411 h.p. In that year raw materials valued at 1,963,224,656 pesos were transformed into products worth 3,458,041,607 pesos. The leading industrial products are foodstuffs, textiles, machinery and vehicles, metals and their manufactures, electric power, printing products, chemical and pharmaceutical preparations, petroleum products, forestry products and manufactures.

Foreign Trade. Excluding precious metals, Argentine imports in 1938 were valued at 1,419,438,000 paper pesos (tariff values), as against 1,515,121,000 pesos in 1937, and exports were valued at 1,400,294,000 pesos compared with 2,310,998,000 pesos in 1937. In 1938 the United Kingdom supplied 18.3 per cent of the total imports (18.9 in 1937); United States, 17.6 (16.4); Germany, 10.1 (10.4); Italy, 5.5 (5.5). Of the 1938 exports, the United Kingdom took 31.8 per cent (29.1 per cent in 1937); Germany, 11.5 (6.8); United States, 8.1 (12.8); Belgium, 6.8 (9.4); the Netherlands, 6.4 (9.4); and Italy, 2.5 (6.2). Agricultural and livestock products normally account for 95 per cent of the value of all exports. The value of the chief export items in 1937 was (in paper pesos): Cattle products, 725,681,761; corn, 598,274,336; wheat, 475,533,763; linseed, 275,165,834.

Finance. The 1939 budget estimated expenditures at 1,048,000,000 pesos and revenues at 850,320,000 pesos. The revised 1938 estimates placed expenditures at a grand total of 996,400,000 pesos, of which 977,900,000 pesos were payable from ordinary general revenues. General revenues for 1937 actually amounted to 946,400,000 pesos and the surplus was 11,600,000 pesos. On Dec. 31, 1937, the foreign public debt amounted to 932,500,000 pesos and the internal debt to 2,816,600,000 pesos, making a total of 3,749,100,000 pesos as against 3,880,200,000 pesos on Dec. 31, 1936. After deducting bonds held by the Treasury, the net debt was 3,742,900,000 pesos on Dec. 31, 1937, and 3,607,500,000 pesos on Dec. 31, 1936. The paper peso in 1937 was equivalent to \$0.3096 in official exchange market and to \$0.3003 in the free market (\$0.2932 and \$0.2784, respectively, in 1936).

Transportation, etc. On Dec. 31, 1937, Argentina had 25,331 miles of railway lines open, of which 19,588 miles were privately owned and 5743 miles state owned. The leasing of the Central Córdoba Railway by the government in 1937 gave the state railways an entrance into Buenos Aires and the opening of the Buena Nueva-Pie de Palo branch line in 1938 gave the state network connections with the city of Mendoza. Another branch line between General Pinedo (Chaco Territory) and Tostado (Santa Fé Province) was formally opened Apr. 14, 1938. All railways in 1937 carried 153,159,653 passengers and 48,781,765 tons of freight.

The highway mileage in 1937 extended 214,628 miles; the number of automobiles was 247,970. In 1933 a 10-year highway construction program costing 315,000,000 pesos was inaugurated. During 1937 and 1938 a number of important sections of the projected national highway network were com-

pleted, including the Buenos Aires-Ushuaia and Buenos Aires-Mar del Plata routes. In addition, 4814 miles of provincial highways and some 700 miles of railway feeder roads were completed during 1937. Statistics of civil air lines operating in Argentina in 1937 were: Miles flown, 886,019 (659,815 in 1936); hours flown, 6043 (5003); passengers, 10,460 (8678); mail, 150,188 lb. (117,892 lb.); express, 77,521 lb. (71,948 lb.). A passenger air service between Buenos Aires and Rio de Janeiro via Asunción, Paraguay, was opened by Pan American Airways Feb. 21, 1938. During 1937 a total of 3245 ships of 11,408,981 net registered tons entered Argentine ports in the overseas trade; of these 36.94 per cent were British. A nation-wide telephone service was provided for the first time on Aug. 10, 1938, with the linking of the International Telephone and Telegraph and the Argentina de Telefonos systems.

Government. The Constitution of 1853 vests executive power in a president chosen for a six-year term by 376 electors representing the Provinces and the Federal District. The National Congress consists of a Senate of 30 members elected for nine years by the Provincial legislatures and a Chamber of Deputies of 158 members elected for four years by universal male suffrage. One-third of the Senate retires every three years and one-half of the Chamber every two years. The governors of the Provinces, elected by local suffrage, exercise extensive powers independently of the Federal Government. President in 1938, Dr. Roberto M. Ortiz, who was elected Sept. 5, 1937, and assumed office Feb. 20, 1938.

HISTORY

Ortiz Inaugurated. Dr. Roberto M. Ortiz, elected to succeed President Augustin P. Justo in 1937 (see 1937 YEAR BOOK, p. 53), was sworn into office at Buenos Aires on Feb. 20, 1938, together with the new Vice-President, Dr. Ramón S. Castillo. To the great satisfaction of the Argentine press and public, the new President in his inaugural address affirmed his faith in democracy and solemnly promised to respect civil liberties and constitutional guarantees, many of which had been held in abeyance since the 1930 revolution. He warned against the introduction of international movements into Argentine politics. Declaring that "in present world conditions only strong people can maintain peace and justice," he said he would devote special attention to the development of the nation's armed forces and "moral reserve." Participating in the inaugural ceremonies were six giant U.S. Army bombing planes that had made a record flight from Miami to the Argentine capital, bearing a letter of greeting and congratulation from President Roosevelt to Dr. Ortiz.

President Ortiz appointed a middle-of-the-road cabinet containing several non-political members and one holdover from the preceding ministry. Its composition was: Interior, Diógenes Taboada; Foreign Affairs, José María Cantillo; Finance, Pedro Groppe; Education, Jorge E. Coll; Agriculture, José Padilla; Public Works, Manuel P. Alvarado; War, Brig. Gen. Carlos D. Marquez; Marine, Vice Admiral Leon Scasso. In accordance with the President's democratic policy, his Ministers of Interior and Finance immediately announced the end of the secrecy and censorship that had characterized the Justo Government.

In his first annual message, read at the opening session of the new Congress on May 11, President Ortiz outlined the program adopted for his admin-

istration. The major aim, he said, was restoration of the people's faith in the parliamentary system of democratic government through improving social and economic conditions. He proposed new laws and the amendment of existing ones on social security, wages and hours, education, and sanitation, and the stimulation of economic activity.

Some of these proposals were accepted by Congress during the regular session ending September 30 and a special session which convened on November 21. The President was authorized to fix minimum prices for wheat, corn, and linseed for 1939 if such action were deemed advisable. A law promulgated October 10 provided for liquidation and refinancing of private mortgage debts and revoked the moratorium in force, as an emergency measure, since Oct. 16, 1933. A law for the purchase of the Córdoba Central Railway by the government for 142,000,000 pesos received final approval December 30. Another measure authorized the National Cotton Board to control and regulate the Argentine cotton industry. At the year end the Congress was considering the 1939 budget, a sugar-control bill, uniform salary scales and working conditions for bank employees, and purchase of the Transandean Railway. Decrees issued Nov. 8, 1938, assigned juridical personality to labor and employer organizations.

Congressional Elections. President Ortiz was able to pursue his program with the full co-operation of Congress as a result of the working majority obtained by government candidates in the Chamber of Deputies in the elections of March, 1938. In the previous Congress, the government coalition held a large majority in the Senate while the Chamber was evenly divided between the government and opposition forces, with the result that there were numerous and lengthy delays in enactment of needed legislation. Congressional elections were held in three provinces on March 6 and in the Federal district of Buenos Aires on March 27. The government coalition, comprising the National Democrats (Conservatives), the *Antipersonalista* wing of the Radical party, and the National Front captured 52 of the 81 Chamber seats contested. As a result, it held 83 seats in the Chamber of Deputies against 68 held by the Opposition (Radicals, 63; Socialists, 5) and 7 seats held by Independents. The Radical party, whose control of the Federal government was broken with the overthrow of President Hipólito Irigoyen in 1930, became the largest single party in the Chamber as a result of heavy gains at the expense of its Socialist allies. The Socialists retained only 5 seats out of 23 held in the previous Chamber.

Nazi Propaganda Repressed. The Argentine government and people became alarmed during 1938 at the rapid spread of alien ideologies among foreign elements of the population, and particularly at the spread of Nazism among Argentines of German birth or descent. Early in the year the government received from various sources reports that numerous German-language schools, controlled from Berlin, were instilling Nazi ideology in their pupils, that many children of German immigrants were being raised in ignorance of the Spanish language and of Argentina's democratic institutions and ideals, and that the Hitler salute was in common use among them.

The participation of German nationals in Argentina in the plebiscite on Austro-German union aroused further resentment and on April 10 protest demonstrations were held by Argentine students before the German consulate in Buenos Aires. On

April 28 the Buenos Aires police prohibited a great Nazi mass meeting arranged for May Day and the Federal government forbade the public display of any foreign flags on May Day in order to prevent clashes between Nazis and workmen's organizations. At the same time the government prohibited the transmission over Argentine radio stations of the Nazi "Horst Wessel" song and other foreign marches and patriotic songs considered hostile to Argentine ideals. The transmission of the national anthems of foreign countries was restricted to their officially designated national holidays.

It was reported early in May that the Argentine Foreign Office had informally warned the German Embassy that the government desired the dissolution of the Nazi party in Argentina. The Argentine press meanwhile had launched a vigorous campaign against Nazi and other foreign political activities. The celebration in Buenos Aires on May 25 of the 128th anniversary of Argentina's independence became a spontaneous and impressive demonstration in favor of democracy and against fascism and other anti-democratic ideologies.

President Ortiz on June 16 signed a decree forbidding the teaching of foreign racial or political ideologies, or other beliefs contrary to the Argentine constitution and laws, in foreign language schools, whether public or private. The Argentine flag was to be prominently displayed in all class rooms. New decrees effective October 1 restricted immigration from Germany and other central European countries, while encouragement to agricultural immigrants from Switzerland, Denmark, and the Netherlands was offered under newly signed treaties with those small, democratic countries. Nevertheless, the report of the director of the Germanic Union of Argentina, republished in the Argentine press in September from the *Berliner Tageblatt*, showed a considerable increase in the German population and Nazi activities for the preceding year. According to this report, there were 236,755 persons of German or mixed German-Argentine blood in Argentina, of whom 43,626 were Nazis. German schools numbered 203, German societies 301, and Nazi organizations 102 against 85 in the preceding year.

Rearmament Program. As part of his program for the defense of Argentine democracy, President Ortiz announced plans for further expansion of the navy with ships built in Argentine yards. In connection with steps to develop a stronger air force, Argentina in May engaged a group of U.S. Army Air Corps officers to train its military aviators. The government also requested authority from Congress for the establishment of a national military police of 3000 men to assist in maintaining order and public security, especially in isolated Patagonia. In October it submitted a bill providing for reorganization of the army under a single command and for mobilization of all citizens, male and female, for national service in time of war.

In July President Ortiz took firm steps to subordinate the military to the civilian power and to punish alleged infractions of discipline by the head of the Naval Academy and the director general of the Corps of Engineers.

Economic Conditions. The year 1938 saw a decline in the unusually good high level of business activity and prosperity attained in 1937. There was a moderate decline in foreign trade and government revenues, but the government continued its excellent record in meeting all interest and amortization payments on foreign debts. In order to con-

tinue its large-scale public-works program and to strengthen the foreign exchange reserves of the Central Bank, the government announced April 21 that it had raised short-term loans in Switzerland and the Netherlands for 40,000,000 Swiss francs and 12,500,000 florins, respectively, both bearing 3½ per cent interest. Another loan, the net proceeds of which were \$23,143,750, was floated in New York in November.

Foreign Relations. The pro-democratic policy of the Ortiz Government and its restrictions upon foreign-controlled political movements led to somewhat strained relations with Germany and, to a lesser degree, with Italy. On the other hand, the Argentine Foreign Office achieved notable success in strengthening Argentine relations with all of the neighboring South American States and with the United States.

In appointing Dr. José María Cantilo, then Argentine Ambassador to Italy, to succeed Dr. Carlos Saavedra Lamas as Foreign Minister, President Ortiz was apparently motivated by the desire to end the coolness in Argentine-Brazilian relations produced by Saavedra Lamas's emphatic protests in 1937 against the decision of the United States to lend six over-age destroyers to Brazil for training purposes (see 1937 YEAR BOOK, pp. 54, 105). In April Dr. Cantilo paid a four-day visit to Rio de Janeiro, where he held extended conferences with Foreign Minister Oswaldo Aranha of Brazil and the diplomatic representatives of Chile, Peru and the United States on the Nazi menace to Argentina and Brazil, the Chaco peace problem, and other inter-American issues. His visit served to restore friendly Argentine-Brazilian co-operation.

Dr. Cantilo followed up his success in Rio de Janeiro with a five-day visit to the Chilean capital early in May. One of the last acts of the Justo Government had been the signing of two agreements with Chile, one providing for the freer flow of trade and the other facilitating passenger transit between the two countries. Dr. Cantilo now succeeded in adjusting other outstanding problems in Argentine-Chilean relations. Under agreements signed May 4, the long-standing dispute over the Islands of Nueva, Lennox, and Navarino in the Beagle Channel, Strait of Magellan, was submitted to Attorney General Homer S. Cummings of the United States for arbitration. The ground-work was laid for closer economic and cultural ties and for co-operation in the solution of the Chaco dispute and other inter-American problems. The two governments also agreed to appoint their respective members of the Permanent Mixed Bilateral Chilean-Argentine Commission provided for in the Convention on the Prevention of Controversies, signed Dec. 23, 1936, at the Buenos Aires Conference for the Maintenance of Peace.

The closer co-operation achieved by Dr. Cantilo with Brazil, Chile, Peru, Uruguay, and the United States was influential in promoting the final settlement of the dispute between Bolivia and Paraguay at the Chaco Peace Conference in Buenos Aires on July 21 (see CHACO DISPUTE, SETTLEMENT OF). This resounding triumph was shared by Argentine diplomacy with the inter-American movement for the peaceful settlement of international disputes. It paved the way for the development of closer economic relations with Bolivia, for which Argentine-Bolivian treaties of the previous year had laid the groundwork. On September 8 the Argentine Chamber of Deputies ratified the Argentine-Bolivian boundary treaty signed in 1935.

Steps were also taken toward settlement of Ar-

gentina's controversy with Uruguay over the possession of Martin Garcia Island in the La Plata River. An agreement for maintenance of the status quo pending a final agreement was signed in Buenos Aires in January. Late in September the Uruguayan Foreign Minister visited Buenos Aires and agreed with Foreign Minister Cantillo to submit the dispute to a mixed commission of Argentine and Uruguayan experts. They also agreed on steps toward repression of smuggling, the promotion of cultural relations, and co-operation at the Pan American Conference at Lima in December.

Argentine relations with the United States grew increasingly friendly coincident with a substantial increase in United States exports to Argentina. The engagement of a United States aviation mission in May and President Ortiz's message of September 26 supporting President Roosevelt's previous peace appeal to the heads of the German and Czechoslovak Governments testified to the closeness of Argentine-United States political sympathies. Other Argentine diplomatic moves of the year were the recognition of Italy's sovereignty over Ethiopia on June 2 and the affirmation of Argentina's claim to the Falkland Islands made in President Ortiz's message to Congress on September 25. Some coolness in Argentine-United States relations developed late in the year. A North American grain dealer's effort to dispose of 15,000,000 bu. of United States wheat in Brazil in competition with Argentine grain in November provoked critical outbursts in the Argentine press. At the Pan American Conference the Argentine delegation took the lead in opposing efforts of the United States and certain other delegations to obtain a more specific and emphatic affirmation of inter-American solidarity against ideological or military invasion from abroad.

See BOLIVIA, BRAZIL, CHILE, PARAGUAY, and URUGUAY under *History*; PAN AMERICAN CONFERENCE.

ARIZONA. Area and Population. Area, 113,956 square miles; included (1930) water, 146 square miles. Population: Apr. 1, 1930 (census), 435,573; July 1, 1937 (Federal estimate), 412,000; 1920 (census), 334,162. Phoenix, the capital, had 48,118 (1930).

Agriculture. The accompanying table shows the acreage, production, and value of the chief crops of Arizona for 1938 and 1937.

Crop	Year	Acreage	Prod. Bu.	Value
Cotton	1938	205,000	196,000 ^a	\$ 9,506,000
	1937	299,000	313,000 ^a	14,085,000
Hay (tame) ...	1938	199,000	493,000 ^b	3,993,000
	1937	180,000	485,000 ^b	5,820,000
Wheat	1938	45,000	1,100,000	814,000
	1937	45,000	990,000	990,000
Grain sorghums.	1938	35,000	1,102,000	540,000
	1937	39,000	1,112,000	656,000
Corn	1938	33,000	495,000	421,000
	1937	33,000	495,000	426,000

^a Bales. ^b Tons.

Mineral Production. The production, in 1938, of gold, silver, copper, lead, and zinc fell to the total value of \$57,969,000 (preliminary approximation of the Bureau of Mines). This figure, virtually the same as that for 1936, came to 36 per cent less than 1937's total of \$90,855,462. Nearly nine-tenths of the decline occurred in the case of the predominant production of copper. The copper contained in the ore mined in 1938 amounted to some 415,500,000 lb., as against 576,956,000 for 1937. The value of such copper declined yet more, by reason of lower prices, to \$40,719,000, for 1938, from \$69,770,000 for

1937. The output of gold, largely as an incidental element in the ores mined for copper, dropped moderately in quantity, to some 310,000 oz. (1938), from 332,694 (1937). As its value was fixed by statute at \$35, the total by value dropped only to some \$10,850,000, from \$11,644,250. Yearly production of silver declined in quantity to 7,600,264 oz. (1938), from 9,422,552 (1937); the decline of its average price to 64.6 cents an oz. for 1938, from 77.35 cents for 1937, intensified the decline of its yearly total by value. Lead, of which the quantity fell to some 20,600,000 lb. for 1938, from 24,708,000 for 1937, declined more sharply still in value, while zinc of which the production increased in quantity, to some 10,600,000 lb. (1938), from 10,052,000 (1937), also showed a loss in the yearly total of value.

Finance. Arizona's State expenditures in the year ended June 30, 1937, as reported by the U.S. Bureau of the Census, were: For maintaining and operating governmental departments, \$11,826,534 (of which \$1,812,373 was for highways, \$2,559,818 for hospitals, and \$2,136,192 for local education); for interest on debt, \$111,176; for capital outlay, \$7,164,038. Revenues were \$21,320,249. Of these, property taxes furnished \$3,364,702; income taxes, \$1,151,401; sales taxes, \$8,074,173 (including tax on gasoline, \$2,914,090); departmental earnings, \$713,227; sale of licenses, \$1,654,952; unemployment compensation, \$944,952; Federal or other grants-in-aid, \$4,932,305. Funded debt outstanding on June 30, 1937, totaled \$2,932,275; it included \$1,166,523 of old obligations of civil divisions, assumed by the State at its formation, but payable from civil divisions' revenue. Net of sinking-fund assets, funded debt was \$1,597,930. On an assessed valuation of \$359,991,270 the State levied in the year ad-valorem taxes of \$1,878,708.

Education. Inhabitants of school age, as reckoned for the academic year 1937-38, numbered 112,191, aged from 4 to 21 years. Enrollments in public schools totaled 110,056; they comprised 89,708 in the elementary group and 20,348 in high schools. There was also a recorded enrollment of 2135 in private schools. The year's expenditure for public-school education totaled \$11,250,117. This included pay for the 3392 teachers at the average, for the year, of \$1339.36.

Political and Other Events. Robert T. Jones, Dem., was elected Governor on November 8. An incumbent Democratic U.S. Senator, Carl Hayden, and the U.S. Representative were re-elected. The Democrats retained all the chief offices at the election's disposal.

Convicts in the State Prison at Florence escaped to the number of 20 in the course of six weeks previous to July 15. The warden then informed Governor Stanford that he could not control the trouble and asked for help. A force of the National Guard was sent to keep prisoners from departing until additional helpers for the warden could be hired. The escapes were attributed to overcrowding, lack of sufficient guards, and the fact that about one-fourth of the 734 inmates regularly slept outside the walls.

The hazardous trip down Arizona's part of the Colorado River by boat was made in June and July by a scientific party of six persons, including two women botanists from the University of Michigan. Starting at the mouth of the Green River in Utah, the expedition covered the 650 or more miles to Lake Mead without serious mishap.

Officers. Arizona's chief officers, serving in 1938, were: Governor, R. C. Stanford (Dem.);

Secretary of State, James H. Kerby; Attorney-General, Joseph W. Conway; Treasurer, Harry M. Moore; Auditor, Ana C. Frohmler; Superintendent of Public Education, H. E. Hendrix.

Judiciary. Supreme Court: Chief Justice, A. G. McAlister; Judges, Henry D. Ross, Alfred C. Lockwood.

ARIZONA, UNIVERSITY OF. A coeducational State institution of higher learning in Tucson, Ariz., founded in 1885. The 1938 autumn enrollment totaled 2612, of whom 1615 were men and 997 women; the registration for the summer session of 1938 was 550, of whom 281 were men and 269 women. The teaching faculty numbered 198. The income for 1937-38 was \$1,444,500, the University receiving both State and Federal support. The library contained approximately 110,000 volumes. A building program involving construction of 11 new buildings and remodeling of others, with an expenditure of \$1,491,818, was completed in 1937. President, Alfred Atkinson, D.Sc.

ARKANSAS. Area and Population. Area, 53,335 square miles; included (1930) water, 810 square miles. Population: Apr. 1, 1930 (census), 1,854,482; July 1, 1937 (Federal estimate), 2,048,000; 1920 (census), 1,752,204. Little Rock, the capital, had (1930) 81,679 inhabitants.

Agriculture. The accompanying table shows the acreage, production, and value of the chief crops of Arkansas for 1938 and 1937.

Crop	Year	Acreage	Prod. Bu.	Value
Cotton	1938	2,388,000	1,340,000 ^a	\$58,290,000
	1937	3,062,000	1,904,000 ^a	77,386,000
Corn	1938	2,195,000	36,218,000	19,920,000
	1937	2,032,000	40,640,000 ^b	24,384,000
Hay (tame) .	1938	942,000	980,000 ^b	7,840,000
	1937	852,000	969,000 ^b	9,302,000
Rice	1938	189,000	9,450,000	5,292,000
	1937	189,000	10,584,000	6,350,000
Potatoes	1938	40,000	3,400,000	2,550,000
	1937	43,000	3,053,000	2,412,000
Sweet potatoes	1938	43,000	3,225,000	2,419,000
	1937	37,000	3,515,000	2,847,000
Oats	1938	150,000	2,565,000	923,000
	1937	150,000	3,300,000	1,386,000

^a Bales. ^b Tons.

Mineral Production. A decline of some ten years' duration in the petroleum production of Arkansas was at last reversed by additional production in 1937, from the State's part of the Rodessa field. The rise in the yearly output of petroleum to 11,681,000 bbl. (1937), from 10,469,000 (1936), about corresponded with the quantity of new production from the Rodessa field, which was extended into Miller County. New finds of possible importance were reported from the Schuler field in Union County. Natural gas was produced in increasing quantity, mainly by reason of the oil drillers' striking gas in the two new fields. The output of natural gas mounted to 12.5 billion feet for 1937, from 8.5 billion (in value \$1,804,000) for 1936. The State maintained its predominance in the domestic production of bauxite, the clay used as the source of aluminum; its production of bauxite increased to 402,195 long tons (1937), from 354,943 (1936); in value, to \$2,322,861 from \$2,189,196.

Education. The inhabitants of school age (from 6 to 21 years) were reckoned, for 1938, as 630,560. Those enrolled as pupils in the public schools numbered 464,762; this comprised 399,254 in the elementary group and 65,508 in high schools. Expenditure for public-school education in the school year ending in 1937 was: Current, \$9,574,971; total, \$13,346,111. Teachers, principals, and supervisors in that year numbered 12,847; the salary of

the whole group, for the year, averaged \$534. The total included colored teachers, who taught colored classes. The pay of white teachers ran higher than that of colored teachers, as a whole, averaging \$582, as against \$336 for the colored group.

Legislation. A special session of the Legislature, summoned by Governor Bailey, convened on March 10. It dealt chiefly with matters of taxation, highways, and State finance. Both houses voted a resolution recommending seven years' exemption from taxes for incoming industrial enterprises. A bill cutting the tax on gasoline and the fees for automobile licenses was passed, but it was vetoed after bankers had protested that it violated the agreement embodied in the refunding act of 1934, for adjusting the State's debt.

Political and Other Events. The Democratic National and State tickets were elected on November 8. Gov. Carl E. Bailey won another term of office, and Hattie W. Caraway was returned to the U.S. Senate. Republican candidates ran for both offices but concededly without prospect of victory.

Officers. The chief officers of Arkansas, serving in 1938, were: Governor, Carl E. Bailey (Dem.); Lieutenant-Governor, Bob Bailey; Secretary of State, C. G. Hall; Auditor, J. Oscar Humphrey; Treasurer, Earl Page; Attorney-General, Jack Holt; Land Commissioner, Otis Page.

Judiciary. Supreme Court: Chief Justice, Griffin Smith; Associate Justices, Frank Smith, E. L. McHaney, Turner Butler, T. H. Humphrey, Tom M. Mehaffy, Basil Baker.

ARKANSAS, UNIVERSITY OF. A coeducational State institution of higher learning in Fayetteville, Ark., founded in 1871, with a School of Medicine in Little Rock. In the fall of 1938 the total enrollment was over 2600 and for the summer session it was 942. The number of faculty members was 230. The endowment amounted to \$132,000, while the income for the year was estimated at \$900,000 (including medicine). In addition, the University received large sums for work in agricultural extension. The library contained approximately 138,000 volumes. President, John Clinton Futrell.

ARMAMENTS. See AERONAUTICS; DISARMAMENT; MILITARY PROGRESS; NAVAL PROGRESS; FRANCE, GERMANY, GREAT BRITAIN, ITALY, JAPAN, and most of the other countries of the world under *History*; UNITED STATES under *Administration*.

ARMENIAN SOVIET SOCIALIST REPUBLIC. One of the 11 constituent republics of the U.S.S.R., according to the new constitution, adopted Dec. 5, 1936. Area, 11,580 square miles; population, 1,200,000 (1938 estimate), as compared with 1,109,200 (Jan. 1, 1933, census). Chief towns: Erivan (capital), 111,500 inhabitants in 1933; Leninakan, 65,800. In 1938 there were 250,000 pupils attending school; 70,000 students were enrolled in 8 universities and 47 technical schools. In 1938 there were 513,513 acres of spring sowing, by collectives, of chief grain crops. In 1935 the gross production of Armenian industry was valued at 170,000,000 rubles. See UNION OF SOVIET SOCIALIST REPUBLICS.

ART EXHIBITIONS. There was no cessation in exhibitions of art during 1938; to the contrary, they seemed to increase. A good balance was maintained between displays of masterpieces of past centuries and those of works by contemporary artists. Exhibitions of sculpture were more frequent than ever before, and prints also took prominent place, as did in some instances the industrial arts. Furthermore, important exhibitions were held not only in the leading art centers but throughout

the country from the east coast to the west, to say nothing of innumerable little exhibitions held under the auspices of local groups in small towns, eager to advance their cultural standing and to keep in step with the metropolitan centers.

The year opened with exhibitions which laid emphasis on the excellence of work done by early American painters. First among these was that held by the Museum of Fine Arts, Boston, in January, to commemorate the 200th anniversary of the birth of John Singleton Copley (incidentally, variously given as 1737 and 1738), in which works produced in America were given pre-eminence.

The Bicentenary of the birth of Benjamin West was celebrated by an exhibition of his paintings, 60 from all periods, including his most famous "Death of Wolfe," which was held in the Philadelphia Museum in March. In this remarkable collection, drawn from Museums and private collections, was shown the painting by Matthew Pratt of West and his pupils known as "The American School."

John Vanderlyn (1776-1852), another early American painter, was honored by an exhibition of his portraits and other paintings, held in the historic Senate House in Kingston, New York, his native town.

Bringing the history of American painting up to date, the Virginia Museum in Richmond held a memorial exhibition of paintings, prints, and drawings by the late Gari Melchers, who, during his last years, did much to further the establishment of this young, but thriving, institution.

The Whitney Museum of American Art honored Frank Duveneck (1848-1919) by a special exhibition opening in April, and manifesting his genius beyond dispute.

A memorial exhibition of the paintings, chiefly interiors, by Walter Gay (whose death occurred in Paris in July, 1937) was held in the Metropolitan Museum of Art in May.

Later, a comprehensive exhibition of the work of John Sloan, living painter, held in the Addison Gallery of American Art, Andover, Mass., brought the record to date.

The development of American art and the achievement of American painters were exemplified in two exhibitions: "One Hundred Years (1800-1900) of Landscape Painting," shown in the Whitney Museum of American Art, and "Two Hundred Years of American Painting" in the Baltimore Museum.

Likewise retrospective and comparative was an exhibition of "Still Life Painting during the Past Four Centuries" assembled by and set forth in the Wadsworth Atheneum, Hartford, Conn.

The Detroit Institute of Art's annual "Old Masters Exhibition" took the form in 1938 of "A Survey of Italian Gothic and Renaissance Sculpture," drawn from public and private collections in America and surprisingly evidencing their richness in this field as well as in that of painting.

In the California Palace of the Legion of Honor was held a magnificent exhibition of Venetian Painting of the 15th to the 18th centuries, in which were included no less than 77 examples lent by Museums and private collectors.

An important loan exhibition of paintings by Venetian artists was also held at the Knoedler Galleries, New York, in April.

Earlier in the year, the Art Institute of Chicago presented with distinction an exhibition of the work of "The Two Tiepolos," father and son, also garnered from outstanding collections.

In May and June the Carnegie Institute, Pittsburgh, gave "A Survey of British Painting," the interest in which was supplemented by an exhibition in the Jacques Seligmann Galleries, New York, of portraits by Raeburn, borrowed from private owners, and, in many instances, not heretofore publicly shown.

Under the patronage of the Royal Netherlands Legation, an exhibition of "Masterpieces of Dutch Painting" was held in the Museum of the Rhode Island School of Design in December.

Notable exhibitions of Chinese art were held during the year in various Museums throughout the country, as well as at Yamanaka & Company's and in the Arden Gallery in New York. The last was composed of loans from private collections and was held to raise money for Chinese war relief.

During the summer of 1938, 800 superlative examples of French silver were shown in a special exhibition at the Metropolitan Museum of Art, New York.

A unique exhibition of the year was that of architectural models of period rooms by Mrs. James Ward Thorne, shown in the Art Institute of Chicago during the summer months and attracting an attendance of over 60,000.

In the 1938 cycle of exhibitions, the works of French modern artists were not overlooked. In May and June the Philadelphia Museum showed a collection of paintings by Renoir; and later in the year 21 paintings by Cézanne were set forth (for the benefit of a charity) in the Durand-Ruel Galleries, New York.

Contemporary American artists were also brought to attention. The Worcester Art Museum held a biennial exhibition of American Painting in February. In March the Virginia Museum inaugurated its Biennial, at which purchase prizes aggregating \$6000, accrued interest on the John Burton Payne bequest, were awarded by vote of the Board of Directors.

During June the Carnegie Institute, Pittsburgh, held an exhibition of the works of 36 living sculptors, and in December the Museum of Modern Art Gallery of Washington sponsored an excellent showing along somewhat similar lines.

The sculptors and painters themselves in this particular were not listless. The Sculptors Guild very successfully staged an outdoor exhibition of members' works on a vacant lot in the heart of New York in the spring, and in the Brooklyn Museum toward the last of the year. The National Academy of Design and the Pennsylvania Academy of the Fine Arts held annual exhibitions, as has been their custom now for over a hundred years. The leading Water Color Clubs and Print Societies saw to it that works of members and others were thus brought before the public.

Two new elements, the Artists Unions and the contact thus brought about between art and labor, were directly responsible for two unusual exhibitions of the year. In October the first national exhibition of the works by members of Artists Unions was held at the Museum of Fine Arts, Springfield, Mass., while a month earlier the Baltimore Museum, in co-operation with the American Federation of Labor, showed an exhibition of paintings, prints, and sculpture dedicated to Labor and having labor as a theme. The Foreword to the catalogue of this exhibition was written by the President of the American Federation of Labor, Mr. William Green.

Three exhibitions of American art were shown



Courtesy of the Treasury Department Art Projects



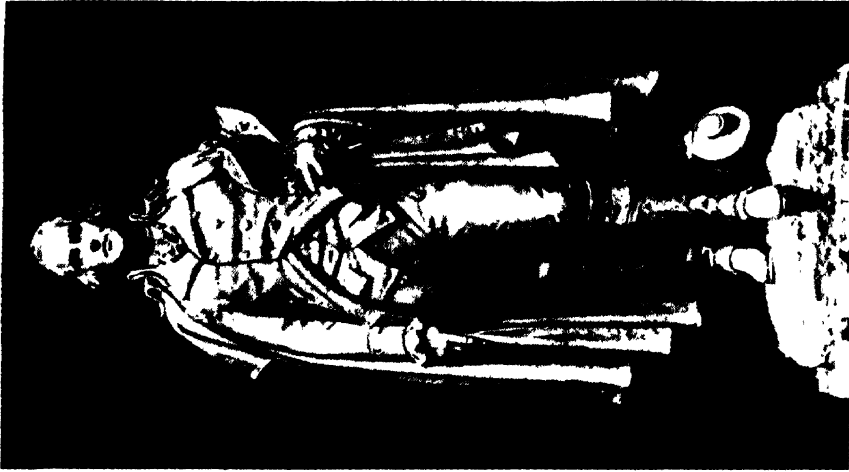
Courtesy of the Treasury Department Art Projects

"THE PASS OF THE NORTH"

By Tom Lea

Two views of the mural painting executed for the Post Office, El Paso, Tex.

ART



GEN. ARTEMAS WARD

By Leonard Crumelle

Erected in Washington, D. C., in November, 1938, the gift of the President and Fellows of Harvard University



Courtesy of the Treasury Department Art Projects

"DANIEL BOONE REACHES KENTUCKY"

By Ward Lockwood

A mural painting for the Post Office, Lexington, Ky.

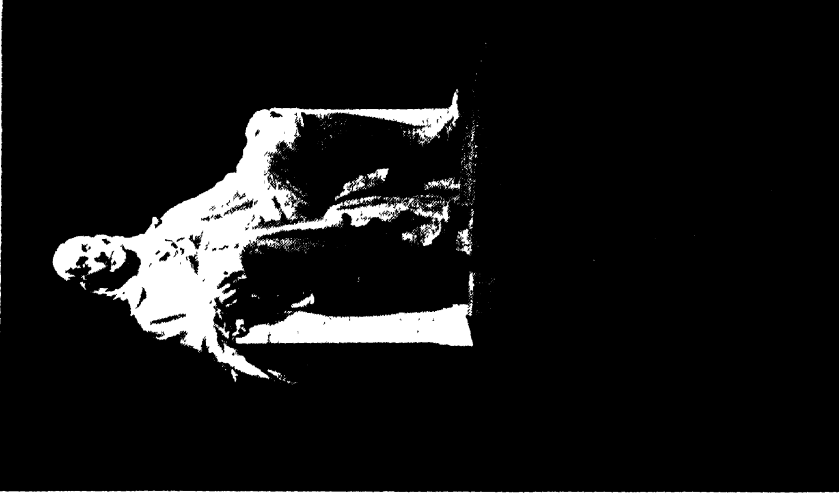


Photo by Gladys Muller, Courtesy of The Franklin Institute

BENJAMIN FRANKLIN

By James Earle Fraser

Unveiled May 19, 1938 in Franklin Hall, The Franklin Institute, Philadelphia, Pa.

abroad in 1938. These were a collection assembled by the Museum of Modern Art, New York, at the invitation of the French Government and set forth in the early summer in the Jeu de Paume, Paris; a collection assembled by the Grand Central Galleries Association and shown in the American Pavilion at the International Exhibition in Venice; and an unofficial collection of 51 paintings taken to London and displayed in the Wildenstein Galleries, under British-American management. The first comprised, in addition to 200 paintings in oil and water color, 40 works in sculpture, 80 prints, photographs of architecture designed by Thomas Jefferson, H. H. Richardson, Louis Sullivan, and Frank Lloyd Wright, and also photographs and cinema films. The last two sections received from French critics unstinted praise, but the paintings met, almost without exception, with scathing adverse criticism. The exhibition in Venice, of paintings and prints, met with more favorable reception, as in a measure did that in London, but in neither instance were there entomiums of praise.

ARTISTS. See MUSIC; PAINTING; SCULPTURE.

ART MUSEUMS. The completion of The Cloisters (New York) and their opening to the public in May, 1938, was an event of sufficient importance alone to make the year memorable. Ten years in building, this structure standing in 4 acres of land known as Fort Tryon Park embodies for all time the spirit of medieval art and manifests its significance. It was inspired by the lesser Cloisters which George Grey Barnard (q.v.), the sculptor, built on his own property nearby to house the treasures of medieval and Romanesque art which he had salvaged and brought to this country.

In 1925 John D. Rockefeller, Jr., bought Mr. Barnard's collection for the Metropolitan Museum of Art, and began planning the new Cloisters as a branch museum. Not only was the building and the land it stands on his gift, but through his beneficence, numerous and valuable additions have been made to the collection. And yet at the official opening on May 10th, Mr. Rockefeller spoke of his contribution as "relatively unimportant," because of having been "largely financial." Doubtless he had in mind Barnard, whose death occurred but a few days earlier, on the eve of the realization of his dream, and of the other artists of earlier centuries whose works composed the fabric of this conception.

Cloisters from five French abbeys form the nucleus of this building, to which were added an original chapter house, a reconstructed chapel, a tall Romanesque tower, a modern chapel in Gothic style, and eight exhibition galleries. As a whole, it is "neither copy nor composite," but a reincarnation, achieved by a sympathetic accommodation of material to environment. The miracle was achieved by Charles Collen, architect, working in close co-operation with James J. Rorimer, curator, both holding fast to the germ of Barnard's idea.

Substantial progress was made in 1938 toward the realization of the National Gallery of Art in Washington, given by the late Andrew W. Mellon. The building, designed by John Russell Pope, in construction, took on before the end of the year tangible form. A board of trustees responsible for management was organized, and a Director and a Curator appointed. The former, David E. Finley, was for years closely associated with Mr. Mellon and fully cognizant of his wishes and aspirations in

connection with the development of the Gallery; the latter, John Walker, art expert, was at the time of his appointment assistant director of the American Academy in Rome.

Just before the 1938 session of Congress ended, a bill was passed authorizing the establishment of a Smithsonian Gallery of Art which would stand in somewhat the same relation to the new National Gallery of Art as the Luxembourg Museum does to the Louvre. This bill directed the President to select a suitable site for such a Gallery, appropriated a sufficient sum to pay for its design, and assured future maintenance. No provision, however, was made for building cost, which, it was understood, would be privately contributed. In this Smithsonian Gallery will eventually be housed and displayed the collections given to the nation by Harriet Lane Johnston, William T. Evans, Henry W. Ranger, Ralph Cross Johnson, John Gellatly, and others; the National Portrait Gallery, in which part of the Mellon collection will be included; and works by contemporary artists.

On April 3 a new wing to the Dudley Peter Allen Memorial Museum at Oberlin College, costing \$100,000, the gift of Mrs. F. F. Prentiss of Cleveland, was dedicated. This contains a large auditorium, two additional class rooms, and a photographic laboratory. For the opening, three special exhibitions were arranged.

The Baltimore Museum of Art opened in May a new wing to house the collection of French, English, Dutch, and Italian paintings chiefly of the 17th and 18th centuries, tapestries, miniatures, and *objets d'art* bequeathed to it by Mrs. Henry Barton Jacobs (Mary Frick Jacobs) of Baltimore.

In June, 1938, the Delaware Art Center, erected in Wilmington at a cost of \$250,000, was formally opened. This building, which houses both a Museum and a school, includes a gallery permanently given over to paintings by Howard Pyle, painter, teacher, and illustrator; the Mary R. Bancroft Memorial Gallery containing works by the Pre-Raphaelite painters; the Lavinia Dupont Copeland Gallery for visiting exhibitions; and the Bancroft Library. One hundred thousand dollars was set aside for administrative purposes.

The Ellen Lambert Murphy Memorial, at Winchester, New Hampshire, came into existence in 1938 through the gift of Governor Murphy of New Hampshire, a native son. It consists of two buildings with ample grounds, to serve as a center for recreational and artistic activities, and was opened by an exhibition of paintings by contemporary American artists.

A Fine Arts Building, costing \$160,000, dedicated to the advancement of art, music, and the drama, to be known as Armstrong Hall, was erected on the campus of Cornell College, Mt. Vernon, Iowa.

Under the Works Progress Administration of the Federal Government, the fiftieth Art Center was opened late in 1938. This was in Sacramento, Calif., and, like its 49 predecessors, is an embryo art museum.

The Nicholas Roerich Museum in New York City, established principally to display the paintings of Nicholas Roerich, a gifted Russian artist, traveler, and author, came to an end in the early summer of 1938, changed its name to the Riverside Museum, and announced the intention henceforth of holding transient exhibitions of the works of various contemporary artists.

The City Art Museum, St. Louis, installed in June a complete Hispanic-Moresque interior, dat-

ing from the late 15th century, in connection with an exhibition of this phase of Spanish Art.

The Metropolitan Museum of Art installed in its American Wing two authentic new rooms and two staircases from the Hart and Wentworth houses, Ipswich, Mass.

At the time of its annual summer exhibition, the Lyme Art Gallery, Old Lyme, Conn., opened a new wing, given by Mrs. William O. Goodman of Chicago as a memorial to her late husband.

The Art Institute of Chicago announced in 1938 the gift of \$150,000 from Mrs. William O. Goodman for the completion of the gift by herself and her husband of the Goodman Theatre.

On the death, in September, 1938, of the widow of Martin A. Ryerson, the valuable collection of paintings and art objects which he assembled became, according to his will, the property of the Art Institute of Chicago. The Institute also received, by bequest of Miss Kate M. Buckingham, a trust fund of \$2,000,000.

The Pennsylvania Museum in April changed its name (with permission of the court) to The Philadelphia Museum, to legalize a bequest of \$50,000 for administrative purposes, made to it under this condition by Arthur H. Lea of that city, who died in January. Mr. Lea also left \$50,000 (unconditionally) to the Pennsylvania Academy of Fine Arts, and \$10,000 to the Museum of the University of Pennsylvania.

Princeton University received for its art department an anonymous donation of \$100,000 to bring its Index of Christian Art up to date, and from the estate of the late Dan Fellows Platt, a gift of art books, 6000 lantern slides, and 250,000 photographs of art works and art objects.

The Toledo Museum of Art received a subvention of \$10,000 a year from the Carnegie Corporation of New York for three years, for an educational program along new lines based on use of the Museum's collections.

The Newark Museum received a gift of \$10,000 from Sebastian S. Kresge and the Kresge Foundation to complete payment on property acquired as an annex.

The University of Southern California received from Mrs. Walter Harrison Fisher an Art Gallery and her own private art collection.

The Lawrence Art Museum at Williams College dedicated, in the fall of 1938, a room in memory of Edwin Howland Blashfield, containing a collection of works of art which the famous mural painter had assembled during his lifetime. This room, the gift of his widow, is part of a newly erected addition to the Museum.

Among valuable gifts and bequests received by American Art Museums in 1938 were: The Cleveland Museum of Art—medieval works in sculpture and Near Eastern pottery, from John D. Rockefeller, Jr.; The de Young Museum, San Francisco—13 superb medieval and Renaissance stained-glass windows of the 13th to 16th centuries, from William Randolph Hearst; The Fine Arts Society, San Diego, California—39 paintings, chiefly by noted American artists, by bequest of Mrs. Henry A. Everett; The Virginia Museum—a Brussels tapestry, dating from the first quarter of the 16th century, representing the "Nativity and Adoration of the Magi," an anonymous gift; The E. B. Crocker Art Gallery, Sacramento, Calif.—gifts of textiles and other works of art valued at \$25,000 by Mrs. Alma de Brettville Spreckels; The Metropolitan Museum of Art—six paintings of the 17th and 18th centuries, in addition to a gift of \$100,000,

from the estate of Ogden L. Mills; also "Venus and Adonis," a painting by Rubens, presented by Harry Payne Bingham; The John Herron Art Institute—a gift by Mrs. Albert Beveridge of three paintings, "The Coin Collector" by Hendrick Gericke, "The Revelers" by Justus van der Ny-poort, and "Portrait of the Marquis d'Ossun" by François Drouais; The Cleveland Museum of Art—"Portrait of a Man" by Ingres, given by Miss E. and Mr. R. L. Ireland; The Museum of Fine Arts, Boston—"Two Dancers" by Degas, given in memory of Horace D. Chapin; The Detroit Institute of Art—"Madonna and Child with Adoring Figure," a superb painting by Giovanni Tiepolo, presented by Edsel B. Ford.

In addition, numerous important purchases were made by American Museums from funds established for such purposes. The Frick Collection purchased a portrait of a "Venetian Senator" by Tintoretto from the Abercorn Collection, and also a painting, "Chestnut Trees at Jas de Bouffan" by Cézanne, the latter its first example of the modern French school, and also works by Boucher and David; The William Rockhill Nelson Gallery in Kansas City acquired "Mont Sainte Victoire" by Cézanne, and a painting, "The Resurrection," a 16th-century Dutch triptych; The Museum of the Rhode Island School of Design bought "St. Peter's Escape," by Karel Fabritius, and The Minneapolis Institute of Art added to its collection a Flemish tapestry of the Gothic period, formerly in the Brady Collection.

Two distinguished works went to Canadian Galleries, the National Gallery at Ottawa purchasing "Christ Blessing Children" by Van Dyck, formerly in the collection of the Duke of Marlborough at Blenheim; and the Toronto Gallery acquiring "Rest in Flight" by Van Orley.

Almost all the Museums made a point of purchasing paintings by contemporary American painters, chiefly those of the modern school. In this the Whitney Museum of American Art, New York, took the lead, expending \$20,000 for works shown in its galleries during 1938. The Metropolitan Museum of Art, New York, made purchases from the Hearn Fund. To the Museum of Modern Art, Mrs. John D. Rockefeller, Jr. donated a fund for such purposes, from which, late in the year, several works were acquired.

The purchase by the City Museum, St. Louis, of a work in sculpture—"Bronze Cat," Egyptian, of about 500 B.C., for \$14,400, brought forth a violent storm of criticism from those of the laboring classes, who held such expenditure criminal when so many were unemployed. Union laborers picketed the City Hall asking for a repeal of the two-mill tax toward the support of the Museum, which is a City institution. The Museum's reply was that "education must not halt because business happens to mark time," together with the statement that since 1929 it had spent \$35,000 a year rejuvenating the Museum, in order to give employment.

Criticism of a somewhat similar nature, though less violent, was occasioned by the purchase of a "Head of the Youthful Hercules," a Greek work dating from the 4th century, B.C., by the Worcester Art Museum, for which reason the director, Mr. Francis H. Taylor, devoted the greater part of his 1938 "Annual" to a "Defense of the Classics."

ART SALES. Outstanding among the Art Sales of 1938 were those of the Mortimer L. Schiff Collection in London, the William Randolph Hearst Collection in New York, London, and at one of his estates in Wales, and the J. Horace Harding

Collection in New York. These occurred respectively in mid-summer and during the last months of the year.

The Mortimer L. Schiff Collection was taken to London, from New York, for sale because his son and executor considered it a better market for the character of works included therein. That it was a good market some of the prices obtained amply evidence. For example, the "Dream of Pope Sergius" by Roger van der Weyden, painted about 1450, brought approximately \$70,000, as great a sum as was realized by the sale of certain well-known collections belonging to great English estates which this year came into the market. A record price of \$7500 was paid for Bernard Van Orley's "Legend of St. Martin" and Johann Koerbecke's "Presentation in the Temple" brought twice that amount. Lucas Cranach's little portrait, 6" by 8" in dimensions, of Johann Friedrich, first elector of Saxony, fetched 1000 guineas; while the circular portrait, 5" in diameter, of Jacquelin de Rohan by Corneille de Lyon, brought 1750. Drawings in this collection, which realized a total of over half a million dollars, also brought high prices. "L'Assemblée au Salon" and "L'Assemblée au Concert" by Lavreince fetched for the pair 3750 guineas.

Five Beauvais tapestries, "Italian Grotesques," sold for 2900 guineas; a Louis XVI marquetry table brought 1850 guineas; and a Savonnerie carpet, Louis XIV period, 2100 guineas. The Limoges enamels alone increased the total by nearly £17,000.

Another American collection sold in London within twelve months of the time of writing was that of English mezzotints assembled by Martin Erdmann of New York, former partner in the banking firm of Speyer, which not only brought £17,234 but did much to revive interest in the art through which portraits by painters of the great English School were beautifully transcribed.

The Hearst Collection was so vast and varied that scarcely an idea of its size or character can be given in brief space. Besides the contents of his numerous palatial estates it included, according to report, 15,000 items which had been stored in a warehouse in New York. These were exhibited, for charity, and disposed of at private sale, filling and refilling a four-story building with purchases removed and replaced as quickly as they were made. These sale prices and also those obtained for works in the Harding collection were not made public. The latter, especially rich in paintings of the Italian, Spanish, and English Schools, could only be seen by appointment. The first public sale of the Hearst Collection began in the Parke-Bernet Galleries, New York, on November 16 and continued for three days; this included chiefly Staffordshire ware and Americana. In December at Christie's in London his collection of old English, Continental, and Mexican silver from his home, St. Donat's Castle in Wales, said to be a museum index to silver-smithing over five centuries, was sold, the receipts from which aggregated £41,882. At this sale two notable pieces were acquired for the Victoria and Albert Museum, London—the "Pusey horn," said to have been given by King Canute to William Pusey, at £1950; and a tankard with cover which fetched £820.

From October, 1937, to mid-summer 1938, the American Art Association-Anderson Galleries recorded a total of \$2,020,974 from 70 sales, and the Parke-Bernet Galleries \$1,251,917 from 40. These figures included sales of books and auto-

graphs but were for the most part for paintings, drawings, prints, and *objets d'art*.

The sale of the Erskine Hewitt collection in October brought in \$98,615.50. At this sale a painting of Wall Street in 1820 by an unknown artist brought the astonishing amount of \$13,500. A portrait of Washington by Sharples and a miniature of him by Ramage each fetched \$1600.

At the sale of the Jay F. Carlisle properties a landscape by Corot "Le Passeur de l'Île Saint-Ouen" brought \$16,000, the largest amount paid for a painting by this artist at a public sale for the last five years.

Most astonishing were the prices paid for prints, in some instances by living print makers. For instance, "Dawn," an etching by James McBey, sold for \$1050 and Muirhead Bone's "Spanish Good Friday" brought \$850. Rembrandt is always a good seller; a fine proof of his "Landscape with three Cottages" brought at public auction \$3100 and his "Christ Crucified," also an excellent impression, \$2800. On the other hand, while Bellow's lithograph "Stag at Sharkey's" brought \$835, Seymour-Haden's lovely etching "Sunset in Ireland" fetched only \$275 and Meryon's "Galerie Notre Dame" but \$210.

ASCENSION ISLAND. See ST. HELENA.

ASHANTI. See GOLD COAST.

ASIA. See CHINA, JAPAN, SOVIET CENTRAL ASIA, SIBERIA, INDIA, and the other articles on the subdivisions of the continent; also EXPLORATION.

ASIR. See ARABIA.

ASTRONOMY. Seth B. Nicholson, of the Mount Wilson Observatory, has discovered two new satellites of the planet Jupiter. These are the tenth and eleventh satellites to be discovered, the first four being discovered by Galileo when he invented the telescope. Jupiter X was recorded on photographs made with the 100-inch reflector from July 6 to August 25 and Jupiter XI was followed photographically from July 30 to August 25. Both of these satellites are very faint, being of about the nineteenth magnitude. Nicholson was also the discoverer of Jupiter IX, another nineteenth-magnitude satellite, in 1914 at the Lick Observatory. From its brightness Jupiter IX was inferred to have a diameter of about 25 miles; these two new satellites probably have a similar diameter. The motion of Jupiter X is direct, while that of Jupiter XI is retrograde. Jupiter X has a mean distance of 7,400,000 miles and Jupiter XI one of 15,000,000 miles from the planet. There is some uncertainty about the orbits.

Some years ago the French astrophysicist Lyot succeeded in observing the solar prominences without a spectroscope and the solar corona without an eclipse. He has recently made known some of the results of his work which he has steadily improved with his increasing experience. On his recent spectra, the bright coronal line in the green looks as strong on his photographs taken in broad daylight as it does on many spectra taken during eclipses, when the opportunities for exact measurement are better. Lyot's plates show 11 bright coronal lines, from the ultra-violet at 3388 Å. to two newly discovered lines far in the infra-red at 10,747 Å. and 10,798 Å. Lyot has also succeeded in obtaining direct photographs of the inner part of the corona in full daylight. It will now be possible to learn how the corona changes from day to day and even for shorter intervals, instead of waiting a year or more to find its form completely different between two successive eclipses.

Lyot has photographed solar prominences, with

exposures taken at intervals of one minute, through a red screen but without the aid of a spectroscope or spectroheliograph. The pictures thus obtained at these brief intervals reveal remarkable solar activity. From the main mass of a prominence perhaps 100,000 miles above the sun's surface, great flakes break loose, and fall into the sun. Others stream off sideways, rising at first and then falling along the curve of a great arch. Direct upward motions occur but rarely, those to the side are the most frequent.

At the McMath-Hulbert Observatory in Michigan work is also being done in photographing the solar prominences. Little is known statistically about the frequency with which prominences suddenly disappear at the limb. According to Petit, only about 49 examples of eruptive or active prominences have been studied during the last 50 years, many being caught accidentally rather than through a systematic program. It is obvious that the number counted will depend on how much time is spent in looking for them. Continuous observations such as those taken by Lyot and the McMaths are much superior to those taken with an ordinary spectroheliograph at intervals of three or four minutes. The nature of the forces which cause these extraordinary motions of prominences is hardly understood at all. The luminous matter descending along an arch often appears to be drawn into a sunspot. Much more study is required to take the full advantage of all phases of this new method of observing the prominences.

An eruptive prominence photographed by J. O. Hickox on March 20 with the 13-foot spectroheliograph at Mount Wilson reached the record height of 1,550,000 km. radially above the chromosphere. The prominence seemed to rise from a point on the west limb in the solar latitude N. 75° where a small faint prominence had been present for two days previous to the eruption. Thirty-seven exposures of this prominence were obtained, distributed over a period of 2 hours and 34 minutes. The prominence rose with a uniform velocity of 65 km/sec, which after about an hour was increased to 135 km/sec, and finally to 200 km/sec, thus fulfilling the first law of prominence motion.

Early in the year the *New General Catalog* of the positions and motions of the stars, which had been in preparation for more than 30 years, was completed. This catalogue consists of five volumes and gives the positions for 1950, the proper motions, the magnitudes, and the spectral classes of 33,342 stars. It includes all stars brighter than the seventh magnitude and many fainter ones for which good observations are available. This work was first visualized by Lewis Boss. The task of completing it was enormous. Thousands of observations made since 1755, when Bradley did the first work which meets modern tests of accuracy, had to be collected and reduced to a uniform system; 238 individual catalogues were utilized, each based on original and independent observations. Furthermore, all the stars were re-observed, with every care for the utmost accuracy so that a longer time interval should be available for the determination of their motions. In this part of the program of preparing data for the *Catalog*, the Albany meridian circle was most carefully dismounted, packed, and set up at San Luis in Argentina, where 87,000 observations of southern stars were obtained. It was then returned to Albany, where 110,000 observations of northern stars were secured. Then all this vast mass of data had to be assembled, card-catalogued, discussed with great care to remove all

recognizable sources of error, and finally put in the *Catalog*. The computations were numerous, and to avoid error each one was performed independently a second time.

R. A. Lyttleton has published another paper on the origin of the planets of the solar system. The hypothesis that the sun was formerly one component of a binary star system was considered by him in 1936 with a view to overcoming certain dynamical difficulties of the theory of the origin of the planets. When his idea was put forward, the main problem seemed to be the removal of the companion of the sun and it was to this matter that he gave his chief attention. The following year, however, Luyten and Hill showed that the energy necessary to disrupt such a binary system is only a small fraction of the energy required to remove a mass comparable with that of the planets from the surface of a star similar to the sun. For, in order to satisfy angular momentum requirements, the companion of the sun must have been at a distance from the sun of the order of 4000 solar radii so that the exhaustion of energy per unit mass of the surface material of the companion must have been about 4000 times the amount per unit mass of the binary system. Hence the removal of sufficient material to form the planets from the surfaces of the companion and intruding star requires considerably more energy than the mere disruption of the binary. Luyten and Hill considered the case when the companion and intruder had masses equal to that of the sun and came to the conclusion that no portion of a suitable filament from which the planets could be formed may have less than the escape velocity relative to the sun. Luyten and Hill also considered the case when the intruder is of smaller mass than the companion and arrived at a similar conclusion. Lyttleton has now discussed the only remaining case in which the intruder is more massive than the companion. In his latest contribution, Lyttleton believes that the solar system could have been formed by a close approach to the sun and a companion star of an intruder more massive than the companion. It appears, however, that the origin of the solar system remains one of the unsolved problems of astronomy.

A glowing mass of hydrogen and oxygen gases heretofore undiscovered, which envelops large portions of the Milky Way, has been reported by Otto Struve and C. T. Elvey of the Yerkes Observatory. These luminous nebulosities in the constellations of Cygnus and Cepheus are too faint to be recorded on direct photographs and were found with the new 150-foot nebular spectrograph of the McDonald Observatory of the University of Texas in the Davis Mountains. This newly discovered nebula does not shine by its own light but appears to derive the required energy for its fluorescence from the general field of stellar radiation in the galaxy. It differs from brighter nebulosities in that it is not concentrated toward individual stars. Struve and Elvey consider it probable that many other portions of the Milky Way are covered by similar gaseous nebulae, although an investigation of a region in Canis Major shows practically no trace of nebular emission. The emission decreases very rapidly away from the Milky Way and at galactic latitudes of 20 degrees no emission is found.

The eclipsing pair UX Ursae Majoris has been studied by two Russian observers, Zverev and Kukarkin. These observers found that sometimes this star, of magnitude 12.7, would be almost invisible while the next observation, made after 20 or 30 minutes, would show the star in its normal bright-

ness. They found that there were regular eclipses occurring at intervals of a little less than five hours, but lasting only 40 minutes. Midway between the deep eclipses, in which 62 per cent of the light is lost, occur shallow ones with a loss of only 7 per cent. Apart from the short period, the light curve of this system is of a standard type. One of the components is 10 times as bright as the other and about 10 per cent larger in diameter. The radii of the two components are 21 and 23 per cent of their distance apart. The most remarkable feature is the density of the components, one, that for the brighter, being 20 times the density of the sun, and the fainter one 11 times the sun's. These are much greater values than have ever before been found from a study of stellar eclipses. They show that here, and for the first time, we have conclusive evidence of the existence of a star intermediate between ordinary stars and the vastly denser white dwarfs. The existence of such stars has long been suspected, for several white stars of spectral class A are known, which, though probably nearly as hot as Sirius, are of only about the sun's brightness; their spectra are somewhat peculiar, and it has been supposed that they were dense bodies. In the case of UX Ursae Majoris, the density has been definitely established.

Another interesting circumstance about UX Ursae Majoris is the fact that this star was found on 71 photographs and each time no variation in its brightness was reported. Each one of these 71 photographs had been taken when the star was not in eclipse.

Alpha Ursae Majoris has been known to be a double star for a very long time. Its period had been determined to be 44 years. When a double star has been followed for one complete revolution it is usually easy to calculate its real orbit. The observations give the apparent orbit of the companion about its primary, but, since the true orbit is usually not seen in plane but more or less edge-wise, allowance must be made for this foreshortening. But in the case of Alpha Ursae Majoris the companion was unobservable for more than three-fourths of its orbit. There was no uncertainty about the period, but only a small portion of the apparent orbit could be drawn. This unusual problem thus presented has been solved by H. Spencer Jones and H. H. Furner. Other sources of data were available: the meridian observations and the radial velocities. By making use of all available data Jones and Furner have succeeded in calculating an orbit. The mean distance between the components is 29 astronomical units, or a little less than Neptune's distance from the sun. The eccentricity of the orbit is 0.35. The components were closest in 1910. The mass of the companion is 31 per cent of the total (3.8 times the sun's mass). The primary is the first red giant star (Class KO) for which we have a visual orbit, and a directly measurable mass. The diameter of the primary is 47 times the sun's.

Epsilon Aurigae has been studied by Kniper, Struve, and Strömrgren. This star has long been known to be variable, has been extensively observed and studied previously, and has a period of 27 years. It takes this star 190 days to fall in brightness. It then remains constant at a little less than half its usual brightness for 330 days and then returns to normal in 190 additional days. The same spectrum is visible during the eclipse as when both components are visible. The eclipse is almost grazing. The larger star does not give out perceptible light of its own, and the light of the com-

panion penetrates only the outermost layers of the primary. The eclipse is due to the atmosphere of the primary and not to its main body.

A star, located in the constellation Scorpio, has been shown to be double by Gaposchkin of Harvard. The interest about this is due to the fact that this star is perhaps the largest of its type yet found. Investigations show that its temperature is between 15,000 and 20,000 degrees. Its average magnitude is 6.5; this varies about half a magnitude as the two parts rotate about each other during the star's 12-day period.

Zwicky has continued his observations on the super-nova in IC 4182 which was discovered in 1937. The estimated surface temperature of the central star of this super-nova is over 3,000,000 degrees. Its density is so great that a cubic centimeter of it would weigh about 1240 tons. In a year of observation its light characteristics, as determined by its spectrum, shifted toward the red by an amount of 100 Ångstrom units, a remarkably large displacement attributed to increasing gravitational forces on the star. These observations have caused Zwicky to believe that there are stars in the sky which, although shining, cannot be seen, due to strong gravitational forces. Such stars would be of a type known as collapsed neutron stars and would represent the lowest states of energy which matter could possess without converting it into radiation. Neutron stars would be the final state of super-novae.

Phenomena. Comet 1938 a. After many unsuccessful attempts, Periodic Comet 1927 VI (Gale) was finally discovered on May 1, the first return of this comet and the first comet found during the year.

This year's opposition of periodic Comet 1925 II (Schwassmann-Wachmann) went by unobserved.

There was a total eclipse of the sun on May 29, visible as a total eclipse only in the extreme South Atlantic Ocean, and no expeditions were sent to observe it.

There was a total eclipse of the moon on November 7-8, which was remarkable for two reasons. First, both the sun and the moon were above the horizon at the beginning of the eclipse, due to the fact that atmospheric refraction would make the sun and moon appear above the horizon when actually they were below it. Secondly, there was an occultation of the major planet Uranus during this total eclipse. This occultation had not been predicted, but it was observed during the eclipse.

The total eclipse of the moon on May 14 and the partial eclipse of the sun on November 21-22 had no features of unusual significance.

Bibliography. Paul W. Merrill, *The Nature of Variable Stars* (New York); C. C. Wylie, *Our Starland* (Chicago); R. H. Baker, *Astronomy*, 3d ed. (New York); W. M. Smart, *Astronomy* (New York); R. L. Waterfield, *A Hundred Years of Astronomy* (London); Mary Proctor, *Our Stars Month by Month* (New York); F. W. Grover, *The Pageant of the Heavens* (New York); Mary Proctor and A. C. D. Crommelin, *Comets* (London); A. M. Low, *What New Wonders* (London); Wilhelm Becker, *Materie im interstellaren Raume* (Leipzig); A. Unsöld, *Physik der Sternatmosphären* (Berlin); Giorgio Abetti, *The Sun* (New York).

ATATURK, â'tä'-türk', (MUSTAFA) KEMAL. The President of Turkey, died at Istanbul, Nov. 10, 1938. Born at Salonica, Mar. 12, 1881, he received his education in the Turkish primary and military schools, at the Military College, and at

the Staff College. During his early career he was associated with the "Young Turks," but after a quarrel with Enver Pasha he resigned. After service in the Turco-Italian War in 1911, he was attached to the Turkish Legation in Sofia in 1913. During the World War he commanded the Northern Section of the Turkish Army at Gallipoli; the 16th Army Corps in the Caucasus (1916); the 2d Army in the Caucasus (1917), and the Turkish Army in Palestine (1918). He was Inspector-General of the Ottoman Forces in Anatolia in 1919.

After the Greek occupation of Smyrna, May 15, 1919, Kemal called together a congress of patriots in opposition, and in July of that year he presided at the Congress of Erzerum. On September 4 he was elected chairman of a congress at Sivas, which resolved "to fight for Turkish integrity." Elected president of New Turkey by the National Assembly in 1920, he organized an army and led it against the Greeks. After two years of fighting he signed an armistice on Oct. 11, 1922. On Nov. 1, 1922, the Sultanate was abolished and after the peace conference at Lausanne declared Turkey a republic, he was elected its first president on Oct. 29, 1923.

He now began the work of transforming Turkey from an agricultural country into an industrial one, and in raising Turkey to a place in the sun among the world powers. His success in the first instance was slow, but after 15 years of effort the government succeeded in establishing cotton mills, a wool factory, a silk factory, a steel and blast furnace works, etc. In the second instance, he was, perhaps, more successful, for in 1936 he succeeded in having the Lausanne Straits Convention of 1923 revised to give him permission to fortify the Straits and to close them to warships of all countries when he was at war, or threatened by aggression. Also, he was instrumental in the formation of the Balkan Entente, his ideal of a Federation which would end the role of the Balkan states as cat's-paws of the great powers, and in 1937 he formed the Moslem or Middle-East Bloc, with Turkey, Iraq, Iran, and Afghanistan. For developments in 1938 see *TURKEY* under *History*.

In the transition from Old Turkey to New Turkey, many laws and customs were abandoned, and among many things, he abolished the Caliphate, which resulted in the separation of Church and state (1924), the fez, polygamy, and the veil for women (1925 and 1926); introduced new civil and penal codes (1926), the census (1927); and substituted the Roman alphabet for the Arabic (1928). Also, in 1934 he ordered all Turks to register family names, and in accordance with the law, the National Assembly conferred on him the family name of Atatürk (Father of all Turks); he gave the women the franchise (1935); forbade the wearing of clerical garb (1935), and began the preparation of a simplified Turkish language (1935).

ATHLETICS. TRACK AND FIELD. See SPORTS under *Track and Field Athletics*.

ATMOSPHERIC SODIUM. See METEOROLOGY.

ATOMS. See PHYSICS; CHEMISTRY.

AUSTRALIA. A self-governing dominion of the British Commonwealth of Nations. Capital, Canberra.

Area and Population. The area of the six States and two Territories, the census population of June 30, 1933, and the estimated population on Mar. 31, 1938, are shown in the accompanying table.

Living births in 1937 numbered 119,131 (17.43 per 1000); deaths, 64,496 (9.44 per 1000); mar-

AREA AND POPULATION OF AUSTRALIA

States and Territories	Area in sq. miles	Population	
		June 30, 1933	Mar. 31, 1938
New South Wales	309,432	2,600,847	2,717,873
Victoria	87,884	1,820,261	1,865,957
Queensland	670,500	947,534	996,219
South Australia	380,070	580,949	591,755
Western Australia	975,920	438,852	458,453
Tasmania	26,215	227,599	235,540
Northern Territory	523,620	4,850	5,552
Federal Capital Territory	940	8,947	10,499
Total	2,974,581	6,629,839	6,881,848

riages, 59,448 (8.7 per 1000). The excess of immigration over emigration in 1937 was 5203. In the year ended June 30, 1938, 652 more persons of British stock left the country than entered it, whereas the net immigration of aliens was 6769 (2896 Italians, 1078 Greeks, 635 Yugoslavs, 571 Germans, 331 Albanians). Between 1921 and 1937 foreign nationals in Australia increased 32 per cent compared with a 22 per cent increase in immigrants of British nationality. The government in 1938 took steps to reduce alien immigration and encourage that from the British Isles (see *History*).

Estimated populations of the chief cities, all of them State capitals, on Dec. 31, 1937, were: Sydney, N.S.W., 1,279,080; Melbourne, Victoria, 1,024,000; Brisbane, Queensland, 318,430; Adelaide, South Australia, 318,190; Perth, Western Australia, 215,700; Hobart, Tasmania, 62,450. The population of the Federal capital, Canberra, was 8400. Newcastle, N.S.W., had 104,485 inhabitants at the 1933 census.

Education and Religion. Elementary education is free and compulsory. Illiteracy is estimated at about 15 per cent of the adult population. Enrollment in the 10,368 State (public) schools in 1935 was 912,703; in 1875 private schools, 229,525. In 75 free kindergartens (1936) the average attendance was 3914. The six State universities, located at the respective State capitals, had 10,277 matriculated and non-matriculated students attending lectures in 1935.

Religious affiliations of the population at the 1933 census included 2,565,118 members of the Church of England (44.4 per cent), 1,161,455 Roman Catholics (21.1 per cent), not including 127,542 (11.8 per cent) classified as Catholics, undefined: 713,229 Presbyterians (12.3 per cent), and 684,022 Methodists (11.8 per cent).

Production. The estimated gross value of production, by chief industries, for the fiscal years ended June 30, is shown in the accompanying table from the *Quarterly Summary of Australian Statistics*.

VALUE OF AUSTRALIAN PRODUCTION, YEARS ENDED JUNE 30 [In thousands of pounds sterling]

Item	1935	1936	1937 ^a
Agricultural	£ 68,587	£ 75,388	£ 91,200
Pastoral	74,556	91,286	109,300
Dairy, poultry, bee-farming	44,763	47,533	46,300
Forestry and fisheries	10,856	11,624	12,000
Mining	19,949	23,248	27,400
Manufacturing ^b	137,638	155,891	170,000
Total	£356,349	£404,970	£456,200

^a Preliminary. ^b Value added in process of manufacture.

The total area under crops in 1936-37 was 20,602,595 acres, of which 12,316,862 acres were in wheat and 3,100,876 acres in hay. Production of the chief crops in 1936-37 was: Wheat, 151,389,952 bu. (about 187,795,000 bu. in 1937-38); oats, 16,662,279 bu.; corn, 7,246,383 bu.; hay, 3,447,647 tons;

sugar cane, 5,445,740 tons; cane sugar, 782,729 tons. The wine output in 1935-36 was 17,727,958 gal. and the production of all orchards and fruit gardens was valued at £7,701,859. At the end of 1936 there were 110,242,704 sheep, 13,491,072 cattle, 1,762,750 horses, and 1,202,752 swine. The 1937-38 wool clip (as in the grease) totaled about 1,010,000,000 lb. (982,831,449 lb. in 1936-37). Dairy produce in 1936-37 included 395,909,361 lb. of butter, 44,431,415 lb. of cheese, and 73,677,053 lb. of bacon and ham.

The chief minerals produced in 1937 included: Gold, 1,381,135 fine oz., valued at £11,984,088; black coal, 12,074,273 tons (value of black and brown coal in 1936-37, £7,662,222); copper, 19,789 tons, £1,163,413; pig iron, 913,406 tons (in 1936-37); tin, £864,159; lead, 240,036 tons; value of silver and lead, £5,820,112; value of all minerals, £31,970,166 (preliminary) against £27,380,753 in 1936. Manufacturing statistics for 1936-37 were: Number of establishments, 25,688; workers and working proprietors, 523,824; salaries and wages, £90,157,818; value of plant, machinery, land, and buildings, £245,703,232; value of materials used, £260,578,903; net value of production, £177,684,645; value of total manufacturing output, £451,829,278 (£414,688,455 in 1935-36). The value of 1936-37 production of the chief manufacturing industries was: Industrial metals, machines, implements, and conveyances, £52,744,592; food, drink, and tobacco, £36,225,703; clothing, £14,625,535; paper, stationery, printing, bookbinding, etc., £12,794,742; chemicals, dyes, explosives, paints, oils, and greases, £11,312,755; heat, light, and power, £10,763,145.

Foreign Trade. The trend of Australian trade during recent years is shown in the accompanying table. The values are for direct overseas imports and exports, including merchandise, bullion, and specie.

AUSTRALIAN FOREIGN TRADE, YEARS ENDED JUNE 30TH [*British currency values*]

	<i>Imports</i>	<i>Exports</i> *	<i>Balance</i>
1929-30 ...	£131,081,320	£125,127,148	£ - 5,954,172
1931-32 ...	44,712,868	85,348,607	+40,635,739
1934-35 ...	74,119,496	90,225,168	+16,105,672
1935-36 ...	85,252,458	108,907,205	+23,654,747
1936-37 ...	92,640,462	129,009,810	+36,369,348
1937-38 ...	113,648,762	125,496,898	+11,848,136

* Including re-exports.

In Australian currency values, imports in 1937-38 were valued at £140,209,459 (£146,976,636 in 1936-37) and exports at £157,153,041 (£161,557,013 in 1936-37). The value of leading imports in 1937-38 was: Textiles, £15,631,559; machines and machinery, £15,236,975; motor-car chassis and parts, £8,288,839; petroleum, £6,080,165; printing paper, £2,467,264; tea, £2,392,338; tobacco and products, £1,765,770. Among leading exports in 1937-38 were: Greasy wool, £41,272,725; scoured and washed wool, £5,297,159; wheat, £20,910,662; gold, £15,912,286; butter, £10,143,396; lead, pig and in matte, £4,916,787; frozen lamb, £4,645,798; frozen beef, £4,342,750; frozen hides, £3,460,611.

The chief sources of imports in 1937-38 were: United Kingdom, £46,228,674; United States, £17,759,175; Canada, £8,045,130; Netherlands East Indies, £7,530,509. The United Kingdom took exports to the value of £80,641,180; United States, £10,859,622; France, £10,408,590; New Zealand, £7,110,459.

Finance. For the fiscal year ended June 30, 1938, Commonwealth revenues totaled £89,458,154 and expenditures £85,963,421, leaving a surplus of £3,494,733, which was set aside in a trust fund for

defense purposes. Budget estimates for 1938-39 placed expenditures at £93,136,000 and revenue receipts at £93,162,000, leaving a surplus of £26,000.

The Commonwealth's public debt on June 30, 1938, was £390,845,062 and the total debt of the States was £884,180,701, making a combined total of £1,275,025,763, or £184 19s. 2d. per head of population.

Transportation, etc. On June 30, 1937, there were 27,094 miles of Federal and State-owned railway lines and 803 miles of private lines open for general traffic. Traffic train-miles run on all government lines in the fiscal year 1936-37 numbered 72,987,000 (exclusive of "Assistant" and "light" railways). The gross earning of the Federal and State railways in 1936-37 were £43,234,000 and working expenses were £31,287,000. The percentage of net earnings on capital cost of these lines averaged 3.55 for 1936-37. The total highway mileage in 1937 was 482,644 and the number of automobiles was 696,578. During the year ended June 30, 1937, aircraft flew 5,497,401 miles on scheduled services in Australia, carrying 43,242 passengers and 658,885 lb. of freight. With the introduction of flying boats on the London-Sydney air route in June, 1938, the service was increased to three flights weekly in each direction and the time between the two cities was reduced to one week. Commercial radio-telephone service between Australia and the United States was opened Dec. 20, 1938.

Government. Executive power is vested in the King, who acts through a governor-general and a ministry responsible to the Federal Parliament. There is a Senate of 36 members (6 from each State), elected for six years and renewed by half every three years, and a House of Representatives of 74 members apportioned among the States on a population basis and elected for three years. The composition of the House of Representatives following the election of Oct. 23, 1937, was: United Australia Party, 29; Labor, 29; United Country Party, 16. In the Senate the standing was: United Australia Party, 20; Labor, 16. Prime Minister in 1938, Joseph Aloysius Lyons (United Australia Party), heading a United Australia-Country Party coalition government formed Nov. 9, 1934, and re-organized Nov. 29, 1937. Governor-General, Brig. Gen. Alexander Hore Arkwright, Baron Gowrie, who assumed office Jan. 22, 1936.

HISTORY

State Elections. Three State elections held early in 1938 served to confirm the extraordinary stability of political opinion throughout the Commonwealth. The preceding October Prime Minister Lyons's coalition Federal government had been returned to power for the third time in succession (see 1937 YEAR BOOK, p. 63). In the elections held in South Australia on Mar. 19, 1938, in New South Wales on March 26, and in Queensland on April 2 the governments of those States were likewise all returned for a third consecutive term.

The elections in South Australia were fought mainly on strictly local issues involving (1) the action of the Butler Government in increasing the terms of members of the Legislative Assembly and Legislative Council to 5 and 10 years, respectively, a step opposed by the Labor Opposition and many Independents, (2) the betting evil, and (3) the liquor licensing laws. The latter two issues cut across party lines. The final electoral results showed the Butler Government dependent for its continuance in office upon the support of at least five Independents. The standing of the parties in

the new Legislative Assembly, with the former standing in parentheses, was: Liberal-Country League coalition, 15 (28); Labor, 11 (13); Independents, 13 (5). Under a new electoral law, the former 19 multiple member electorates, returning 46 members, were replaced by 39 single member electorates.

The New South Wales elections were marked by a split in the State Labor party's ranks and the entrance into the campaign of six Independent Labor candidates in protest against the radical leadership of the former Labor Premier, J. T. Lang. The return of the United Australia-Country party coalition government with a large majority was regarded as a triumph for Premier B. S. B. Stevens's record of a sound administration under which the State had achieved steady economic progress. Following was the standing of the parties in the new and the old Legislative Assemblies (the latter in parentheses): United Australia party, 37 (37); Country party, 22 (22); Labor party, 28 (29); Independent Labor party, 2 (0); Independents, 1 (2).

Premier William Forgan Smith's moderate Labor Government retained control in Queensland despite the loss of a few seats. The new parliamentary line-up was: Labor, 43 (46 in previous Legislative Assembly); Independent Labor party, 1 (0); Country party, 14 (13); United Australia party, 4 (3).

Cabinet Reorganized. Prime Minister Lyons reconstructed the Federal Cabinet on November 7, adding one new member in the person of Senator G. McLeay and shifting several other members to new positions. The new cabinet line-up was: Prime Minister, Joseph A. Lyons; Vice-President of the Executive Council, Senator McLeay; Commerce, Sir Earle C. G. Page; Attorney General and Industry, R. G. Menzies; Defense, Brigadier Geoffrey A. Street; External Affairs, William M. Hughes; Civil Aviation and Works, Harold V. C. Thorby; Treasurer, R. G. Casey; Postmaster General, A. G. Cameron; Health and Repatriation, Senator H. S. Foll; Territories, J. A. Perkins; Trade and Customs, Thomas W. White; Interior, John McEwen.

Mr. White resigned on the following day when the Prime Minister replaced him on the senior cabinet group with the new Minister of Defense. White declared that he was opposed to the shaping of crucial policies by the senior members of the cabinet. He was succeeded as Minister of Trade and Customs by J. A. Perkins, previously Assistant Minister.

Defense Program. In accordance with the pledges made during the 1937 electoral campaign, the Lyons Government during 1938 took steps to strengthen Australia's defenses on a basis of close co-operation with Great Britain and the other Dominions. On May 6 Parliament passed the Defense Loan Bill authorizing the government to borrow up to £10,000,000 in connection with its £43,000,000 defense program (see 1937 YEAR BOOK, p. 64). This program was further expanded in the 1938-39 budget introduced in Parliament September 21 (see *Finance*). Defense expenditures of all kinds, including civil aviation, were raised to £16,796,000 (about \$67,184,000) from £11,531,000 (\$46,124,000) in 1937-38.

Meanwhile the reorganization and improvement of Australian military, naval, and air forces was proceeding in line with recommendations made by British officers. Maj.-Gen. E. K. Squires was

named British Inspector-General of Australian Military Forces. Early in September Sir Edward Ellington, Marshal of the Royal Air Force, submitted recommendations for the strengthening of the Royal Australian Air Force. On October 4 the Minister of Defense announced an immediate increase in the volunteer militia from 35,000 to 42,000, the new recruits being allotted mainly to new coast artillery units. On December 4 Prime Minister Lyons called for an increase of the militia force to 70,000 men.

After the German-Czechoslovak crisis of September had revealed weaknesses in Australian defenses, particularly in anti-aircraft guns and munitions, the Federal Government made further efforts to speed up and extend its defense preparations. At a meeting of the Australian Loan Council at Canberra October 21-23, Prime Minister Lyons proposed a long-range defense program to be carried out jointly by the Federal and State governments. His request for the creation of an advisory committee representing the Commonwealth, the States, and industry, with authority to give priority to public works of a defensive character, was rejected by the State Premiers as incompatible with State rights. The issue of co-ordinating State and Commonwealth defense measures was left for future decision. However, the Loan Council approved another £4,000,000 defense loan, half of which was to be spent by the Commonwealth and half by the States. This increased total defense expenditures for 1938-39 to more than £20,000,000, or nearly twice the amount expended in 1937-38. On November 15 it was announced that an order for 50 reconnaissance bombardment airplanes had been placed with the Lockheed Aircraft Corp. at Los Angeles, Calif.

Social Insurance Law. The Lyons Government also secured the passage in July of a comprehensive social insurance measure providing 1,850,000 workers and their dependents with sickness and disablement benefits, medical service, and old-age, widows', and orphans' pensions. The law covered all manual workers over 14 years of age and other employees whose income amounted to £365 or less annually. It was scheduled to go into effect Jan. 1, 1939.

New Immigration Policy. In fulfillment of another campaign pledge, Prime Minister Lyons announced on March 7 that his government had adopted a new policy of assisting passages of selected immigrants from the United Kingdom by the partial payment of steamship fares. British Army officers and civil servants in India retiring on pensions were offered half fares to Australia as an inducement for them to settle there. In April, the Minister of Interior placed in effect proposals designed to prevent an influx of non-British aliens and especially to prevent their settling in alien communities.

Other Developments. On January 26 Australia celebrated the sesquicentennial of the establishment at Sydney in 1788 of the first British settlement. The celebrations, which continued until April 25 (Anzac Day), attracted many visitors from all parts of Australia and the Empire. Participating in the ceremonies in Sydney harbor were four American cruisers, one French and one Italian cruiser, one British warship, and a Netherlands gunboat.

A strike of more than 20,000 coal miners tied up production to such an extent during September that ships were chartered to bring more than 100,000 tons of coal from the United Kingdom. The miners demanded a six-hour day, 30-hour week, a pen-

sion of £2 weekly at 60 years of age, improved safety and health regulations, and pay for annual holidays. The issue was submitted to the Federal Arbitration Court after Prime Minister Lyons refused to intervene. The Wheat Industry Assistance Bill, passed in December, provided a home consumption price for wheat to be financed by a sales tax on flour. On November 22 the Attorney General announced that a special session of Parliament would be convoked early in 1939 to formulate amendments to the Federal Constitution. On December 1 the government expressed willingness to receive 15,000 European refugees over a three-year period.

Empire and Foreign Relations. The defense and immigration programs described above reflected the uneasiness among Australians at the aggressive tendencies of Japanese imperialism in the Far East, the mounting danger of a European conflagration that would involve the mother country, and the intensification of Germany's demands for the return of her former colonies, including the Territory of New Guinea, mandated to Australia (see NEW GUINEA, TERRITORY OF). W. M. Hughes, Minister of External Affairs, declared at Sydney in October that Australia would not even consider the suggestion that New Guinea be "surrendered" to any other nation. Official spokesmen made it equally plain that the government was dedicated to upholding the traditional "white Australia" policy. Yet events in Europe and the Far East brought home to Australians the fact that they could not hope to maintain these policies without British support.

This realization made the Labor party's policy of self-sufficiency and isolation increasingly unpopular and led the Lyons Government to consider earnestly methods and machinery for closer military, political, and economic co-operation with Great Britain and the other British Dominions. The initiative toward establishment of machinery for closer Empire co-operation in dealing with foreign affairs was taken by R. G. Menzies, Australian Attorney-General and Minister for Industry, during a visit to London in 1938. The problem was also studied by the British Commonwealth Relations Conference which met at Sydney during the year with over 100 delegates from all parts of the Empire in attendance.

Australia was consulted by the British Government on January 27 on Prime Minister Chamberlain's proposal for opening negotiations for a settlement with Italy. When the Commonwealth Government agreed that the situation required such action, the Labor Opposition demanded that the Federal Parliament be convened immediately to discuss Britain's "new" foreign policy. Prime Minister Lyons refused this request. In August the Australian Minister for External Affairs, W. M. Hughes, strongly criticized the Dominions Office in London as an obstruction to effective consultation between the British and Dominion governments. His demand for a greater Australian share in molding British foreign policy was in contrast with the positions assumed by the Canadian and South African Governments (see CANADA and SOUTH AFRICA, UNION OF, under *History*).

At the height of the European crisis over Czechoslovakia, Prime Minister Lyons on September 29 reiterated previous assurances that his government would back the British Government in its negotiations with Germany. His statement before both houses of Parliament was supported by John Curtin, leader of the Labor party. After the crisis,

Curtin asked the government to state what commitments it had assumed in the event war had broken out. Attorney-General Menzies replied that Britain had not asked for or received any commitments, but that Australia could not remain neutral in a British war. In a move to tighten the Commonwealth's bonds with the mother country, the Lyons Government suggested the appointment (announced October 25) of the Duke of Kent to succeed Lord Gowrie as Governor-General upon the latter's retirement in November, 1939.

The government's desire for close political co-operation with Britain was again reflected in the moderation with which trade negotiations for a revision of the Ottawa Trade Agreement of 1932 were conducted in London from April to August by three senior members of the Australian Cabinet—Sir Earle Page, Attorney-General Menzies, and Minister of Customs White. Their main objectives were to obtain for the Australian manufacturer more complete protection against competition from Great Britain, to safeguard and if possible extend the advantages enjoyed by Australian primary producers in the British market, and to make the system of guaranteed Imperial preferences more elastic so that the Commonwealth Government could more easily negotiate trade agreements with foreign countries.

At the conclusion of the negotiations, it was decided to retain the existing Agreement with minor adjustments designed to pacify both the Australian manufacturers who had protested at British competition under the Agreement and the British manufacturers who contended that the Australian authorities had placed obstacles in the way of their goods in violation of the terms of the Agreement.

Before returning to Australia, the three Ministers participated in the unveiling by King George on July 22 of the Australian war memorial at Villers-Bretonneux, France. In recognition of the community of interest between Australia and the Netherlands East Indies, the Governor-General of Australia and Lady Gowrie paid an official visit to the Governor-General of the Netherlands Indies at Batavia on April 7.

Consult David M. Dow, *Australia Advances* (New York: Funk & Wagnalls Co., 1938).

AUSTRIA. A former independent state of central Europe which was annexed to Germany on Mar. 13, 1938; comprising the Federal city of Vienna and the eight Provinces of Lower Austria, Upper Austria, Salzburg, Styria, Carinthia, Tirol, Vorarlberg, and Burgenland. Capital, Vienna.

Area and Population. Austria has an area of 32,369 square miles—slightly smaller than the State of Maine—and a population estimated at 6,754,000 on Dec. 31, 1937 (6,760,233 at the 1934 census). Populations of the chief cities (1934 census) were: Vienna, 1,874,130; Graz, 152,841; Linz (including Kleinmünchen), 108,970; Innsbruck, 61,005; Salzburg, 40,232; Wiener Neustadt, 36,798; Sankt Pölten, 36,247; Klagenfurt, 29,761; Villach, 23,831; Baden, 22,208.

Education and Religion. Illiteracy is estimated at 0.12 per cent of the adult population. Public and private elementary schools in 1936-37 numbered 5300, with 822,857 pupils; secondary schools in 1935-36, 171, with 64,042 pupils; universities in 1935-36, 3 (at Vienna, Graz, and Innsbruck), with 14,901 students. There were also a number of commercial and theological schools and colleges. Of the 1934 census population, 90.57 per cent were Roman Catholics, 4.38 per cent Protestants, and 2.83 per cent Jews (191,481).

Production. Agriculture, manufacturing, mining, and lumbering are the chief occupations. Of the total area, about 24 per cent is arable, 11 per cent in meadows, 4 per cent in pasture, 11.5 per cent in Alpine land, and 38 per cent in forests. The 1937 production of forest industries was 728,240 metric tons of paper, cellulose, mechanical pulp, and cardboard. The output of pig iron was 389,118 metric tons; steel, 649,718 tons; crude oil, 33,010 tons. Hydro-electric plants had a capacity of about 3,400,000 h.p. in 1937. Revenue from foreign tourists in 1937 was estimated at 190,000,000 schillings (about \$35,663,000). Production of other minerals (1937) was, in metric tons: Coal, 230,000; copper, 1800; lead, 10,600; aluminum, 4000. The 1936 output of salt was 192,000 metric tons; manganese (metal content), 23,100 tons; magnesite, 397,800 tons.

Estimated yields of the principal farm crops in 1937 were (in metric tons): Wheat, 393,800; rye, 427,500; barley, 249,700; oats, 413,500; potatoes, 2,786,900; corn, 181,200; beet sugar (1937-38), 139,900. The 1934 livestock census showed 1,209,874 cows, 83,830 bulls, 241,688 oxen, 813,235 calves, 261,217 horses, 2,822,966 swine, and 326,497 goats.

Foreign Trade. Total imports in 1937 were valued at 1,453,581,000 schillings (1,247,193,000 in 1936) and total exports at 1,216,162,000 schillings (952,554,000 in 1936). Germany was the best market for Austrian exports in 1937, taking 14.8 per cent of the total, while Italy, Czechoslovakia, and Rumania followed in the order named. Germany was also the leading source of imports, furnishing 16.1 per cent in 1937. The average exchange rate of the schilling in 1937 was \$0.1877 (\$0.1879 in 1936).

Finance. Budget estimates for 1937 placed total revenue at 1,342,000,000 schillings and total expenditure at 1,382,000,000. Preliminary official returns showed a deficit of 70,710,000 schillings of which 48,250,000 schillings was in the ordinary budget. The 1936 budget showed a surplus of 1,500,000 schillings.

The public debt on Dec. 31, 1937, was reported at 3,482,100,000 schillings (internal, 1,509,200,000; external, 1,972,900,000), compared with a total of 3,691,600,000 schillings on Dec. 31, 1935.

Transportation. Austria in 1938 had about 3685 miles of railway line (2726 miles state owned and operated), 42,121 miles of automobile highways (47,512 automobiles registered Jan. 1, 1938), and airlines connecting Vienna and the other leading cities with all European capitals.

Government. The Constitution of May 1, 1934, declared Austria "A Christian, Federal State on a corporative basis." It provided for an "authoritarian" or Fascist regime, in which the Roman Catholic Church occupied a privileged position. Extensive powers were placed in the hands of the President, elected for seven years by the burgomasters (mayors) of Austria from three candidates selected by the Federal Assembly. He was empowered to appoint and dismiss the Chancellor at his discretion. The press, the theater, and the radio were placed under strict government control. In place of a representative assembly, provision was made for four appointive advisory councils, as follows: (1) A Council of State of 40 to 50 "worthy citizens," (2) a Federal Cultural Council of 30 to 40 representatives of legally recognized churches, educational bodies, sciences, and arts, (3) a Federal Economic Council of 70 to 80 representatives of agriculture, industry, commerce, and finance, and (4) a Provincial Council, including the Governor and a financial representative from each Province. The Fed-

eral Diet, which was to pass on legislation submitted to it by the government, consisted of 20 members of the Council of State, 10 members of the Cultural Council, 20 members of the Economic Council, and 9 members of the Provincial Council. Another body, called the Federal Assembly, was to consist of all the members of the four Councils. Its function was to nominate three candidates for President, to authorize a declaration of war, etc.

President at the beginning of 1938, Dr. Wilhelm Miklas, who was re-elected for a second term on Oct. 9, 1931. The only political party legally recognized was the so-called Patriotic or Fatherland Front, founded by the late Chancellor Dollfuss and headed at the beginning of 1938 by Chancellor Kurt Schuschnigg. See *History* for developments after the incorporation of Austria in Germany.

HISTORY

Anschluss Achieved. The union (*anschluss*) of Austria and Germany, forbidden by the Treaties of St. Germain and Versailles and blocked by the World War victors again in 1922, 1931, and 1934, was consummated on Mar. 13, 1938. Without firing a shot, German troops marched in on invitation of the Austrian Government and took possession. They were greeted by hysterically joyous demonstrations in the Austrian cities and towns. Overwhelmed by the German Fuehrer's skillful use of diplomacy, propaganda, and the threat of armed force, the strong anti-Nazi elements in Austria accepted their fate without more than a verbal protest. Likewise France, Great Britain, and Italy, which had repeatedly affirmed their support of Austria's independence, watched with acquiescent chagrin the establishment of a Germany greater in area and population than that they had crushed in 1918. For centuries before the rise of Prussia, Austria had dominated eastern Europe and especially the other German states. In 1919 it was emasculated economically and politically by the Peace Treaties. In 1938 it was reduced to the status of a mere province in Adolf Hitler's revitalized Third Reich.

Prelude to Surrender. Throughout the stormy postwar years, bitter experience had convinced many Austrians that their country could not live within the narrow confines imposed by the peace settlement. But during 1937 and the first months of 1938, this conviction was belied in part by steady economic recovery, due in part to foreign financial and other assistance. At the beginning of 1938 industrial production was at a higher level than the previous peak year of 1929. Unemployment had declined during 1937, although it rose sharply in the first months of 1938; there were an estimated 600,000 applicants for work at the time *anschluss* was achieved. A highly successful tourist season and other factors had given the country a favorable balance of payments for 1937. Financially, Austria was making greater progress than any of its neighbors.

Although few realized it, Austria's political independence had already been doomed by the Italo-German understanding of 1936. Mussolini had blocked the Nazi putsch in Austria in 1934 (see 1934 YEAR BOOK) by mobilizing troops on the Brenner Pass. But subsequently German aid, purchased at the price of Italy's renunciation of tutelage over Austria, enabled Mussolini to emerge triumphant from the crisis of the Ethiopian War and the economic and financial sanctions imposed by the League of Nations. Under Italian pressure, Chancellor Schuschnigg of Austria concluded the

agreement of July 11, 1936, with Germany. In return for Hitler's recognition of Austria's "sovereignty," Schuschnigg agreed to follow a foreign policy "consonant with Austria's position as a Germanic State."

Nazi efforts to utilize the 1936 "truce" as a means of gaining ascendancy in Austria met stubborn opposition from Schuschnigg and his Clerical-Fascist supporters (see 1937 YEAR BOOK). But meanwhile Nazi propaganda made steady headway. The beginning of 1938 found the Schuschnigg Government hard put to resist demands, backed by constant pressure from Germany, for the admittance of pro-Nazis into the Austrian Government and termination of the drastic police measures against Nazi agitation. Moreover, German officials late in 1937 intimated that they were prepared to liquidate the Austrian question in the near future.

Late in January, 1938, Schuschnigg's police raided headquarters of a pro-Nazi committee in Vienna and seized documentary evidence of a plot to overthrow the Austrian Government by a fake attack upon the German Embassy, thus affording a pretext for pre-arranged armed intervention by German troops already concentrated near the Austrian frontier. The ringleader of the conspiracy was Dr. Leopold Tavs, a Sudeten German serving as secretary of a semi-official committee charged with incorporating the Austrian Nazis in Schuschnigg's Fatherland Front. Tavs was arrested. His papers were reported to have implicated several members of the German Cabinet, and indirectly Hitler himself, in the conspiracy.

The Berchtesgaden Agreement. The miscarriage of this conspiracy and opposition within German army circles to armed intervention led Hitler to adopt other tactics. On February 9 he invited Schuschnigg to a personal conference at Berchtesgaden. Schuschnigg accepted and the historic meeting was held on February 12. Hitler violently accused Schuschnigg of betraying the German people by his resistance to Nazi demands in Austria. He insisted that Schuschnigg accept Dr. Arthur Seyss-Inquart, a prominent Austrian Nazi, as Minister of Interior and of Public Security and that various other steps be taken to end the Austrian Government's repression of Nazi agitation.

Schuschnigg demurred, asserting that only President Miklas held the authority to appoint cabinet ministers. But under Hitler's threat of armed invasion of Austria, he finally agreed to urge President Miklas to include Seyss-Inquart in the government.

Returning to Vienna, Schuschnigg transmitted Hitler's demands to President Miklas. The latter declined to place the Austrian police and internal affairs under Nazi control by giving Seyss-Inquart the Interior and Security portfolios, but agreed to appoint him Minister of Justice. On February 15, Hitler sent an ultimatum declaring that German troops would cross the frontier that midnight unless his original terms were accepted. After a futile effort to obtain assistance from Mussolini, Schuschnigg and Miklas were obliged to yield. That evening the cabinet was reorganized. Dr. Schuschnigg remained Chancellor and Minister of Defense but turned over the important Interior and Security portfolios to Seyss-Inquart. Two other pro-Nazis, Dr. Guido Schmidt and Dr. Ludwig Adamovitch, were included as Ministers of Foreign Affairs and Justice, respectively. The Chancellor sought to safeguard his position in part, however, by appointing Michael Skubl, his trusted

chief of police, as Under-Secretary in the Ministry of Public Security with direct command of the police and gendarmerie.

In further execution of Hitler's demands, the Schuschnigg Government on February 17 proclaimed an amnesty for all Austrian Nazis imprisoned for political crimes. Socialist political offenders were likewise released in an effort to strengthen Schuschnigg's support against the Nazis. It was announced that the Austrian Nazis would not be permitted to form a separate party, but would be allowed to enter the Schuschnigg-led Fatherland Front as a unit. Closer "co-ordination" of the Austrian press with German requirements and suppression of the propaganda for restoration of the Hapsburgs were other concessions Hitler extracted from the hard-pressed Austrian Chancellor.

Schuschnigg agreed to these demands partly because Hitler promised him at Berchtesgaden to reiterate in his forthcoming Reichstag speech his respect for Austrian independence and for the right of the Austrian Government to control domestic political opponents in its own way. This pledge was not fulfilled in Hitler's Reichstag speech of February 20. Meanwhile in Austria the Nazis had interpreted the Berchtesgaden agreement as the beginning of the end of the Schuschnigg regime. Their Storm Troops and Elite Guard illegally paraded in Graz and other cities, clashing repeatedly with members of the Fatherland Front.

In a speech before the Federal Diet on February 24, Dr. Schuschnigg defiantly declared that "Austria must remain Austria" and that his government would make no further concessions beyond the Berchtesgaden agreement. He sent troops into the Nazi centers to check anti-government demonstrations and warned Seyss-Inquart to curb Nazi turbulence. At the same time Schuschnigg was informed that Seyss-Inquart, during a visit to Germany made immediately after his inclusion in the Austrian Cabinet, had received instructions to prepare for a plebiscite on Austria's future in the latter part of the summer.

The Chancellor determined to hold an immediate plebiscite, before Nazi propaganda caused further defections among his supporters. He opened negotiations with the Social Democrats, who had been hostile to his regime since the ruthless crushing of Social Democratic organizations by the Dollfuss Government in 1934, and won a tentative pledge of support. Believing that he could count on at least 65 per cent of the total votes, Schuschnigg then announced on March 9 that a plebiscite would be held March 13. In an effort to increase his majority and scotch the *anschluss* agitation for good, Schuschnigg restricted the voting to persons over 24 years of age, thus excluding the ardently pro-Nazi younger generation. This gave Nazi agitators ground for denouncing the unfairness of the plebiscite.

Hitler's Intervention. Determined to prevent a plebiscite under anti-Nazi auspices, Hitler immediately intervened. Acting on his orders, two Nazi members of the Schuschnigg Cabinet—Seyss-Inquart and Glaise-Horstenau—demanded on March 11 that the plebiscite be canceled. Schuschnigg hesitated but finally capitulated under the threat of German intervention. His cancellation of the plebiscite was followed immediately by a German ultimatum threatening invasion unless he resigned by 6:30 p.m. and permitted the formation of a Nazi-dominated government—two-thirds of the Ministers were to be National Social-

ists. With German troops concentrated on the Austrian frontier, Schuschnigg made a frantic effort to secure Italian, British, and French help.

The failure of the powers to act sealed Austria's fate. That evening (March 11) Chancellor Schuschnigg announced over the radio from Vienna that he had decided to resign rather than plunge Austria into war. "And so I take leave of the Austrian people," he concluded, "with a German word of farewell uttered from the depths of my heart: God protect Austria." Nazi Storm Troops immediately occupied the public buildings in Vienna and other cities.

Late that night President Miklas named Dr. Seyss-Inquart as Chancellor of a new government composed entirely of Nazis and pro-Germans. Seyss-Inquart immediately announced that Austria was "free and National Socialist." He invited German troops into Austria to assist in "the restoration and maintenance of law and order." There was little if any disorder in Austria, but the Germans immediately responded. Some 50,000 armed troops began pouring over the border early on the morning of March 12. Giant Nazi bombers circled over Vienna. The German tide swept over the country, taking over control of cities, towns, and villages. Behind them rode Adolf Hitler, who had left his native Austria as a youth before the World War. At Linz, just across the frontier, Hitler proudly proclaimed the fulfillment of his "divine mission" to restore Austria to the German Reich.

Anschluss was formally consummated by both Austrian and German law on March 13. Austria was declared "a state of the German Reich" and a plebiscite to ratify this decision was called for April 10. President Miklas was forced to resign and Chancellor Seyss-Inquart took over his duties temporarily. Hitler assumed command of the Austrian army and merged it with the German military machine. Meanwhile Hitler's triumphant procession across Austria reached a grand climax in Vienna on March 14, where he addressed a wildly cheering multitude. Psychologically as well as politically, the bulk of the Austrian people appeared to have capitulated to Hitler's dynamic National Socialist doctrine. As foretold in the Fuehrer's *Mein Kampf*, Austria resumed her medieval status as the *Ostmark*—outpost of the Germanic peoples against the Slav races and the historic base for German penetration to the east.

The Co-ordination of Austria. The political, economic, and ideological co-ordination of Austria with the Third Reich was carried out with typical German efficiency and thoroughness. Thousands of anti-Nazis were arrested by the German secret police, including ex-Chancellor Schuschnigg. Given an opportunity to flee Vienna before the Nazi triumph, Schuschnigg replied: "My conscience is clear. I prefer to face my accusers." In August a decree was issued providing for the establishment of a special court to try Schuschnigg and other highly placed members of the deposed regime. A warrant for the arrest of the Hapsburg pretender, Archduke Otto—then in Belgium—was issued March 29.

Many prominent Austrians, including the former cabinet members Maj. Emil Fey (q.v.) and Baron Neustaedter-Stuermer, preferred suicide to the treatment they anticipated from the Nazis. Jews were rapidly weeded from the government service, the theaters, professions, and from many private businesses. All Jewish shops were branded and boycotted in the German-Nazi fashion. Many Jews were beaten and publicly humiliated. The Nurem-

berg laws of September, 1935, were put into effect. On March 26, General Goering, German Commissioner for the Four-Year Plan, ordered the systematic elimination of Jews from Austrian economic life. Refused a means of livelihood within the country, they were forbidden to transfer their wealth abroad. Hundreds fled penniless to neighboring countries. Others, known to have wealthy friends abroad, were forced to pay ransom before they were permitted to leave Austria. The anti-Jewish campaign in Austria was intensified on November 10, following the assassination of a German diplomat in Paris by a Polish Jew. All Vienna's 21 synagogues were destroyed or damaged. Thousands of Jews were arrested and flung in concentration camps. Their stores and homes were wrecked and looted. See JEWS.

Hitler appointed Dr. Seyss-Inquart Governor of his new province, but real authority was vested in a German, Josef Buerckel, whom Hitler named Reich Commissioner for Austria. While all opposition was harshly repressed, ceaseless propaganda designed to convince all Austrians of the benefits of the new regime flooded the country. Austrian workers were promised employment and facilities for better vacations and leisure activities organized by the German "Strength Through Joy" movement. Military service was extended and expanded. Austrian youth groups were incorporated into the Hitler Youth movement. The banks, railways, currency, and all other departments of economic activity were merged with their German counterparts. The Austrian schilling was replaced by the German mark at the favorable rate of two marks for three schillings.

The German tariff against Austria was abolished immediately but the Austrian tariff against Germany was retained temporarily to avoid an undue shock to Austrian manufacturing industries. Austria's gold and foreign exchange reserves were appropriated by the Reichsbank. Under General Goering's direction, Austrian production was geared to the needs of Germany's Four-Year Plan for economic self-sufficiency. The more intensive development of Austrian iron ore, timber, magnesite, potash, and other natural resources was undertaken. An extensive public works program was launched, including extension of the Munich-Salzburg highway to Vienna and the Rhine-Danube canal, designed to "put a new face on the development of Austrian economics." The German compulsory work service law was extended to Austria, effective October 1.

The Plebiscite. Nazi repression, promises, and propaganda produced the expected results in the plebiscite of April 10. The question put to both Austrian and German voters was: "Do you approve of the reunification of Austria with Germany as accomplished on March 13, and do you vote for the (Reichstag) list of our Fuehrer Adolf Hitler?" In Austria 4,273,884, or 99.75 per cent, voted "Yes," 10,911 voted "No," and 5125 ballots were spoiled.

The Nazi-Catholic Conflict. An influential factor in the response of the Austrian voters was the statement issued prior to the plebiscite by Cardinal Innitzer and the Austrian Roman Catholic bishops. They declared that they had freely and joyfully decided to vote "Yes" as a national duty and that they expected all good Austrian Catholics to do the same. This statement was issued following assurances of favorable treatment for the Catholic Church from Herr Buerckel. It was read from all Austrian pulpits and widely published in the Nazi co-ordinated press.

When Pope Pius heard of this, he immediately summoned Cardinal Innitzer to Rome and compelled him to issue a partial retraction of his endorsement of the Nazis. In this retraction, the Cardinal said that his endorsement was given with the understanding that all Catholic privileges enjoyed under the now defunct Austro-Vatican Concordat of 1855 would be left untouched. The Nazis, however, refused to permit publication of the Cardinal's retraction in Austria. Consequently most Austrian Catholics went to the polls believing that the Pope as well as their own bishops fully approved of the new regime.

The Austrian hierarchy soon complained that the promises made by Herr Buerckel had not been kept. Its resentment was expressed in a pastoral letter signed by Cardinal Innitzer and the six other Austrian bishops and read in all Catholic pulpits on September 19. The letter declared that the clergy were prevented from serving political prisoners. It strongly criticized the Nazi decrees making civil marriage compulsory and closing the confessional schools. Tension between the Nazis and the hierarchy mounted steadily. The Catholics, including the clergy, were divided between those opposing Nazi measures and doctrines and those favoring non-resistance or even complete acquiescence in Hitler's leadership. Some of the clergy taking the latter view joined the pro-Nazi Workers Organization for Religious Peace. The bishops, however, issued an order prohibiting priests from joining this organization.

On the night of October 7, while the German occupation of the Sudeten districts of Czechoslovakia was in progress, Cardinal Innitzer addressed a service for Catholic Youth in the Cathedral of St. Stephen in Vienna. He declared the church had been deprived of many things in the preceding months and exhorted the youths to persist in their faith and works. Issuing from the cathedral the throng of some 6000 youths demonstrated their support of the Cardinal by singing the hymn of the Association of the Sacred Heart. This manifestation provoked counter-demonstrations from groups of Storm Troopers and Hitler Youth members.

On the following night the Nazi counter demonstrations assumed violent proportions. A mob stoned Cardinal Innitzer's palace, breaking all the windows on the first floor. Fragments of flying glass slightly injured the Cardinal while he knelt at prayer in his private chapel. Another mob stormed the nearby chapter house of the cathedral and wrecked the interior. Six rioters invaded the second floor apartment of Canon Johann Krawanik, aged 50, and hurled him from a window to the ground below. He was taken to a hospital suffering, it was reported, from a fractured thigh and broken legs. The Cardinal's wardrobe, furniture, tapestries, and other objects from the chapter house were heaped in St. Stephen's Square and set on fire. Forty minutes after the occupants of the palace and chapter house called for assistance, the police appeared and brought the demonstration to a close.

The foregoing incidents added fuel to the Nazi-Catholic struggle. On Sunday, October 9, another pastoral letter by Cardinal Innitzer, read in all Vienna churches, instructed Catholic parents how to bring up their children in the Catholic faith under restrictions imposed by the non-religious education law. The letter was regarded in Nazi circles as open defiance of Hitler and his doctrines. The Nazi press, which at first expressed regret for

the attack of October 8 on the Cardinal's palace, now demanded "an end to the Innitzer methods." On October 13, Commissioner Buerckel announced that as a result of "church attacks against the National Socialist party and Adolf Hitler," the Austrian hierarchy's plea for the release of Dr. Schuschnigg would be refused, the proposed amnesty for "religious politicians" postponed, and further preparatory schools for the priesthood prohibited.

The controlled press not only whipped up public sentiment against "political Catholicism," but suggested the desirability of confiscating church properties for public purposes. Six Vienna priests were arrested October 17 on charges of inciting Catholic demonstrations against the government. In a statement read in the Catholic churches October 23, Cardinal Innitzer denied that he had instigated hatred against Hitler, the government or the Nazi party, but insisted that a bishop must carry out his duty to God and the Church.

The widening breach between Church and State in Austria was marked by numerous withdrawals of Roman Catholics from the Church. This trend was facilitated by an order issued by Governor Seyss-Inquart on November 15, repealing the law of August, 1933, which placed serious obstacles in the way of persons desiring to secede from the Church.

A cooling of enthusiasm over Austro-German union was noted in other Austrian circles also. Bitter resentment was reported among Austrian Nazis at the numerous German officials and civilians who took over many of the most profitable and important positions in government and private business. The systematic eradication of cherished Austrian traditions and customs and the German insistence that the Austrians abandon their easy-going ways and get down to hard work also aroused antagonism. But as the Nazi machine consolidated its hold upon the country, such opposition found fewer and fewer opportunities for expression.

Austria's Foreign Debt. On April 29 the German Minister of Economics issued a decree applying in Austria, as of April 30, the German transfer moratorium law of June 9, 1933, as amended, and other German legislation on the treatment of foreign debts. On June 1 the service on Austria's foreign debt was defaulted. This default evoked strong protests, addressed to Berlin, from the United States and from eight other governments—France, Great Britain, Belgium, the Netherlands, Sweden, Denmark, Czechoslovakia, and Switzerland—that had guaranteed various postwar foreign rehabilitation loans to Austria. Austrian debts to the United States totaled \$64,493,480, of which \$26,005,480 was owed to the Washington Government for postwar relief loans and the balance consisted of debts to private American citizens represented by nine different dollar-bond issues floated in the United States by Austrian provinces, municipalities, and public utilities.

Great Britain and some of the other countries having unfavorable trade balances with Germany forced the German Government to agree to reimburse them for any sums paid in respect of their guarantee of Austrian loans. Germany also agreed to meet the full service on British-held Austrian bonds. However, the demands of the United States and other governments not in a position to deduct Austrian loan service funds from payments due German exporters remained unsatisfied.

See GERMANY under *History* for other developments.

AUTHORS' LEAGUE OF AMERICA. A national organization of authors, dramatists, radio writers, and screen writers. It was founded and incorporated in 1912 for the purpose of procuring adequate copyright legislation, both international and domestic; protecting the rights and property of all those who create copyrightable material; advising all such in the disposal of their productions and obtaining for them prompt remuneration therefor; and disseminating information among them as to their just rights and remedies. The League includes the Dramatists' Guild, the Authors' Guild, the Radio Writers' Guild, and the Screen Writers' Guild. Closely affiliated with it is the Authors' League Fund, an agency formed by the League to meet its obligations with respect to the care of the sick, the aged, and the unfortunate. The officers in 1938-39 were: President, Marc Connelly; vice-president, Elmer Davis; secretary, Inez Haynes Irwin; treasurer, Luise Sillcox. Headquarters are at 6 East Thirty-ninth Street, New York City.

AUTOMOBILE RACING. See SPORTS.

AUTOMOBILES. From the second highest production in its history that of 1937, the highest having been 1929, the automobile industry dropped back in 1938 to its lowest production since 1933. The total cars and trucks turned out by American companies in their domestic and Canadian plants were 2,635,000, a decline under 1937 of 47 per cent. Such was the effect of the recession that began in the fall of 1937 and lasted just about a year, for along with other indices of business, automobile production and sales showed an upturn in the final quarter.

Anticipating the slump in sales of 1938 models, the manufacturers had so curtailed their production, to avoid an overstock in dealers' hands at the end of the model year, that when demand did begin to increase, it was necessary to rush work on the 1939 models and put them on the market earlier than usual. Normally, announcement of new models would have been withheld until shortly before the opening of the National Automobile Show in New York on Armistice Day. Unfortunately for interest in this show and the local shows immediately following, the public was already familiar with the new cars and attendance consequently suffered.

The new model season started with dealers in a far more favorable situation than a year ago. Last winter the dealers had to carry over distressingly large stocks of new and almost new cars. In an effort to mitigate their plight the manufacturers undertook a thing that is without precedent. At the instance of the Ford Motor Company the passenger car building members of the Automobile Manufacturers Association united in the promotion of "National Used Car Exchange Week," to underwrite which, a fund of a million and a quarter was subscribed. The theme of the campaign was "Change your old car for a better one," and the burden of the publicity, the advantages of more modern transportation at exceptionally low cost. The week designated was March 5 to 12 and the first general publicity launched about a week in advance. It proved impossible to accurately appraise the benefits. Some dealers were highly enthusiastic in their reports, others more than displeased.

The year-by-year changes in automobiles habitually reflect the previous model's volume of business. If business was good the changes were few. Presumably the public was well satisfied with the

product. But whether or no, if business was poor there follows an unusual crop of improvements to enhance the appeal of the new line. The 1939 models proved the rule for they have little resemblance to the 1938 cars, whereas the latter had little to distinguish them from their immediate predecessors.

Externally, the most noticeable changes were in the front- and rear-end treatments of the design, a general widening of the body and an increase in glass area. A year ago two cars had grills in the "catwalks" (the spaces between fenders and the hood), as the main or accessory openings for the radiator cooling air. Now 11 more makes have them. Through ducts behind the grills the air is led to a conventional radiator in the accustomed location in most lines. In several cases much of the former opening directly in front of the radiator is covered, but in all there is probably some increase of air-intake area which should make for greater radiator efficiency, so the popular notion that this is merely a style fad is perhaps not quite fair.

Hardly any better reason than that can be given for the more general adoption of head lamps in the fenders, first introduced many years ago by Pierce-Arrow. They were then on top of the fender but now in the nose in front of the wheel. They do better define the width of the car and may give better near light on the road and less offence to approaching drivers unless very badly aimed. Whether they give as good distant light as when mounted higher is a question, and they certainly are more exposed to injury and likelihood of being thrown out of adjustment by a fender bump. Such arguments against them may be expected from those who retain them in the catwalks or on the hood sides.

And better visibility all around was a universal improvement in the 1939 models. Higher and wider windshields and larger side and rear windows will make for greater safety, and the also generally widened front seats will make that seat now as comfortable for three people as the rear seat, since the gear shift in the floor has disappeared. Putting the gear-shift lever under the steering wheel is the outstanding interior change. Hudson has had the "electric hand" under the steering wheel as an option at extra cost for the past four years. Last year Graham, Studebaker, and Nash had vacuum-operated shifts on the dash as optional extras, and Cadillac, La Salle, and Pontiac, mechanical shifts under the steering wheel. This year all but one or two lines have mechanical shifts on the steering column or under the dash as standard equipment. With their adoption by all Ford lines for the first time, hydraulic brakes also became practically universal. Many others had them before and a few have had them for years. So 1938 saw the passing of mechanical brakes as well as the "wobble-stick" gear shift. Another definite trend is what Nash pioneered last year, a combination of ventilating with heating. Many makes this year have made provision that, when a heater is installed, it will not merely circulate the air within the car, but will pass through it only fresh air taken in from above the cowl or, as in the Studebaker, from under the running board. Nash has improved its heater by the addition of a "weather eye," a thermostat that maintains within the car whatever temperature it is set for, regardless of outside temperature.

Many other improvements of greater or less importance were found on the new cars but few real innovations. Packard became the first to use a

transverse shock absorber. Hudson brought out the Autopoise control, a sort of steering stabilizer that tends to hold the wheels on a straight course. Side winds suddenly encountered are less likely to swerve the car and even a front wheel blowout at high speed is less dangerous, it is claimed. The Chrysler lines supplied a safety-signal speedometer that shows a green light at speeds up to 30 miles, amber from 30 to 50, and red over 50 miles an hour. Rotary door latches on Studebaker last year are now on four more. The doors can be closed by pressure without slamming. A sliding panel in the roof, called the sunshine top, heretofore featured in a taxicab, are optional on Oldsmobile, Buick, Cadillac, and La Salle. European cars introduced the practice. Coil rear springs first used on Buick last year were added to Oldsmobile. Chevrolet's diaphragm spring clutch was adopted by Pontiac and Buick. New in their use of independent front-wheel suspension were Plymouth and Dodge. Nash's and Oldsmobile's adoption of hypoid rear axles leaves only four not yet using them. Three more cars adopted alligator hood lids, Pontiac, Nash, and Hudson. Improved front and rear suspensions, steering geometry, engine mountings, overdrives, body mounting and insulation, and automatic carburetor chokes about sum up the important things to which several makers gave attention.

Two more old and honored names in fine automobile construction passed into history this past year—Duesenberg and Pierce-Arrow—victims of the waning demand for very expensive cars, since so much of all that can be wished for is now available for so much less money. A new name, but sponsored by one of the oldest makers, was the Mercury, added to the Ford line to fill the gap between the DeLuxe Ford and the Lincoln-Zephyr. Like the Ford it is a V-8 but of slightly greater horsepower and size. General Motors expanded their lines by adding another six to each of the Pontiac and Oldsmobile products. Willys revived the Overland name, giving it to another four-cylinder car slightly larger and in a price class just above the Willys that has been its only line since the reorganization of the company a few years ago.

Statistics. *Preliminary Facts and Figures of the Automobile Industry* released by the Automobile Manufacturers Association at the end of the year was the source of the figures given in the following:

The total production of cars and trucks in the United States and Canada, mentioned at the start of this résumé as a decline of 47 per cent from the previous year, consisted of 2,110,000 passenger cars and 525,000 motor trucks having wholesale values estimated at \$1,283,000,000 and \$333,000,000, respectively. An added \$980,000,000, as the wholesale value of parts, accessories, and tires for replacement, and service equipment, brought the total of the industry's estimated wholesale business to \$2,596,000,000, which was nearly 41 per cent below that of 1937. Better sales in the fall made the final quarter nearly as good as the last one of 1937. For cars and trucks there was only a 7 per cent difference in number of units sold which gives hope for an output of 3,500,000 vehicles in the calendar year 1939.

Again export business was a heavy factor in total sales, the value of motor vehicles, parts, and tires exported from the United States and Canada amounting to \$286,340,000. The number of motor vehicles sold outside of the United States, including exports from this country and the output of Canadian plants of American firms, was 492,000. While

this was down 28 per cent from the previous year, its percentage of the year's total production was a new high of 18.7 per cent as compared with 13.6 per cent the year earlier. Very nearly one of every five cars produced last year was sold abroad.

There was almost no decline in the number of cars in use—only 1 per cent. The registration of cars in this country was 25,150,000 and trucks 4,250,000. The combined registration of 29,400,000 is now 68 per cent of world registration (42,900,000). Ten years ago this country had 77 per cent of the world's automobiles. That foreign countries are so increasing their use of motor vehicles is partly the result of our extensive sales abroad in the past few years, but mainly because more foreign car manufacturers have adopted mass production methods, bringing car prices within the reach of more buyers.

Employment did not suffer quite so great a decrease as production. The workers in automobile, body, and parts factories averaged last year 304,000 and the weekly payroll \$8,650,000, declines of 41 and 44 per cent, respectively, from the 1937 figures. Also employment was fairly stable as it has been since 1935 when the industry adopted the practice of starting its model year in the late autumn. The low month last year was September with 261,000 employees and the high the November-December average of 412,000. The weekly average payroll increased at the same time from \$8,366,000 to \$13,200,000.

A record that never seems to fall much despite business conditions is the total taxes paid by motor vehicle users. Last year it dropped less than 4 per cent to \$1,525,000,000, and again gasoline taxes made up considerably more than half—\$970,000,000, being the amount collected by Federal, state, and municipal governments. However, the percentage of motor-user taxes to all taxes from all sources, Federal, state, and local, has ceased to mount, being 14 per cent last year.

Truck users continued to bear the heaviest tax burden in proportion to their number. To run the 4,250,000 trucks in use, cost in special motor truck taxes alone \$405,000,000. Other interesting figures concerning truck and bus operation are that they give employment to 3,100,000 drivers, that the number of operators of fleets of five or more was 29,750, and that the trucks in such fleets numbered 929,612. Last year there were 17,000 buses built, bringing the number now in use up to 133,000.

The suppliers of raw materials used by the automobile industry, particularly those from which it is the largest purchaser, inevitably felt the slump in car production, the exception being the petroleum refiners or those who rely on the after-market to car users. Proportionally, however, there was not much change in the percentages of automobile industry purchases to total output. The gasoline used by motor vehicles was 90 per cent of the total refined and was estimated to have been 19,200,000,000 gallons of a retail value, including taxes, of \$3,740,000,000. Other total figures are not available but the automobile industry consumed approximately 80 per cent of the rubber produced, 77 per cent of the plate glass, 37 per cent of the lead, 29 per cent of the nickel, 16 per cent of the steel, 13 per cent of the copper, 10 per cent of the tin, 9 per cent of the aluminum, 9 per cent of the zinc, and 4 per cent of the lumber and hardwood. The railroads of course shipped fewer new cars from the factories to dealers; nevertheless, their carloads of automotive freight declined only 14 per cent to 3,200,000.

Legislation. Comparatively little new legislation that affected motor-vehicle makers, sellers, or users was enacted in 1938. Much of it was gratifying to these interests, more was relatively inconsequential, and none was really disturbing. Many enactments merely amended existing laws the better to carry out their provisions and define their application, or to exempt those not intended to be affected, or to strengthen or clarify enforcement.

Besides reaffirming the Congressional pronouncement against the practice of diverting state funds to other than highway purposes, guaranteeing that the penalties already provided will be continued, it added to the Act of 1936 a section providing that, after two years, the Secretary of Agriculture shall not approve any project submitted by any state that has not enacted and is not enforcing an adequate uniform code of safety, "particularly with respect to the licensing of drivers and the operation of vehicles."

Compulsory motor vehicle inspection was much opposed when first adopted in most of the 23 states that now require it or permit municipalities to do so, but if experience shows it lowers accident records, objections to it on account of cost, inconvenience, and even the possibility of abuses in its administration will have less weight. Last year Mississippi, South Carolina, and the District of Columbia authorized or provided for it once or twice a year.

Compulsory insurance is still in force in Massachusetts, but there only. The more generally accepted way of securing accident compensation where deserved is the safety-responsibility law now in force in 28 states (and District of Columbia), with the adoption of it last year by Illinois, New York, and Virginia. New York made it mandatory 'to revoke operators' licenses and registration certificates upon conviction of criminal negligence in the operation of a motor vehicle resulting in death.

However justifiable its defense may be in any given instance, resentment is prevalent to any diversion of money collected for the privilege of using the highways to other than highway use. The Hayden-Cartwright (Federal-Aid) act, as previously mentioned, discourages it and several states have adopted constitutional amendments prohibiting it. The voters of California, Michigan, and New Hampshire approved such amendments at the November elections.

Such diversions as were voted last year were for unemployment relief:

New York continued its two cents of emergency tax to June 30, 1939; Massachusetts its additional one cent to Apr. 30, 1941; Rhode Island made permanent the third cent of its tax, which was to have been removed July 1, 1938, appropriating it exclusively for relief; and Illinois amended its "Motor Fuel Tax Act" to permit Chicago to apply certain amounts of its allotments to relief and education with the proviso that Federal Aid withheld on that account would be deducted. New Jersey requested the Secretary of Agriculture to reconsider exacting a penalty against that state for diverting highway funds for emergency relief inasmuch as the state's policy is to repay such moneys to the highway fund.

Other state legislation follows:

There were no gasoline tax increases. Registration and driver's license fees and motor carrier taxes remained about the same. Kansas reduced the driver's license. Louisiana passed a new Vehicle Registration License Tax Act which, among other changes, reduced the additional tax on private trucks weighing over 10,000 lb. and provided for reciprocal treatment of out-of-state vehicles. Mississippi brought vehicles operated on any liquid fuel other than gasoline (Diesel-powered being thus included) under fuel and registration permit taxes corresponding to those applying to gasoline-consuming vehicles. Eighteen states now tax Diesel fuel the same as gasoline; 6 tax it but use a separate method of collection; 3 states tax it by imposing an

additional registration fee; 6 tax it in still other ways. Under their definitions of motor fuel 3 states and the District of Columbia could tax Diesel but do not and 6 more could but it is not certain that they do. Only 6 states remain that have no provision for taxing Diesel fuel. One state taxes it at a higher rate than gasoline and some charge a higher registration fee in addition to taxing the fuel. The trend is apparently to give Diesel fuel no advantage from the tax standpoint.

Privilege taxes came in for no increases and Mississippi reduced those on dealers in automobile accessories and tires, car washing, and automobile repair shops, the amounts ranging from a third to a half.

Size and weight limits of trucks were made more liberal in Mississippi, Louisiana, and South Carolina.

There is a trend to bring motor carrier regulation in the different states into agreement with the Federal Motor Carrier Act. Louisiana passed a very similar one for its regulating of common and contract carriers by the Public Service Commission. Mississippi also passed a new act regulating common and contract carriers, their operation, rates, charges, and services, providing a new schedule of fees based on carrying capacity instead of a mileage tax; New York brought motor carriers transporting property for compensation under state regulation, with certain exemptions, and Kentucky imposed a mileage tax on for-hire passenger-carrying motor vehicles and an annual tag tax, both based on seating capacity, replacing former tag, seat, and weight taxes. Kansas exempted from its port of entry law common carriers of passengers operating on regular routes between contiguous cities in "this and another state." Congress amended the Motor Carrier Act of 1935 in accordance with recommendations submitted by the Interstate Commerce Commission to perfect procedure and clarify the act, as a result of hearings held by the I.C.C.

Reciprocity, i.e., according certain privileges to out-of-state vehicles if their home states show the same courtesies, is being more and more extended. Mississippi and Georgia authorized negotiations with other states in that direction and Massachusetts exempted from the excise tax any vehicles registered and customarily kept in another state if that state imposes no such taxes on Massachusetts-registered vehicles.

Ohio enacted a Manufacturer's Certificate of Title law supplemental to and now integral with its Owner's Certificate of Title law that met with such favor from dealers and finance companies as to forecast the possibility of several similar enactments by 1939 legislatures. Twenty-seven other states and the District of Columbia now have Certificate of Title laws and two of them, Arizona and Wisconsin, require a manufacturer's "Certificate of Newness," which is not, however, an integral part of their laws.

Considerable legislation related to the improvement of the different states' highway systems, providing for financing their extension and maintenance, planning studies, and administration authority.

A few general business laws were passed that affected the automobile business in common with others, among them Mississippi's "Fair Trade Act," prohibiting selling below established resale prices, trade mark, branded, or named commodities and Virginia's "Unfair Sales Tax," forbidding advertising for sale or selling under cost.

The most important Federal legislation included:

The Federal-Aid Highway Act of 1938. This authorized the appropriation of \$350,000,000 for the fiscal years ending June 30, 1940, and 1941, with an additional \$8,000,000 for an emergency relief fund to repair highways and bridges damaged or destroyed by floods, hurricanes, etc. The act directed the Chief of the Bureau of Public Roads to investigate and report upon the feasibility of building super-highways not exceeding three north and south and three east and west, and the feasibility of a toll system on such roads.

The "Fair Labor Standards Act." This provided for maximum work weeks at regular rates of 44 hours for the first year after enactment, 42 hours for the second year, and 40 hours for each year thereafter and minimum wages per hour of 25¢ for the first year, 30¢ for the next six years, and 40¢ thereafter, unless a lower (not less than 30¢) is necessary to prevent substantial curtailment of employment. The Act is to be administered by a Wage and Hour Division in the Labor Department under the direction of an administrator. The administrator shall appoint for each interstate industry a committee equally composed of representatives of the public (one of whom shall be chairman), employees, and employers. Motor carriers subject to the I.C.C. are exempt from the maximum-hour requirements. Effective October 1 the Interstate Commerce Commission prescribed a maximum driving day of 10 hours to be followed by an eight-hour off-duty or rest period or a weekly limitation of 60 hours on duty for truck and bus drivers of common and contract carriers.

The Withrow Resolution. This directed the Federal Trade Commission to investigate distribution policies of automobile manufacturers and sales policies of retail dealers. The Commission was to consider the following and report to Congress within a year:

1. The extent, if any, of monopoly and concentration of control in the manufacturing and distribution of automobiles and accessories.

2. The extent, if any, to which unfair and injurious methods are employed, including monopolies, price fixing, or unfair trade practices.

3. The extent, if any, to which the anti-trust laws are being violated.

See BUSINESS REVIEW; INSURANCE; MICHIGAN. **AZERBAIJAN** (ä'zër-bi-jän) **SOVIET SOCIALIST REPUBLIC.** One of the 11 constituent republics of the U.S.S.R., according to the new constitution, adopted Dec. 5, 1936. It includes the Nagorno-Karabakh Autonomous Province and the Nakhichevan Autonomous Soviet Socialist Republic. Area, 32,956 square miles; population (Jan. 1, 1933), 2,891,000. Baku, the capital, had 709,500 inhabitants. During the 1937-38 school year 582,000 pupils were enrolled; there were 80 higher and technical schools. The chief products are kitchen, garden, and vine produce, cotton, grain, silk, and tobacco. The production of raw cotton in 1937 totaled 207,000 tons. In 1938 there were 358,644 acres of spring sowing, by collectives, of chief grain crops. Cattle-breeding occurs in the mountain regions. The production of oil is the most important industry, the output per day, in 1937, totaling 60,000 tons. Fishing, copper, salt, and textiles are other industries. See UNION OF SOVIET SOCIALIST REPUBLICS.

AZORES, a-zōrz'. A group of nine islands (São Miguel, Santa Maria, Pico, Terceira, São Jorge, Fayal, Graciosa, Flores, and Corvo) 800 miles west of Portugal of which it is, administratively, a province. Area, 922 square miles; population (1930), 253,935. Chief towns: Ponta Delgada, capital, 18,022 inhabitants; Angra, 10,642; Horta, 7643. Oranges, pineapples, olives, grapes, and bananas are the important products. In 1937 there were 600 miles of roads.

During the summer of 1938 Deutsche Lufthansa seaplanes made a number of transatlantic survey flights between the Azores and Port Washington, L. I., in preparation for a regular transatlantic service. In July the Imperial Airways "pickaback" seaplane, *Mercury*, left the Azores for Southampton, Eng., on its return transatlantic survey trip from Port Washington, L. I.

AZOV-BLACK SEA TERRITORY. See RUSSIAN SOVIET FEDERATED SOCIALIST REPUBLIC.

BADEN. See GERMANY.

BADMINTON. See SPORTS.

BAHÁ'Í FAITH. A religion upholding the principle of the oneness of mankind and asserting that the world has entered a new cycle of evolution in which will be established a world order and universal peace. Its Herald was Mirza Ali Muhammad, known as the Báb (the Gate), whose announcement on May 23, 1844, revealed the dawn of the new day. The Báb was martyred in the city of Tabriz on July 9, 1850, by order of the government instigated by Mohammedan leaders. Its Author and Source was Bahá'u'lláh (Glory of God), who ascended in 1892 at 'Akká, Syria, after 50 years' imprisonment and exile. Bahá'u'lláh's eldest son 'Abdu'l-Bahá (Servant of Bahá), the appointed Interpreter and Exemplar of the Faith, promulgated its teachings in the Orient and Occident, traveling through Europe and America between 1911 and 1913. Since 1921, Shoghi Effendi, 'Abdu'l-Bahá's grandson, has been Guardian in accordance with 'Abdu'l-Bahá's testament.

The administrative order of the faith contains local, national, and international institutions and is regarded by Bahá'ís as the true pattern of world

unity. The local community elects annually a spiritual assembly of nine members who are responsible for local Bahá'í activities and welfare. The community also elects delegates to an annual meeting at which is elected a national spiritual assembly of nine members. The national assemblies will in future be electoral bodies for the formation of an international assembly, of which the Guardian will be the chairman. During 1938 seven new local spiritual assemblies were established in the United States and Canada, and the number of delegates elected to the thirtieth and subsequent annual conventions was increased from 95 to 171. The contract for external decoration of the gallery story of the House of Worship at Wilmette, Ill., begun in October, 1937, was nearly completed by the end of 1938, and plans have been adopted to finish the external decoration by 1944. American Bahá'ís have established local assemblies in Budapest and Mexico City during the current year. There are now 78 assemblies in North America, with expectation of an increase to 84 by Apr. 21, 1939.

Bahá'í property in America, representing a value of about \$1,230,000, includes the House of Worship at Wilmette, Ill., Green Acre, Eliot, Maine, the Bahá'í Summer School, Geyserville, Calif., a house at Malden, Mass., and the national office, 130 Evergreen Place, West Englewood, N. J.

The Bahá'í literature of fundamental importance includes: *Prayers and Meditations by Bahá'u'lláh*, *Gleanings from the Writings of Bahá'u'lláh*, *Tablet of Iqán* (Book of Certitude), *Hidden Words*, and *Tablets*, by Bahá'u'lláh; *Some Answered Questions*, *Promulgation of Universal Peace*, *Tablets*, and *Mysterious Forces of Civilization*, by 'Abdu'l-Bahá; *Bahá'í Administration and The World Order of Bahá'u'lláh*, by Shoghi Effendi. Official publications in the United States and Canada are: *World Order*, a monthly magazine, *Bahá'í News*, *The Bahá'í World* (a biennial international record). The world center is at Haifa, Palestine.

BAHAMAS, ba-há'maz or ba-há'maz. A group of British islands in the West Indies, extending from Florida to the island of Haiti. Land area, 4400 square miles; population (Jan. 1, 1938, estimate), 66,908 compared with 59,828 (1931 census). The chief islands are New Providence (containing Nassau, the capital); Eleuthera; Andros; Long Island; Abaco; Cat Island; Exuma; Fortune Island group (including Long Cay, Acklin's, and Crooked Islands); Grand Bahama; and Inagua. During 1936 there were 1973 births, 1127 deaths, and 574 marriages.

Production and Trade. Shell (conch and tortoise), sponge, cascarilla bark, tomatoes (raw), sisal, pine timber, and salt are the main products. Livestock (1936) was: Horses, 2300; horned cattle, 2650; sheep, 19,925; goats, 11,282; swine, 6080; poultry, 34,900. In 1936, 2372 steamers and sailing vessels (3,323,623 tons) entered and cleared at the ports of the colony. During the season of 1936—January to March—a total of 19,876 people visited the Bahamas. There were (in 1937) 419 miles of roads. In 1937 total imports were valued at £1,213,544; total exports, £211,636, of which sponge (783,298 lb.) accounted for £95,350.

Government. For 1937 revenue totaled £513,926; expenditure, £419,235; public debt, £188,000. The Bahamas are governed by a governor assisted by an executive council of 9, a nominated legislative council of 9, and an elected house of assembly of 29 members. Governor and Commander-in-Chief, Charles C. F. Dundas (appointed May 21, 1937).

History. The government in June, 1938, was raising loans for the reconstruction of the telephone system (£30,000) and the electrical power system (£35,000) in New Providence. In August the finance committee of the executive council of the house of assembly recommended that the air service to Miami of two planes weekly should be increased to three planes weekly. During the same month the government announced that it intended to reform the election act, notably by the introduction of the ballot box instead of the present system of voting by word of mouth. On December 1, an agreement for a regular all-year steamship service between New York and the Bahamas, to commence in the spring of 1939, was announced by J. H. Jarret, colonial secretary of the Bahamas, who was in New York conferring with officials of the Cunard White Star Line.

BAHREIN ISLANDS. See ARABIA.

BAKER, HOWLAND, AND JARVIS ISLANDS. Three small islands claimed by the United States which fringe the equator in mid-Pacific, situated approximately 1000 miles south and southwest of the Hawaiian Islands. Baker Island is at longitude 176° 31' W., Howland at approximately longitude 177° W., and Jarvis at longitude 160° W. They lie athwart the principal steamship lanes and the proposed Pan American Airways route from Honolulu to New Zealand and Australia. These previously uninhabited islands were occupied as aerological stations during 1936 by the U.S. Department of the Interior (see 1936 YEAR BOOK). An airfield was leveled off at Howland Island in 1937.

BALEARIC ISLANDS. A group of islands in the Mediterranean off the east coast of Spain, forming a province of that country. Area, 1935 square miles; population, estimated Dec. 31, 1934, at 376,735. Capital, Palma (population, 93,014), on Majorca, the largest island of the group. Minorca and Iviza are the other chief islands. When the Spanish civil war broke out in July, 1936, Majorca and Iviza were captured by the Insurgents while Minorca was held by the Loyalist Government. The Insurgent-held islands in 1937 and 1938 were used as a base from which Italian air squadrons raided Barcelona, Valencia, and other Loyalist cities. See SPAIN under *History*.

BALI. See NETHERLANDS INDIES.

BALKAN ENTENTE. A bloc of Balkan states—Greece, Rumania, Turkey, and Yugoslavia—which by the treaty of Feb. 9, 1934, mutually guaranteed their frontiers against aggression by any of the Balkan countries. The treaty bound the four governments to undertake no political action and assume no political obligation toward any Balkan country not a signatory of the pact without the consent of the other contracting parties. In general they agreed to adopt a unified foreign policy on inter-Balkan issues. The entente represented an effort to stabilize the territorial status quo in the Balkans and at the same time to free the Balkan states of their traditional diplomatic dependence upon the great powers.

The Council of the Balkan Entente met at Ankara, Turkey, on Feb. 25–27, 1938, with President Atatürk, the Premiers of Greece, Turkey, and Yugoslavia, and the Rumanian Under-Secretary of Foreign Affairs in attendance. The conference ratified decisions of the preceding Economic Council. It issued a communiqué reaffirming the Entente's solidarity and announcing the following policies: Loyalty to the League of Nations on the basis of equality with other League members;

co-operation with Britain, France, and Italy for peace in the Mediterranean; recognition of Italy's conquest of Ethiopia; maintenance of non-intervention in Spain but the exchange of economic agents with the Insurgent Franco Government; non-interference in internal policies of other states and non-tolerance of interference in their affairs by other states.

The long negotiations of the Balkan Entente for a settlement with Bulgaria led to the conclusion at Salonika on July 31 of a treaty of "perpetual peace and friendship," signed by Premier Metaxas of Greece as President of the Balkan Entente and Premier Kiosseivanov of Bulgaria. The Entente agreed that Bulgaria might restore conscription and rearm at will in return for the latter's pledge to seek revision of her boundaries only by peaceful means (see BULGARIA under *History*). However, the Anglo-French capitulation to Hitler at Munich in September and the partition of Czecho-Slovakia encouraged the agitations in Bulgaria and Hungary for restoration of their lost territories. Late in November the chiefs of the Balkan Entente general staffs met to discuss the rising threat to their territories and to plan for mutual defense against the revisionist powers. However, the increasing economic dependence of all four Balkan powers upon Germany, the development of Nazi movements in Rumania, Greece, and Yugoslavia, and the Reich's growing military power all tended to make these countries pawns of the great powers and to nullify the Entente's basic policy.

See BULGARIA, GERMANY, GREECE, HUNGARY, RUMANIA, TURKEY, YUGOSLAVIA, and other European countries under *History*.

BALKAN STATES. The states of the peninsula south of the Danube, and bounded by the Adriatic, Aegean, and Black Seas. See ALBANIA, BULGARIA, GREECE, RUMANIA, TURKEY, and YUGOSLAVIA.

BALTIC ENTENTE. A bloc comprising the three Baltic States—Estonia, Latvia, and Lithuania—established on a formal basis in 1934 for the mutual protection of their independence and promotion of joint economic, political, and cultural interests. By a treaty signed Sept. 12, 1934, and effective Nov. 30, 1934, the three governments agreed to co-operate on all joint questions of foreign policy, to confer together at least twice annually, to settle their mutual disputes peaceably, and to establish closer unity and collaboration among their diplomatic representatives abroad and at international conferences. All three States had previously concluded non-aggression pacts with the Soviet Union. For developments in 1938, see ESTONIA, LATVIA, and LITHUANIA under *History*.

BANGKA. See NETHERLANDS INDIES.

BANG'S DISEASE ERADICATION. See VETERINARY MEDICINE.

BANKERS ASSOCIATION, THE AMERICAN. The dominant national organization of banks in the United States, having a membership of nearly 14,000 banks out of a total of 15,500. Its four major divisions are devoted to the special interests, technical advancement, and general welfare of the following classes of banks: National, savings, State, and trust company. There also are two sections, the American Institute of Banking section and the State secretaries section. The former, which is the educational arm of the organization, has an enrollment of more than 44,000 students from banks in all parts of the country and a general membership of more than 62,500. The latter forms

a link between the national organization and the 48 State bankers' associations.

The association held its 1938 convention in Houston, Texas, November 14-17. The program took into consideration the importance of the outside point of view and brought together a group of leaders from the fields of business and research who presented a broad survey of the outlook for American business, for business research, for banking, and for American institutions. In addition, the program provided a series of technical discussions at departmental conferences to develop the latest information on the operations side of banking.

The national officers elected for 1937-38 were: President, Philip A. Benson, president of the Dime Savings Bank, Brooklyn, N. Y.; first vice-president, Robert M. Hanes, president of the Wachovia Bank & Trust Company, Winston Salem, N. C.; second vice-president, P. D. Houston, chairman of the board, American National Bank, Nashville, Tenn.; treasurer, M. H. Malott, president of the Citizens Bank, Abilene, Kans.; executive manager, Dr. Harold Stonier; secretary, Richard W. Hill. The national headquarters are at 22 East 40th St., New York City.

BANKHEAD-JONES ACT. See AGRICULTURAL EXPERIMENT STATIONS.

BANKRUPTCY. See LAW.

BANKS AND BANKING. A radical change in banking policy was effected during 1938. Whereas the Federal Reserve authorities in the preceding year sought to scale down sharply the excess reserves of member banks of the Federal Reserve System, in order to avoid what they regarded as the threat of excessive credit expansion, the severe recession in business that began late in 1937 led to a drastic reversal of this "tight money policy." At the same time, changes were effected in the rules governing bank examinations by both Federal and State supervisory authorities, so as to permit the acquisition of less liquid and less marketable assets by the individual commercial banks.

This fundamental change in banking policy is likely to have far-reaching significance. It marked a reversal of the more conservative policy initiated in 1936 and early in 1937 by Chairman Eccles of the Board of Governors of the Federal Reserve

a managed monetary system, and caused them to withdraw their opposition to the adoption of a wholly passive program as regards the enormous gold imports. Hence, late in 1938 excess reserves of member banks of the Federal Reserve System had risen to a new peak, materially exceeding the earlier high point of \$3,304,000,000 reached on Dec. 11, 1935. No measures were prepared to offset a further sharp increase in excess reserves toward the \$4,000,000,000 level due to the return flow of currency to the banks after the turn of the year.

The commercial banks of the country responded very slowly to the relaxation of loan and investment restrictions effected as part of the Administration's broad program to stimulate recovery adopted during the spring of 1938. However, the renewed decline in interest rates made the problem of earnings more acute than ever for many commercial banks. Whereas, in the 1935-37 period, substantial recoveries on investments and loans previously written off contributed to a material upturn in bank earning power, this was not the case in 1938, while the persistent decline in interest rates caused current operating income to contract. Earnings from trust departments also tended to decline because of the lower level of security prices and curtailed income from investments. Hence, bank dividends were reduced in many instances, and leaders among commercial banks regarded the problem of expanding bank earnings as one of the most urgent that they faced.

This problem was intensified by the decline in commercial loans during the year that accompanied the contraction in inventories throughout industry. These commercial loans yielded a relatively high return as compared to Government bonds and most short-term corporate obligations. The more conservative attitude with regard to inventories among business concerns, because of losses taken on excessive stocks accumulated during the preceding year, will cause the rise in bank loans to be relatively slow during the business recovery that began in the last half of 1938.

The principal assets and liabilities of the commercial banks insured by the Federal Deposit Insurance Corporation on June 30, 1938, with comparisons, were as follows:

PRINCIPAL ASSETS AND LIABILITIES OF INSURED COMMERCIAL BANKS

[In thousands of dollars—000 omitted]

	June 30, 1938	Dec. 31, 1937	June 30, 1937	Per cent change from Dec. 31, 1937	Per cent change from June 30, 1937
Reserve with Federal Reserve Banks	8,004,090	7,005,209	6,896,663	+14.3	+16.1
Other balances with banks	5,511,377	4,817,035	4,550,555	+14.4	+21.1
U.S. Govt. obligations, direct & fully guaranteed	13,525,194	13,669,352	13,964,712	- 1.1	- 3.2
Other securities	6,753,371	6,807,420	7,213,851	- .8	- 6.4
Loans, discounts, and overdrafts (incl. re-discounts)	15,696,082	16,717,467	17,014,623	- 6.1	- 7.7
Demand deposits (of individuals, partnerships, and corporations)	21,986,370	22,106,285	22,624,279	- .5	- 2.8
Time deposits (of individuals, partnerships, and corporations)	13,997,882	13,959,543	13,932,794	+ .3	+ .5
Total deposits	47,429,821	47,191,415	47,799,892	+ .5	- 1.8
Total liabilities and capital account	54,364,953	54,221,369	54,891,576	+ .3	- 1.0

System and his associates. They had repeatedly asserted that in the management of the nation's credit system they would be as ready to apply curbs when excessive expansion threatened, as to provide the stimulus of large excess reserves for the banks when they felt it desirable to foster business recovery with the spur of easy money. The fact that a very severe decline in business activity and in commodity prices followed so closely upon the adoption of restrictive credit measures, however, undermined the prestige of the advocates of

COMMERCIAL BANKS COVERED BY ABOVE REPORT

	June 30, 1938	Dec. 31, 1937	June 30, 1937
National banks, members Federal Reserve System	5,242	5,260	5,293
State banks, members Federal Reserve System	1,096	1,081	1,064
Banks not members Federal Reserve System	7,385	7,454	7,528
Total	13,723	13,795	13,885

The changes during the year in the position of the larger banks of the country, comprising the weekly reporting member banks of the Federal Reserve System in leading cities, were as follows:

ASSETS AND LIABILITIES OF WEEKLY REPORTING BANKS IN 101 LEADING CITIES

[In millions of dollars]

	Dec. 7, 1938	Change from Dec. 8, 1937
Assets		
Loans and investments, total	\$21,450	— \$39
Loans, total	8,460	— 1,049
Commercial, industrial, and agricultural loans	3,881	— 747
Open market paper	336	— 140
Loans to brokers and dealers in securities	838	— 108
Other loans for purchasing and carrying securities	571	— 83
Real estate loans	1,165	— 3
Loans to banks	124	+ 47
Other loans	1,545	— 15
U.S. Government deposits	8,087	+ 74
Obligations fully guaranteed by Government	1,685	+ 583
Other securities	3,218	+ 353
Reserve with Federal Reserve banks	7,395	+ 2,104
Cash in vault	458	+ 118
Balances with domestic banks	2,487	+ 684
Liabilities		
Demand deposits—adjusted	16,114	+ 1,407
Time deposits	5,127	— 56
U.S. Government bonds	533	+ 116
Inter-bank deposits		
Domestic banks	6,298	+ 1,302
Foreign banks	492	+ 84
Borrowings	1	— 12

Credit Control Policy. The first important step taken in 1938 to reverse the restrictive credit policies that had been pursued by the monetary authorities during the two preceding years was the announcement on February 14 that the Treasury would not sterilize additions to the nation's monetary gold stock in any quarterly period up to \$100,000,000. This meant that acquisitions of gold, chiefly through imports, up to this amount would be paid for by printing gold certificates that would be deposited in the Federal Reserve banks to the Treasury's credit. As these deposits were spent, the reserves of member banks increased accordingly. The adoption of this policy constituted a partial abandonment of the program of sterilizing gold (i.e. not allowing it to increase member bank reserves) by keeping it in the Treasury's inactive gold fund, adopted in December, 1936.

Two months later, as a part of a broad program of stimulating business recovery through a greatly enlarged Government spending program, two expansionist measures were taken by the credit authorities. First, the Treasury discontinued entirely the inactive gold account, and transferred \$1,392,000,000 of gold in the form of certificates to the Federal Reserve banks on April 14. Secondly, legal reserve requirements of member banks, which had been increased in August, 1936, and again in March and May, 1937, so that they were twice the percentages in effect previously, were reduced by an average of approximately 13 per cent. This was designed to increase excess reserves of member banks of the Federal Reserve System by some \$750,000,000. Legal reserve requirements of member banks before and after this action was taken compared as shown in table in next column.

During the summer and fall of the year additional large imports of gold were received in the United States, and the Treasury did not reimburse itself for the cost of this yellow metal immediately by depositing gold certificates with the Federal Reserve banks. Although the inactive gold account

LEGAL RESERVE REQUIREMENTS OF MEMBER BANKS OF THE FEDERAL RESERVE SYSTEM

Classes of member banks and of deposits	Prior to April 16 Per cent	Beginning April 16 Per cent
Demand deposits:		
Central reserve city banks	26	22¾
Reserve city banks	20	17½
Country banks	14	12
Time deposits:		
All classes of member banks	6	5

was not formally re-established, the same effect was obtained by permitting a large amount of gold to accumulate in the Treasury's general account against which no gold certificates were deposited. However, the purpose of this procedure was merely to feed out excess reserves to the banks more gradually, rather than to increase them abruptly and then run the risk of wide fluctuations. Before the end of the year, as already noted, these developments and the further heavy influx of gold resulting from transfers of capital to this country on account of war fears abroad had brought excess reserves to a higher level than ever before.

It will be noted from the above that the Treasury and Board of Governors of the Federal Reserve System, which had been reported at odds over the restrictive credit policy pursued early in 1937, apparently co-operated fully in reversing that policy during 1938. The question of co-ordinating monetary policy for the future received increasing attention, and preliminary discussions of new banking legislation in large part revolved around more centralized control over monetary and credit measures. One step in this direction taken late in the year was the establishment of a temporary Advisory Board on Monetary and Fiscal Problems by President Roosevelt. This advisory board comprised the Secretary of the Treasury, the Chairman of the Board of Governors of the Federal Reserve System, the Acting Director of the Budget and the Chairman of the Natural Resources Committee.

Enormous imports of gold during the fall of the year in connection with the European crisis over Czecho-Slovakia revived discussion of the need for eventually limiting the gold inflow in the interests of effective credit control. Large-scale shifts of "nervous money" to the United States had brought unprecedented imports of the yellow metal since early in 1935, and despite repeated efforts to discover a means for checking these gold arrivals, no effective measures could be found that were not open to serious objections on other grounds. By the end of the year, no progress had been made in solving this vexatious problem, and the expansion of member bank reserves was permitted to go on unchecked.

Excess reserves of member banks of the Federal Reserve System rose from month to month during 1938 as follows:

RESERVE POSITION OF MEMBER BANKS

[In millions of dollars]

End of month	Total reserves	Excess reserves ^a
January	7,237	1,383
February	7,248	1,415
March	7,287	1,546
April	7,623	2,548 ^b
May	7,665	2,568
June	8,024	2,875
July	8,164	3,022
August	8,179	2,941
September	8,198	2,869
October	8,713	3,227
November	8,876	3,383
December	8,724	3,205

^a Estimated. ^b Reserve requirements reduced by a little more than 13 per cent.

Federal Reserve Banks. The only important positive step taken by the Federal Reserve authorities during the year was the lowering of reserve requirements on April 16.

As a result of this reduction of reserve requirements, reserve funds were quite plentiful in all Reserve districts. Changes in the principal assets and liabilities of all Federal Reserve Banks during the year are shown in the following table:

PRINCIPAL ASSETS AND LIABILITIES OF ALL FEDERAL RESERVE BANKS
(In millions of dollars)

End of month	Gold certificates on hand and due from U.S. Treasury	Bills U.S. Treasury discounted	U.S. Government bonds	Treasury notes	Treasury bills	Federal Reserve notes in actual circulation	Member bank reserve deposits	Treasury deposits
January ...	9,116	12	728	1,172	664	4,138	7,237	150
February ...	9,174	10	715	1,175	674	4,139	7,248	180
March	9,913	13	749	1,166	665	4,142	7,287	316
April	10,641	9	657	1,192	715	4,148	7,623	1,320
May	10,639	9	657	1,192	715	4,157	7,665	1,157
June	10,636	8	744	1,165	655	4,149	8,024	860
July	10,633	7	744	1,191	629	4,135	8,164	721
August	10,632	7	744	1,196	624	4,169	8,179	720
September ..	10,908	8	789	1,165	609	4,253	8,198	853
October	11,262	7	787	1,165	612	4,315	8,713	535
November ...	11,602	7	787	1,165	612	4,385	8,876	484
December ..	11,788	7	841	1,157	566	4,470	8,577	941

Bank Regulation Changes. The business recession during the late months of 1937 and the early part of 1938 brought renewed criticism from the Administration of the failure of commercial banks to expand their loans rapidly despite their large reserves. Loans reflected a substantial increase until the latter part of 1937, and then they declined rapidly with liquidation of inventories by borrowers. Commercial bankers pointed out that they had every reason to make loans that were reasonably good, in order to increase their earnings, but that they should not make unsound loans. Also officials of the Federal Deposit Insurance Corporation issued warnings against the acquisition of questionable or speculative assets by banks. In addition, Federal and State supervisory authorities, in examining individual institutions, criticized slow and poor quality loans. By contrast, other Administration spokesmen chided the banks for not lending more freely.

Confronted by these conflicting views with regard to the types of loans and investments that they should buy, commercial banks urged upon the Administration the adoption of a more uniform and consistent attitude. In his message to Congress on April 14, announcing his new recovery program, the President expressed the hope that banking supervision would be co-ordinated "to facilitate the flow of credit to commerce, industry and agriculture." A series of conferences of Treasury and banking authorities followed, which resulted in an agreement upon a fundamental revision of bank examination procedure and modification of the regulations of the Comptroller of the Currency applicable to bond investments by member banks of the Federal Reserve System. State banking supervisors agreed to conform to the new methods.

Before the new regulations became effective on April 1, 1938, bank examiners had classified loans as "slow," "doubtful," and "estimated loss." Deductions were made on account of these three categories of loans in determining the net sound capital of a bank, so that commercial bankers were naturally loath to embark upon commitments that would be so classified. Obviously, they could hardly co-operate with the request of the Administration that they make longer-term loans to trade and in-

dustry, if they were to be penalized for such loans in the examiner's report.

The revised examination procedure substituted for these categories of loans a new classification in which the time of expected repayment of the loan no longer played a part. The older ideal of liquidity, to be achieved through short-term maturities, was thus abandoned, and in its place the test of the quality of a bank loan has been made merely the

likelihood of ultimate repayment. In future examination reports, loans are to be classified in the following four categories:

I. Loans or portions thereof the repayment of which appears assured. These loans are not classified in the examination report.

II. Loans or portions thereof which appear to involve a substantial and unreasonable degree of risk to the bank by reason of an unfavorable record or other unsatisfactory characteristics noted in the examiner's comments. There exists in such loans the possibility of future loss to the bank unless they receive the careful and continued attention of the bank's management. No loan is so classified if ultimate repayment seems reasonably assured in view of the sound net worth of the maker or endorser, his earning capacity and character, or the protection of collateral or other security of sound intrinsic value.

III. Loans or portions thereof the ultimate collection of which is doubtful and in which a substantial loss is probable but not yet definitely ascertainable in amount. Loans so classified should receive the vigorous attention of the management with a view to salvaging whatever value may remain.

IV. Loans or portions thereof regarded by the examiner for reasons set forth in his comments as uncollectible and as estimated losses. Amounts so classified should be promptly charged off.

Loans in the first two categories will be counted at full value in examiners' reports. Those in the third category will be reduced by 50 per cent, and those in Class IV will be deducted entirely in computing the net sound capital of a bank.

In the examination of bank bond investments henceforth, four groups of securities will be distinguished. Group I comprises obligations "in which the investment characteristics are not distinctly or predominantly speculative." These securities are to be carried at cost in the examiner's report, without allowance for either appreciation or depreciation. Group II includes securities which are "distinctly or predominantly speculative," as shown by the fact that they are not rated within the four highest grades by recognized rating agencies. Such securities will be valued at the average market price of the 18 months preceding examination, and 50 per cent of any net depreciation shown will be deducted from capital. The full depreciation must be taken on any defaulted securities and on stocks held. Furthermore, the new examination procedure requires that profits realized from the sale of securities must be used to write off investment losses and to establish adequate reserves against bonds

held, unless sufficient provision has already been made for such purpose. Only in that event is bond appreciation available for dividends.

At the same time, the Comptroller of the Currency revised his investment regulations to permit a bank to buy investment securities that had not been publicly distributed but were issued by established commercial or industrial concerns with demonstrated earning power. Such non-marketable securities could be purchased where the maturity was not more than 10 years and where at least 75 per cent of the principal was to be redeemed by periodic amortization payments.

These changes all tended to reduce the insistence of the regulatory authorities upon liquidity and marketability of bank assets, and to place the emphasis instead solely upon likelihood of ultimate repayment. This fundamental and significant change in emphasis was defended on the ground that the ability to obtain advances from the Federal Reserve Banks on all of their assets has made liquidity far less important for the individual bank. Among bankers, however, it was pointed out that individual banks embarked upon such a loan and investment policy with some peril, not only because of the losses they might incur but also because, under a changed management, the Federal Reserve Banks might not readily provide advances to member banks upon poor quality assets, despite the fact that they are authorized to do so in their discretion by the Banking Act of 1935.

A bill to place bank holding companies under strict regulation was introduced in Congress early in the year, but failed of passage despite Administration support. This measure was designed to check the growth of group banking, particularly on the Pacific coast. Near the end of the year, the S.E.C. began delisting proceedings against the Transamerica Corporation, largest bank holding company. This move was interpreted as an attempt to halt the growth of group banking in the Pacific coast area without awaiting special legislation.

Bank Portfolio Policies. The chief change in bank portfolio policy during the year was the contraction of commercial, industrial, and agricultural loans due to the recession in business and widespread reduction of inventories. The banks expanded anew their holdings of high-grade bonds, particularly late in the year.

Bank holdings of direct obligations of the U.S. Government were reduced during the first half of the year, but large new issues of Treasury securities to finance the deficit were freely absorbed by the banks in the closing months. As a result, a substantial increase in Government bond holdings was shown over the full year. The banks bought freely of fully guaranteed bonds of the Federal Government, particularly note issues floated by the

Reconstruction Finance Corporation and the Commodity Credit Corporation. Holdings of corporate securities increased moderately during the year.

The rising trend of business activity during the second half of the year was not accompanied by a material increase in bank loans. In part, this resulted from the fact that loans usually lag behind a rise in business activity, as many concerns are able to finance an initial rise in business out of their own resources and turn to the banks only when the upturn is further advanced. Secondly, a number of corporations were able to repay bank loans while others were expanding their obligations to the banks, owing to inventory liquidation on the upturn.

One problem that received increasing attention among bankers during the year was that of earnings. The further decline in the level of interest rates, the contraction in bank loans, and the fact that recoveries on assets previously written off were declining lowered the earning power of most banks. As a result, dividends were reduced in a number of cases and bank stock prices generally remained at relatively low levels, even after the security market turned upward in the final half of the year. The volume of bank deposits for the country as a whole at the end of the year was very near the 1929 level, but the capital funds of the banks of the country were substantially smaller. Sooner or later, with expanding deposits, a substantial increase in bank capital will be necessary in the interests of conservatism. However, with bank earnings at a relatively low level and declining, it is doubted that it will be possible to raise capital on reasonable terms. Furthermore, with operating expenses tending upward, a number of smaller banks may find that their earning power is inadequate to enable them to continue operations, thus leading to liquidations and to the contraction of banking services available to individuals and business enterprises in many communities.

The number of bank suspensions continued relatively small, and in nearly all instances depositors were protected by Federal deposit insurance. The Federal Deposit Insurance Corporation, unlike other Government agencies, consistently urged the banks to eschew speculative commitments and to pursue conservative investment and lending policies. It is very probable that the liberalization of bank loans and investment restrictions described above would have gone very much further had it not been for the opposition of the Federal Deposit Insurance Corporation to undue laxity in bank portfolio policies.

Changes in loans, investments, and deposits of reporting member banks of the Federal Reserve System, month by month, were as follows, as reported in the *Federal Reserve Bulletin*:

LOANS, INVESTMENTS, AND DEPOSITS OF REPORTING MEMBER BANKS IN 101 LEADING CITIES
[Monthly data are averages of weekly figures. In millions of dollars]

Month	Commercial, industrial, and agricultural loans	Loans to brokers and dealers in securities	Other loans for purchase or carrying of securities	All other loans	U.S. Government obligations		Other securities	Demand deposits adjusted
					Direct	Guaranteed		
January ..	4,462	825	623	3,227	8,118	1,131	2,899	14,438
February .	4,391	738	616	3,191	8,168	1,147	2,963	14,509
March	4,328	762	611	3,183	7,992	1,159	3,037	14,360
April	4,229	622	592	3,161	7,955	1,179	3,081	14,437
May	4,085	602	589	3,154	7,980	1,354	2,968	14,579
June	3,953	686	582	3,163	7,864	1,453	2,995	14,932
July	3,878	629	577	3,129	7,703	1,567	3,047	15,021
August ...	3,886	636	577	3,116	7,702	1,646	3,112	15,118
September .	3,893	675	578	3,122	7,957	1,668	3,185	15,377
October ..	3,904	669	576	3,133	8,084	1,682	3,275	15,688
November .	3,884	715	571	3,149	8,130	1,681	3,217	15,825
December 28	3,843	848	560	3,179	8,266	1,732	3,221	15,986

BAPTIST CONVENTION, NEGRO. See NATIONAL BAPTIST CONVENTION.

BAPTIST CONVENTION, NORTHERN. This body of the Baptist denomination, according to the *Annual* of the Northern Baptist Convention, was composed in 1938 of 36 conventions in 33 states, the District of Columbia, and Puerto Rico. It reported 403 local associations, 7603 churches, nearly 8000 ordained ministers, 51,139 baptisms during the year, 1,468,043 members, 6341 Sunday schools, and 1,039,870 Sunday school pupils. Church property was valued at \$196,491,545. The contributions for current expenses amounted to \$14,957,043, and for beneficence to \$3,355,169.

The thirty-first annual meeting of the Northern Baptist Convention was held in Milwaukee, Wis., May 26-31, 1938. Its general theme was "I send my church." The officers elected for 1938-39 were: President, Arthur J. Hudson, Cleveland, Ohio; first vice-president, Rev. C. Gordon Brownville, D.D., Pastor of Tremont Temple, Boston, Mass.; second vice-president, Mrs. Howard G. Colwell, Loveland, Colo.; corresponding secretary, the Rev. Maurice A. Levy, D.D., Williamsport, Pa.; recording secretary, the Rev. Clarence M. Gallup, D.D., New York, N. Y.; and treasurer, Harold J. Manson, Brooklyn, N. Y.

In 1938 the Northern Baptist Convention maintained 66 educational institutions, including 10 theological seminaries, 5 training schools, 18 colleges, 12 junior colleges, 11 academies, and 10 Negro schools. These institutions had 34,634 students, 2845 instructors, 750 buildings, property aggregating \$89,835,431 in value, endowments valued at \$130,037,742, and an annual income for the year of \$18,519,349. The leading denominational papers were: *Baptist Observer* (Indianapolis); *Baptist Record* (Pella, Ia.); *Missions* (New York); and *Watchman-Examiner* (New York).

The foreign mission field of the Northern Baptist Convention included Assam, Burma, South India, Bengal-Orissa, South China, East China, West China, Japan, Belgian Congo, and the Philippine Islands, with 522 missionaries. In 1938 churches numbered 3403, with 381,417 members; native workers, 9921; Bible schools, 2836, with an enrollment of 138,955 pupils; and hospitals and dispensaries, 85.

Headquarters of the General Council, the executive body to which is entrusted the work of the Convention between annual meetings, are at 152 Madison Avenue, New York, N. Y. In co-operation with its subsidiaries, the Council of Christian Education, the Council of Finance and Promotion, and the Council of World Evangelization, it administers the unified missionary and educational interests of the denomination and, together with some 27 committees, conducts the principal convention affairs. Two major boards are the Board of Education, which, with assets of \$358,960.21, cares for the work and property of the denominational schools and colleges, and the Ministers and Missionaries Benefit Board, which, with assets of over \$22,000,000, supervises the pension and emergency-aid work for ministers, missionaries, and their dependents. The American Baptist Home Mission Society is situated at 23 East Twenty-sixth Street, New York, N. Y.; the Baptist Young People's Union of America, at 203 North Wabash Avenue, Chicago, Ill.; and the American Baptist Publication Society, at 1701 Chestnut Street, Philadelphia, Pa.

BAPTIST CONVENTION, SOUTHERN. This body of the Baptist denomination was formed in 1845, when Southern Baptists withdrew from

the national organization on account of the slavery issue and also for the better administration of the work of the Convention. Since that time it has functioned, not as a new denomination, but as a separate organization for the purpose of directing missionary, educational, and general denominational work in the white Baptist churches of the Southern and Southwestern States.

According to the official *Handbook* for 1938 the Southern Baptist Convention comprised 18 State conventions, which reported 24,844 churches, 21,689 ordained ministers, 204,567 baptisms during the year, 4,595,602 church members, 23,311 Sunday schools with 3,211,707 Sunday school pupils, and 35,353 Baptist Training Unions with a membership of 742,201. Church property was valued at \$206,668,413. The contributions for current expenses and beneficence totaled \$32,265,687. The receipts of the Convention's boards in 1936 were as follows: Southern Baptist Foreign Mission Board (Richmond, Va.), \$1,077,996; Southern Baptist Home Mission Board (Atlanta, Ga.), \$508,454; Sunday School Board of the Southern Baptist Convention (Nashville, Tenn.), \$1,846,443; and Old Ministers Relief and Annuity Board (Dallas, Tex.), \$513,668.

The denomination maintained 73 schools and colleges, including 5 theological schools, 29 senior colleges, 21 junior colleges, and 18 academies, with a total enrollment of 23,086 students, 2232 ministerial students, and 1594 instructors. The educational endowment amounted to \$22,337,745, and property was valued at \$36,547,604. It also reported 24 hospitals (two fostered by the Southern Baptist Convention and 22 by the State conventions), valued at \$13,832,745 and treating 92,817 patients during the year; 19 children's homes, with property value of \$6,429,877 and accommodating 4147 children; and 3 homes for the aged.

The annual session of the Southern Baptist Convention was held in Richmond, Va., May 12-15, 1938. The various boards and agencies of the convention showed decided gains in receipts for the year. The director of the Work of Promotion in the Executive Committee, Dr. J. E. Dillard, led an "Every Member Canvass" during the week of Nov. 28 to Dec. 4, 1938, with the objective of securing weekly subscriptions totaling \$40,000,000.

The officers elected for 1938-39 were: The Rev. L. R. Scarborough, D.D., LL.D., of Ft. Worth, Tex., president; Dr. Wm. Wistor Hamilton, New Orleans, La., and Mr. Ralph A. Herring, Winston-Salem, N. C., vice-presidents; the Rev. Hight C. Moore, D.D., Litt.D., of Nashville, Tenn., and Mr. J. Henry Burnett of Macon, Ga., recording secretaries; and the Rev. Austin Crouch, D.D., of Nashville, Tenn., executive secretary, and the Rev. J. E. Dillard, D.D., of Nashville, Tenn., secretary of promotion. Headquarters are at 161 Eighth Avenue, North, Nashville, Tenn.

BAR ASSOCIATION, AMERICAN. A national organization, founded in 1878 to advance the science of jurisprudence, the administration of justice, harmony in legislation, and the observance of legal precedents throughout the United States, as well as to uphold the legal profession and promote good understanding among its members.

The Association's sixty-first annual meeting was held in Cleveland, Ohio, July 25-29, 1938. Arthur T. Vanderbilt, the retiring President, spoke at the opening session on "United We Stand." Other addresses and remarks of great interest were made by the Hon. Stanley F. Reed, Associate Justice of the Supreme Court; the Hon. Homer S. Cummings, Attorney-General of the United States; the

Right Hon. Lord Macmillan, Lord of Appeal in Ordinary, London, England; the Hon. Owen J. Roberts, Associate Justice of the Supreme Court; Mr. E. H. Coleman, K.C., the Under-Secretary of State for Canada; the Hon. Joseph B. Eastman, Interstate Commerce Commission; the Hon. William O. Douglas, Chairman of the Securities and Exchange Commission; and Leverett Saltonstall of Boston, Mass.

The membership of the Association in 1938 was approximately 30,800. Its official organ is the *American Bar Association Journal*. Frank J. Hogan, of Washington, D. C., was elected president for 1938-39; John H. Voorhees, of Sioux Falls, S. D., was re-elected treasurer; Harry S. Knight, of Sunbury, Pa., was re-elected secretary; Joseph D. Stecher, of Toledo, Ohio, was re-elected Assistant Secretary; and Thomas B. Gay, of Richmond, Va., was elected chairman of the house of delegates. The headquarters of the Association are at 1140 No. Dearborn St., Chicago, Ill.

BARBADOS, bār-bā'dōz. A British West Indian colony. Area, 166 square miles; population (Jan. 1, 1938, estimate), 190,939. Bridgetown, the capital and chief port, had 15,200 inhabitants. During 1937 there were 5670 births, 3511 deaths, and 946 marriages. The total average attendance in the 137 schools, for the year 1937, was 20,985.

Production and Trade. Sugar (128,239 tons produced in 1937) and cotton are the staple products. The sugar quota for 1938-39 was fixed at 109,200 long tons. In the fishing industry, 250 boats and 1000 persons were employed. For 1937 imports totaled £2,220,650; exports (including re-exports of £148,368), £1,646,709, of which sugar (100,806 tons) accounted for £911,255, and molasses (10,077,390 gal), £554,889. Great Britain supplied 41.2 per cent of the imports and took 43.7 per cent of the exports. In 1937 the 1105 vessels that entered Bridgetown had a net tonnage of 2,055,149. Roads extended 538 miles in 1937. In the same year 6014 tourists visited the colony.

Government. For the fiscal year ended Mar. 31, 1938, revenue amounted to £528,278; expenditure, £546,274; public debt, £442,220; sinking fund, £66,126. Government is administered by a governor, assisted by an executive council, an executive committee, a legislative council of 9 members, and an elected house of assembly of 24 members. Governor, E. J. Waddington (appointed, Jan. 14, 1938).

History. The West Indies Royal Commission, which arrived in Jamaica in October, 1938, was expected to reach Barbados during January. See JAMAICA under *History*.

A Dutch air service linking Barbados, Trinidad, Dutch West Indies, and Venezuela is to be placed in operation as soon as the airport under construction in Christ Church parish is completed.

BARLEY. The production in 1937 of 35 countries reporting to the International Institute of Agriculture was 1,401,037,000 bu., 11.2 per cent above the production in 1937 and 14.3 per cent larger than the average yield for the five years 1932-36. The 1938 area reported by these countries was 56,225,000 acres, being 2.4 per cent below the acreage in 1937 and 1.3 per cent above the five-year average. The production of the leading countries, not including the United States, the Soviet Republics, and countries in the southern hemisphere, was reported as follows: Germany including Austria 205,875,000 bu., Turkey 118,716,000 bu., and Canada 102,731,000 bu. The Soviet Republics reported an average yield of 320,058,000 bu. for the four years 1932-35 and Argentina, the leading barley-growing country

south of the equator, an average yield of 30,381,000 bu. for the five years 1932-36.

The 1938 production of barley in the United States as estimated by the Department of Agriculture was 252,139,000 bu., which was more than 14 per cent above the 1937 production, 71 per cent above the very short crop of 1936, and above 7 per cent larger than the average for the 10 years 1927-36. The harvested acreage of 10,513,000 acres in 1938 compared with 9,968,000 acres in 1937 and with 10,967,000 acres, the average for the 10 years. The average yield per acre, 24 bu., was 1.9 bu. above that of 1937 and 3 bu. more than the 10-year average. The 1938 production of the leading States reporting estimates was as follows: Minnesota 48,020,000 bu., South Dakota 28,930,000 bu., California 27,550,000 bu., Wisconsin 24,286,000 bu., Nebraska 21,526,000 bu., and North Dakota 21,318,000 bu. Nebraska reported an acreage of 916,000 acres in 1938, an increase of over 40 per cent above the acreage in 1937.

In the fiscal year ended June 30, 1938, the United States exported 17,614,000 bu. of barley and 178,000 bu. of malt, and imported 1,290,000 bu. of grain and 170,444,000 lb. of malt. The preceding fiscal year the exports were 5,153,000 bu. of grain and 128,000 bu. of malt and the imports 17,151,000 bu. of grain and 434,074,000 lb. of malt.

BARNARD, bār'nĕrd, GEORGE GREY. An American sculptor, died in New York, Apr. 24, 1938. Born in Bellefonte, Pa., May 24, 1863, his early life was spent at Muscatine, Ia. Apprenticed to a jeweler, in 1882 he went to Chicago where he studied at the Art Students' League, and subsequently at the École Nationale des Beaux Arts (1884-87), and the Atelier Cavalier. In 1894 he exhibited at the Champs de Mars Salon in Paris, and two years later he returned to New York, where he completed his bronze god "Pan." While professor of sculpture at the Art Students' League, New York (1900-04), he was invited to do the sculptural work for the Harrisburg, Pa., Capitol Building, consisting of two groups of 31 statues, one entitled "Broken Laws" and the other, "The Laws We Keep." Until 1911 he was busy on this project.

After 1910, Barnard settled in New York where he established his studio in "The Cloisters." Here was his collection of Gothic art numbering about 600 pieces. This property and the Cloisters were subsequently given to the City of New York through the generosity of John D. Rockefeller, Jr., and were opened to the public on May 10, 1938. See ART MUSEUMS. In the spring of 1935, he held an exhibition of his work for the first time in 20 years, having during this period been engaged on "A Monument to Democracy," popularly known as "Rainbow Arch." This was 100 ft. high and 60 ft. wide and included 400 incidental figures, and it was Mr. Barnard's hope that it would eventually find a permanent location as a national monument. At the time of his death he was working on a heroic statue of Abel realizing the treachery of Cain.

His best known works included "Pan" on the campus of Columbia University; a bronze statue of Abraham Lincoln (1917) in Manchester, England; "The Urn of Life" in the Carnegie Museum; "Maidenhood" in the cemetery at Muscatine, Ia.; "Hewer" in bronze at Cairo, Ill.; "Cupid and Venus" in Paris; "Maidenhood" in the collection of Blair Thaw; "Hewer," "Rising Woman," and "Adam and Eve" on the Pocantico Hills estate of John D. Rockefeller; 50 pieces at the Barnard Museum, Madison, Ind., and 200 at the Museum

in Swarthmore, Pa. Also, his Lincolnia including a bust for the French government, a marble shrine showing bust at Redlands, Calif., and the bust in the Metropolitan Museum of Art, New York. He received a gold medal at the Paris Exposition (1900), at the Buffalo Exposition (1901), and a special gold medal of the National Association of Sculptors, Painters, and Artists of France. Mr. Barnard held membership in the American Academy of Arts and Letters and in the National Institute of Arts and Letters.

BARRETT, JOHN. An American diplomat, died at Bellows Falls, Vt., Oct. 17, 1938. Born at Grafton, Vt., Nov. 28, 1866, he was educated at Worcester Academy (1884) and attended Vanderbilt University (1888) and Dartmouth College (A.B., 1889; hon. A.M., 1899). After graduation he entered journalism and was a member of the editorial staff of various newspapers on the West coast and did considerable traveling throughout the world until he became associated with the diplomatic service, being appointed American minister to Siam in 1894. During his tenure there, which lasted until 1898, he was instrumental in settling by arbitration the Cheek case, involving American claims of several million dollars.

With the outbreak of the Spanish-American War, Barrett resigned his diplomatic post to become a correspondent in Cuba and also to act as special diplomatic adviser to Admiral Dewey (1898-99). Thereafter, he was commercial commissioner in China, Japan, the Philippine Islands, Korea, Siberia, India, Australia, and Europe; American delegate to the second Pan American Conference held in Mexico (1901-02); and commissioner general to Asia, Australia, and Europe for the St. Louis Exposition, 1902-03.

Appointed American minister to the Argentine in 1903, in 1904 he was transferred to Panama, where he adjusted the complex relations of Panama-Colombia-United States-Canal Zone. He served as minister to Colombia in 1905-06 and negotiated the first protocol for settlement of the United States-Colombia disputes over the Panama Canal.

Upon the reorganization of the International Bureau of American Republics on Jan. 1, 1907, Barrett was elected director general. Realizing the possibilities of such an organization, he worked zealously for its enlargement and for the erection of its own building. On Apr. 26, 1910, the new building was dedicated, and at the 4th Conference in Buenos Aires in that year, the name of the Bureau was changed, at the suggestion of Mr. Barrett, to the Pan American Union. He held office until Sept. 1, 1920.

In 1912 he founded the Pan American Society of the United States; was a delegate of the United States and secretary general of the Pan American Scientific Congress (1916); organized and was president of the first Pan American Commercial Conference (1911) and also of the second (1919); president of the Pan American Advisory Association (1919-20); and member of the General Committee on the Limitation of Armaments (1921-22). Later he became chairman of the International Pan American Conference and was its adviser and arbitrator in domestic and international economic matters.

Recipient of honorary degrees and decorated by the Venezuelan and Chinese governments in recognition of his services, he wrote, besides numerous articles on Latin American affairs, *Admiral George Dewey* (1899); *Pan American Union—*

Peace, Friendship, Commerce (1911); *Panama Canal, What It Is, What It Means* (1913); *Pan American Commerce—Past, Present, Future* (1919); *Pan America and Pan Americanism* (1922), and *The Call of South America* (1924).

BASEBALL. See SPORTS.

BASHKIR AUTONOMOUS SOVIET SOCIALIST REPUBLIC. See RUSSIAN SOVIET FEDERATED SOCIALIST REPUBLIC.

BASKETBALL. See SPORTS.

BASQUE PROVINCES. The north central Spanish provinces of Alava, Guipúzcoa, and Vizcaya (Biscay). Total area, 2739 square miles; population, 947,559 (Dec. 31, 1934, estimate). The province of Navarra, which has a large Basque population, is not a part of the Basque Provinces. See SPAIN under *History*.

BASUTOLAND, ba-sōō'to-lānd'. A British native territory in South Africa. Area, 11,716 square miles; population (1936 census), 562,311, and 101,273 absentees as against 498,781 and 47,141 absentees (1921 census). The capital, Maseru, had 2319 inhabitants in 1921. In 1937 there were 77,616 pupils enrolled in schools of all kinds.

Production and Trade. Maize, wheat, sorghum, peas, barley, and beans are the main grain crops. Wool and mohair are important products. Livestock in the territory in 1937: 1,695,325 sheep and goats, 418,921 cattle, 85,017 horses, 22,766 donkeys, and 1068 mules. In 1937 imports were valued at £760,736; exports, £368,629, of which wheat and wheat meal accounted for £132,386; wool, £142,899; mohair, £57,615.

Government. For 1936-37 revenue amounted to £369,000; expenditure, £328,003. The territory is administered by a resident commissioner under the direction of the British High Commissioner for Basutoland, the Bechuanaland Protectorate, and Swaziland. In 1938 Basutoland was one of the signatories of a commercial treaty between Mozambique on one side and the High Commission Territories on the other. With certain exceptions, the treaty made provisions for reciprocal most-favored nation treatment. Resident Commissioner, E. C. Richards (appointed, March, 1935). See SOUTH AFRICA, UNION OF, under *History*.

BATES COLLEGE. A nonsectarian college for men and women at Lewiston, Me., founded in 1864. The enrollment for the autumn term of 1938 was 698. In the 1938 summer session there were 190 students. The faculty numbered 48. The endowment amounted to \$1,846,784. Total income was \$298,139, of which \$126,957 was from interest on investments, \$157,935 from student fees, and \$13,246 from gifts. The library contained 71,000 volumes. President, Clifton Daggett Gray, Ph.D., LL.D.

BATTLESHIPS. See NAVAL PROGRESS.

BAVARIA. See GERMANY.

BEAUX-ARTS INSTITUTE OF DESIGN. A school of fine arts in New York City, planned after the École des Beaux-Arts in Paris and organized in 1916 by the Society of Beaux-Arts Architects. The enrollment during the year 1937-38 consisted of 800 architectural students and 68 students of mural painting. Due to a lack of support the Department of Sculpture has been temporarily discontinued, beginning with the school year 1935-36. Similarly the Department of Creative Design has been discontinued, beginning with the school year 1936-37. The most important prize is that given by the Society of Beaux-Arts Architects, which, amounting to \$3600, affords two and one-half years' study in architecture at the École des Beaux-Arts in Paris. In the Department of Archi-

ture during the year 1938-39 the following prizes will be offered: Robert Perry Rodgers Memorial Prize \$100, Illuminating Engineering Society Prizes totaling \$850, Emerson Prize \$50, Warren Prizes totaling \$75, House Beautiful Prizes totaling \$75, Architectural Forum Prizes totaling \$75, Spiering Prize \$50. The director for 1938-39 is John W. Cross; the secretary is Lewis G. Adams. Headquarters are at 304 East 44th St., New York City.

BECHUANALAND (bèch'oo-à'na-länd' or bék'ú-) **PROTECTORATE.** A British territory in South Africa. Area, 275,000 square miles; population (1936), 262,756 including 1899 Europeans. Serowe, 28,987 inhabitants, Kanye, Molepolole, Mochudi, and Maun are the chief villages. In 1937 the 132 schools were attended by 14,466 students.

Production and Trade. Livestock raising and dairying are the main industries. The production of grain crops is dependent on the rainfall. Livestock census (1936): 540,795 cattle, 410,694 sheep and goats. During 1937 the output of gold (17,577 oz.) was valued at £122,184; silver (1499 oz.), £89. By agreement, customs duties are collected by the Union of South Africa and paid into the Union Treasury from which a proportional payment is made each quarter to Bechuanaland. In 1937 imports were valued at £341,536; exports, £243,187.

Government. For 1936-37 revenue amounted to £228,810; expenditure, £253,534; 1937-38: revenue, £179,124, grants-in-aid, £94,512; expenditure, £263,463. The protectorate is administered by a resident commissioner (with headquarters at Mafeking, Cape Province) subject to the British High Commissioner for Basutoland, the Bechuanaland Protectorate, and Swaziland. Resident Commissioner, Capt. C. N. Arden Clarke.

History. It was announced during July, 1938, that a commercial treaty (providing for reciprocal most-favored-nation treatment with certain exceptions) between Bechuanaland, Swaziland, and Basutoland on the one side and Mozambique on the other had been signed in Lisbon. See SOUTH AFRICA under *History*.

BÉDIER, bâ'dyâ', (CHARLES MARIE) JOSEPH. A French Academician and scholar, died at Grand Serre, Drôme, France, Aug. 30, 1938. Born in Paris, Jan. 28, 1864, he was educated at the Lycée de Saint-Denis, the Lycée Louis le grand, and at the École normale supérieure, from which he graduated in 1886 and received the degree of doctor of letters in 1893.

His first position in teaching was at the University of Fribourg in Switzerland (1889-91), and then at Caen, France (1891-93), and at the École normale supérieure, Paris (1893-1903). He succeeded Gaston Paris as professor of medieval French languages and literatures at the Collège de France in 1903, retiring as such in 1936. Also, from 1929 to 1936 he was administrator of the Collège.

As a scholar, Bédier united minute scientific accuracy with sure literary insight as was shown in the introduction to his edition of the *Lai de l'Ombre* (1890), *Les Fabliaux* (1893), which received the Marcellin Guérin prize in 1894, and *Les Légendes Épiques* (2 vols., 1908-13). In the *Lai de l'Ombre*, he opposed the German mechanical method of text constitution. The *Légendes Épiques* was a monumental work in which he refuted the old theory of the origin of epic poems. His *Tristan et Iseult* (1900) was an adaptation of the ancient story, based on all the extant medieval versions in every language, and his *Chansons de Roland* (1922), with a commentary and glossary (1927), was a diminutive edition of the oldest French master-

piece. The collating of these numerous texts was done with painstaking care.

During the World War he was an active propagandist and his writings, including an edition of the diaries of German soldiers, published early in the War, were widely circulated in translations in the countries of the Allies. These works were *Les Crimes allemands, d'après des témoignages allemands* (1915); *Comment l'Allemagne essaie de justifier ses crimes* (1915), and *L'Effort français* (1919).

In 1920 he was elected to the French Academy to succeed Edmond Rostand, and in the following year he founded the *Revue de France*. As a member of the Academy he was one of a committee of three selected to work on the preparation of a new French grammar.

Professor Bédier was no stranger to the United States, having been visiting professor at Harvard (1909); lecturer at the opening of Columbia University summer session (1923), and lecturer in medieval history at the University of California (1927). In 1936 he lectured in America on French poetry.

Besides honorary degrees from Oxford, Harvard, and Louvain Universities, he held the Grand Cross of the French Legion of Honor. His works not mentioned above included *De Nicolao Museto* (1893); *Le Roman de Tristan*, poem of the 16th century by Thomas, published by the Society of Ancient French Texts (1902); *Études critiques* (1903); *Bibliographie des travaux de Gaston Paris*, in collaboration with Mario Roques (1904); and *La Châtelaine de Vergy* (1927). Besides numerous literary reviews, he wrote, in collaboration, *Histoire de la littérature française illustrée* (2 vols., 1923-24) and part of the *Histoire de la nation française*, edited by Gabriel Hanotaux (15 vols., 1920-24). See PHILOLOGY, MODERN.

BEETLES. See ENTOMOLOGY, ECONOMIC.

BELGIAN CONGO. See CONGO, BELGIAN.

BELGIUM. A kingdom of Western Europe. Capital, Brussels (Bruxelles or Brussel). Sovereign in 1938, Leopold III, who succeeded to the throne Feb. 23, 1934.

Area and Population. Belgium has an area of 11,775 square miles and a population estimated on Dec. 31, 1937, at 8,361,000 (8,092,004 at the 1930 census). Births in 1937 numbered 126,343 (15.1 per 1000 inhabitants); deaths, 105,918 (12.7 per 1000); marriages, 63,301 (7.6 per 1000). In 1936 there were 13,510 emigrants and 17,655 immigrants. Estimated populations of the chief cities on Dec. 31, 1936, were: Brussels and suburbs, 905,312; Antwerp (Anvers), 272,688; Ghent (Gand), 163,765; Liège, 161,707; Mechlin (Malines), 62,246. The majority of the people are Roman Catholics, but no census figures are taken of religions.

Education. French and Flemish are both spoken and taught in the schools. Besides numerous private or free schools, mostly under church auspices, there were on Dec. 31, 1936, 8088 infant schools with 259,520 pupils; 8614 primary schools, with 964,802 pupils; 649 adult schools, with 18,691 pupils; 252 secondary schools of all kinds, with 79,203 pupils; 88 normal schools, with 12,812 students; and four universities (Brussels, Louvain, Ghent, and Liège), with 10,334 students.

Production. One of the most densely populated countries of Europe, Belgium is supported mainly by manufacturing, mining, agriculture, and commerce. Production of the chief crops in 1938, with 1937 figures in parentheses, was (in metric tons): Wheat, 484,300 (423,200); barley, 80,500 (85,500);

rye, 392,100 (345,000); oats, 543,400 (520,200). The 1937 yield of potatoes was 309,080 metric tons; beet sugar (1937-38), 219,100 metric tons; tobacco, 5700 metric tons; linseed, 13,700 metric tons; flax fiber, 23,800 metric tons. Livestock on Jan. 1, 1937, included 1,782,840 cattle, 1,054,475 swine, and 263,104 horses.

Mineral and metallurgical production in 1937 was (in metric tons): Coal, 29,681,000; pig iron and ferro-alloys, 3,843,000; steel ingots and castings, 3,869,000; black copper (1936), 58,800 (smelter); merchantable lead, 93,800 (smelter); zinc, 219,700 (smelter); cadmium (1936), 289. Leading manufactures include window and plate glass, paper, and cardboard (235,000 metric tons in 1937); cement (2,350,000 metric tons in 1936), cotton yarn, rayon (7800 metric tons in 1937), conditioned wool, other textiles, refined sugar, metal articles, brewery products, furniture and other wood products.

Foreign Trade. Merchandise imports in 1937 were valued at 27,256,817,000 Belgian francs (21,299,320,000 francs in 1936) and exports were 25,393,855,000 francs (19,525,544,000 in 1936). Of the 1937 imports, France supplied 3,449,962,000 francs; Germany, 3,119,870,000 francs; United States, 2,385,834,000 francs; United Kingdom, 2,304,378,000 francs; Netherlands, 2,266,472,000 francs. Exports were distributed mainly as follows: To France, 4,420,768,000 francs; United Kingdom, 3,492,698,000 francs; Netherlands, 2,831,562,000 francs; Germany, 2,810,048,000 francs; United States, 1,940,153,000 francs.

Finance. Budget estimates for 1938 placed ordinary revenues at 11,392,000,000 francs and expenditures at 11,318,000,000 francs. Extraordinary revenues were estimated at 22,100,000 francs and expenditures at 2,523,000,000 francs. The public debt on Dec. 31, 1937, was 55,762,000,000 francs (internal, 36,356,000,000; external, 19,406,000,000). Service of the debt in 1938 required 2,227,000,000 francs. The unit of currency for all foreign exchange transactions is the belga, equal to five paper francs. The exchange value of the belga was \$0.1877 in 1937 and \$0.1892 in 1938.

Transportation, etc. In 1926 the state placed the operation of its railways in the hands of a private company for 75 years. At the beginning of 1937, 3013 miles of line were operated by this company (Société Nationale des Chemins de Fer Belges) and 179 miles by four other companies. There were, in addition, 3243 miles of provincial railway lines. Heavy freight carried on the railways in 1937 amounted to 6,336,000,000 ton-kilometers (5,331,000,000 in 1936). The highway mileage in 1937 was 20,244, of which about 6500 miles were state roads. Automobiles numbered 201,700. About one-fourth of the total merchandise traffic inside Belgium is handled by the navigable rivers and canals (1030 miles in 1935). Commercial aviation is entrusted to one company, Sabena, which operates services connecting Brussels with London, Amsterdam, Basle, Cologne, Hamburg, Munich, Malmö, Prague and Elizabethville in the Belgian Congo (q.v.). The European operations of the company in 1937 were: Passenger-miles, 6,623,000; freight ton-miles, 100,700; mail in ton-miles, 23,439. The tonnage of the merchant marine on June 30, 1938, was 430,600 (420,400 on June 30, 1937).

Government. Executive power is exercised by the King through a ministry responsible to Parliament. There is a Senate of 167 members and a Chamber of Deputies of 202 members, all elected for four years. Deputies are elected directly by

universal male and restricted female suffrage. Of the Senators, part are elected by direct suffrage and part are chosen indirectly by the provincial councils. Premier at the beginning of 1938, Paul Emile Janson (Liberal), heading a National Union Government composed of the Catholic, Socialist, and Liberal parties. For the standing of the parties after the 1936 elections, see 1937 YEAR BOOK, p. 84.

HISTORY

Political Developments. The government formed by Paul Emile Janson (Liberal) on Nov. 24, 1937, representing a coalition of the Catholic, Socialist, and Liberal parties, resigned on May 13, 1938, as a result of dissensions over financial measures. It was succeeded two days later by another Catholic-Socialist-Liberal coalition ministry headed by 39-year-old Paul Henri Spaak, a moderate Socialist who was Minister of Foreign Affairs in the Janson Cabinet. The Spaak Cabinet, reduced from 15 to 11 Ministers, included four Socialists, four Catholics, two Liberals, and a non-party general, Defense Minister Henri Denis. The key Finance post was given to Max Leo Gerard, a Liberal economist and able financier. M. Spaak retained the Foreign Affairs portfolio and the other key post, that of Minister of Economics and Agriculture, went to H. C. J. Heyman (Catholic), a banker and engineer.

The resignation of the Janson Government was the climax of a financial and budgetary crisis that began to develop early in the year. The Socialists, comprising the largest party in the Chamber of Deputies, demanded the immediate enactment of the costly social legislation promised them in 1937 in return for their participation in the government. Meanwhile the marked recession in business activity had forced the budget more out of balance, leading the Catholic and Liberal members of the government to insist on the postponement of social reforms until conditions improved. The heated character of the financial debate led to a riot between Socialist and Rexist (Fascist) Deputies in the Chamber late in January.

The resignation of Finance Minister Henri de Man on March 9 was taken as a warning of impending financial difficulties. His duties were taken over temporarily by Joseph Merlot, the Minister of Public Works. The devaluation of the French franc on May 5 erected a formidable barrier between Belgian exports and their chief market, caused an outflow of gold and Belgian capital, and brought the political conflict within the government coalition to a head.

Faced with the alternatives of either again devaluing the belga or of returning to the deflationary policy abandoned by the Van Zeeland Government in 1936, Premier Janson decided on devaluation. On May 10 the National Bank raised the rediscount rate from 2 to 4 per cent and the government took other measures to check the depreciation of the belga. The Socialists insisted on riding out the crisis by increasing taxation enough to balance the budget, while the Catholics and Liberals, both middle-class parties, opposed further taxation and demanded cuts in social reforms and other governmental expenditures. When Rexist Deputies joined the Catholics in opposing the Socialist tax measures, Premier Janson gave up his task as hopeless and resigned.

The Spaak Government, formed in record time under King Leopold's threat to dissolve Parliament, won a 132-to-38 vote of confidence on May 18, following the new Premier's promise to balance

the budget, to continue social reforms, and to defend democracy through the reorganization of governmental institutions. M. Spaak said his main objective was to increase production. Under a compromise reached by the three government parties, the Socialists abandoned their long opposition to abolition of the "blue laws" restricting liquor sales to stores. On May 18 a bill was passed to permit liquor to be served in cafés and restaurants. This was expected to eliminate countless bootlegging establishments and increase government tax revenues. In return for this concession, the Catholics and Liberals voted for three tax measures, two of which increased existing taxes. The other re-established the national crisis tax, repealed during 1937, which imposed a special levy ranging from 1½ to 4 per cent on incomes. These measures were expected to produce an additional 800,000,000 francs in revenue during the remainder of the fiscal year.

Even these measures failed to wipe out the budget deficit entirely, but they sufficed to bolster the state's credit and check the depreciation of its currency and securities. On May 30 the National Bank lowered its discount rate to 3 per cent and in subsequent months much of the gold exported during the crisis was repatriated. Meanwhile the pre-devaluation policy of foreign borrowing was resumed with an initial loan of 700,000,000 francs from a Dutch syndicate. In November the National Bank again lowered the discount rate—to 2½ per cent. The improvement in the government's credit permitted the flotation of a billion-franc, 3½ per cent, long-term loan and a reduction in interest on short-term bills to 2.02 per cent. In December Parliament raised the betting tax from 5 to 15 per cent and a 15 per cent tax was imposed on football pools.

The considerable degree of success achieved by the Spaak Ministry in meeting the financial crisis was an important factor in the triumph of the traditional parties in the communal elections held throughout Belgium on October 17. The extremist parties—Communists, Flemish Nationalists, and Rexists—made a poor showing.

Premier Spaak's decision of November 29 to recognize the Franco regime in Spain and withdraw from the London Non-Intervention Committee on Spain angered a large section of the Socialist party and led them to renew their demands for the immediate enactment of the promised social legislation. The fall of the government on the latter issue was averted by the resignation of Finance Minister Gerard on December 2. On December 4 Premier Spaak named Albert Edouard Janssen (Catholic) as Finance Minister and enlarged his cabinet to include new Ministers of Agriculture, Foreign Trade, and Unemployment. On December 5 the Socialists, with five places in the cabinet, voted to oppose the Premier's decision to exchange agents with Insurgent Spain. The issue was brought before the Chamber the next day and Spaak was upheld, 111 to 49, after a violent debate. The Premier continued in office, but with most of his own party on record against him, his position was considered weak.

Foreign Relations. The rapid drift of Europe toward totalitarian economic systems and war presented a growing menace to Belgium's political security and economic livelihood. Its foreign policy throughout 1938 was directed toward checking this general trend while at the same time insulating Belgium insofar as possible against its terrifying consequences.

The program for world economic appeasement

drawn up by former Premier Paul van Zeeland at the request of the British and French Governments and made public on Jan. 28, 1938, was a major effort to reverse European and world economic and political trends. Declaring that the removal of obstacles to international trade was essential to peace and prosperity, Dr. Van Zeeland recommended that the principal economic powers establish an international bureau for the study of economic grievances and launch an immediate program for the restoration of trade through the gradual removal of exchange restrictions and trade quotas, the reduction of tariffs, the adjustment of foreign debts, and the extension of credits to countries which would otherwise be forced to retain their trade and exchange restrictions.

The failure of the Van Zeeland Report to change European trends was demonstrated on May 11 when representatives of Belgium and the other Oslo Powers (Denmark, Finland, Netherlands, Norway, and Sweden) announced that economic conditions made it impossible to renew the convention signed at The Hague on May 28, 1937. (The signatories of this convention had agreed to a concerted reduction of trade barriers and elimination of "crisis" measures as a step toward improved economic relations.) The same governments took another step away from international collaboration at a meeting of their Foreign Ministers in Copenhagen on July 23-24. There they adopted a resolution declaring that the Covenant of the League of Nations did not require any member to apply sanctions against an aggressor. This tended to confirm Belgium's policy, adopted in 1936, of unconditional neutrality in any conflict among the great powers.

A near test of the effectiveness of this policy was presented by the European crisis produced in September by German demands on Czecho-Slovakia (q.v.). The Belgian Government took energetic measures to defend its neutrality in case France and Germany became involved in war. On September 5 the cabinet recalled King Leopold from Italy, where he was spending a vacation. All frontier fortresses were manned and defense preparations were rushed, particularly in the districts of Eupen and Malmedy, ceded to Belgium from Germany by the Versailles Treaty. As the crisis deepened a food dictator was appointed, art works were moved to places of safety, and children were evacuated from the frontier regions. On September 27 partial mobilization orders called 270,000 Belgians to the colors. Strategic bridges and highways along the French and German frontiers were mined and every precaution was taken against invasion from either side. Demobilization of the troops started at the beginning of October with the passing of the crisis.

The seriousness of the threat to Belgium and to Europe led King Leopold to renew his efforts toward economic appeasement. In the middle of October, while dedicating a monument in Paris to the memory of his father, he made an impassioned plea for peace through the elimination of economic strife between nations. However, the suggestion that Belgium might join in appeasing Germany by ceding all or part of the Belgian Congo was indignantly rejected by Premier Spaak in the Chamber of Deputies on November 3. King Leopold and Premier Spaak paid a state visit to the capital of the Netherlands beginning November 21 to discuss regulation of the Scheldt River, the Albert Canal, and other waterways and to arrange for joint action in dealing with the problem of Jewish refugees from Germany. On November 18 Premier

Spaak had announced that refugees from the Reich would not be turned back as had been the practice in preceding months, and that Belgium would co-operate with other democratic countries in seeking a permanent asylum for German Jews.

See DENMARK under *History*.

BELORUSSIAN SOVIET SOCIALIST REPUBLIC. See WHITE RUSSIAN SOVIET SOCIALIST REPUBLIC.

BENEFACTIONS. Bequests and gifts for philanthropic purposes during 1938 were less than in 1937; there was a noticeable falling off of bequests for relief. Among the large public benefactions made in 1938 may be mentioned those from the estates of George D. Pratt, son of Charles M. Pratt, founder of Pratt Institute, Brooklyn, N. Y., and Charles M. Pratt, founder of Pratt Institute. Benefactions through the year of sums or property to the value of \$500,000 or more, made chiefly by persons who died during the year or in recent years, follow:

Henry W. Putnam, of Bennington, Vt., bequests totaling \$500,000 to 12 charitable institutions, mostly in New York City. Mr. Putnam's residuary estate of undetermined value will eventually be shared by Harvard, Yale, and Princeton Universities.

George D. Pratt, of Glen Cove, L. I., bequests totaling \$510,000 to Pratt Institute, Metropolitan Museum of Art, Trustees of Amherst College, Brooklyn Young Men's Christian Association, Brooklyn Bureau of Charities, and Brooklyn Society for the Prevention of Cruelty to Children.

Charles M. Pratt, of Glen Cove, L. I., bequests of over \$150,000 to various educational and religious institutions. Frederick W. Vanderbilt, of N. Y. City, bequests to Sheffield School, Yale University, Vanderbilt University, Salvation Army, and New York Association for Improving the Condition of the Poor.

Daniel J. Tompkins, of Brooklyn, N. Y., a gift of \$598,219 to Cornell University, and smaller gifts to five public institutions.

Mary Colgate, of Yonkers, N. Y., bequests of \$100,000 to Warburton Ave. Baptist Church of Yonkers, \$250,000 to Eastern Baptist Theological Seminary, Phila., Pa., and large sums to other religious organizations.

Ogden L. Mills, of N. Y. City, bequests totaling \$550,000 to Harvard University, Metropolitan Museum of Art, N. Y. City, Home of Incurables, N. Y. City, Charity Organization Society, N. Y. City, and National Cathedral, Washington, D. C.

Elhu Root, of N. Y. City, gift of \$200,000 to trustees of Hamilton College, Clinton, N. Y., besides smaller gifts to churches and charitable organizations.

C. R. Hooker, of New Haven, Conn., bequests to charity of large sums of his \$1,000,000 estate.

Dr. Daniel E. Martell, of N. Y. City, in his will set up his residuary estate valued at upward of \$400,000 "to establish a trust the income from which is to be devoted to the furtherance of the art of music in the United States and more particularly in the City of New York."

Harry Kraus, of N. Y. City, bequests of more than \$250,000 which will eventually go to religious and philanthropic institutions.

Phelps Smith, of Malone, N. Y., an estimated \$2,500,000 estate to be used for establishing of a northern New York college.

A. E. Macy, of N. Y. City, bequests of \$500,000 to Teachers College, Columbia University, and \$100,000 each to Henry Street Settlement, and the Metropolitan Museum of Art.

G. L. Ford, of N. Y. City, bequests to 10 institutions of \$89,561 each.

A. H. Lea, of Phila., large bequests to Harvard, Pennsylvania, and Princeton Universities.

Mrs. E. I. Kane, of New Rochelle, N. Y., bequests of more than \$370,000 to be divided among several hospitals and charitable institutions. The largest amount was to the Sisters of Charity of St. Vincent de Paul, of Mount St. Vincent-on-Hudson, N. Y.

Henry Dazian, of New York, left \$1,325,288 for the creation of the Dazian Foundation for Medical Research.

See AGRICULTURAL EXPERIMENT STATIONS; ART MUSEUMS; GENERAL EDUCATION BOARD; LIBRARY PROGRESS; PRINTS; ROCKEFELLER FOUNDATION; UNIVERSITIES AND COLLEGES.

BEREA COLLEGE. A nonsectarian coeducational institution in Berea, Ky., founded in 1855 and designed to serve the educational needs of the

mountain people of the Southern Appalachian region. The enrollment for the autumn of 1938 was 1809, distributed as follows: College of arts and sciences, 812; secondary school and below, 954; nurses, 43. The enrollment in the summer session of 1938 was 269. The faculty numbered 118. The endowment amounted to \$10,158,395.78 and the income for the year ending June 15, 1938, was \$539,882.13. The library contained about 81,000 volumes. President, William J. Hutchins, D.D., LL.D.

BERMUDA. A British colony in the North Atlantic, 677 miles southeast of New York. It comprises 360 small islands of which 20 are inhabited. Area, 19.3 square miles; population (1937 estimate), 30,951 (12,143 whites; 18,808 Negroes), compared with 27,789 (1931 census). Chief towns: Hamilton (capital), 3259 inhabitants in 1931; St. George. In 1937 there were 728 living births and 329 deaths. The average school registration for 1937 totaled 4587. Bermuda is an important British naval base.

Production and Trade. The chief products are onions, potatoes, lily bulbs, cut flowers, and green vegetables. Bananas and arrowroot are also grown. During 1937, 71,959 bu. of vegetables, valued at £24,300, were exported. For the year 1937 a total of 83,092 tourists visited Bermuda. There were 101 miles of roads. In 1937 imports were valued at £2,183,152; exports, £179,735.

Government. For 1937 revenue totaled £476,678; expenditure, £450,754; public debt, £75,000; sinking fund, £48,569. Revenue for 1938 was estimated at £427,017; expenditure, £466,685. The colony is administered by a governor, aided by an executive council of 7, a legislative council of 9, and an elected house of assembly of 36 members. Governor and Commander-in-Chief, Lt.-Gen. Sir Reginald John Thoroton Hildyard (assumed office, May 21, 1936).

History. On Jan. 31, 1938, Bermuda was represented at the Inter-Colonial Customs Conference held in Jamaica to discuss uniform customs procedure. On March 16 an air-mail service was inaugurated from Baltimore to Bermuda by the *Bermuda Clipper*, supplementing the air-mail service from Bermuda to New York. On December 1 ships in regular service to Bermuda were restricted in the practice of keeping passengers on board while in port.

BESSARABIA. A territory joined to Rumania on Apr. 11, 1918, formerly a province of Russia. Area, 17,146 square miles; population (Jan. 1, 1937, estimate), 3,092,949.

BIBLE SOCIETY, AMERICAN. Organized in 1816, this society has steadily carried forward its specific purpose of "circulating the Holy Scriptures without note or comment" and without discrimination as to class, color, or creed. Bibles, Testaments, and Portions are sold without profit and below cost or donated free when circumstances justify. During the 122 years of its existence, the society has issued 283,700,204 volumes and participated in the translation, publication, and distribution of the Scriptures in nearly 300 languages, dialects, and versions.

The work in the United States is carried on through 11 home agencies and some 100 auxiliary, State, and local Bible societies. Latin America and the Near East and Far East are covered by 12 additional agencies, while correspondents help carry on the work in other countries, especially in Europe and Africa. During 1937 the society issued 7,328,550 volumes in 170 languages, including 4,724 volumes for the Blind. The number issued in the

United States was 3,338,743, and in foreign lands, 3,989,807. Engaged in this distribution were 3064 agency secretaries, sub-agents, colporteurs, correspondents, and volunteers.

The budget of the society for 1938 was \$971,508. The officers were John T. Manson, president; the Rev. Eric M. North, D.D., and the Rev. George William Brown, D.D., general secretaries; the Rev. Francis Carr Stifler, D.D., recording and editorial secretary; Mr. Rome A. Betts, associate secretary, Rev. James Oscar Boyd, assistant secretary, and Gilbert Darlington, treasurer. Headquarters of the society are in the Bible House, Park Avenue & 57th Street, New York City.

BILLIARDS. See SPORTS.

BILLITON. See NETHERLANDS INDIES.

BIOLOGICAL CHEMISTRY. The reading of the papers in the field of biological chemistry during the last year shows that this field of investigation continues to expand, and that many important developments have been reported. Some of the most interesting researches have been concerned with the vitamins. The structure of another fat soluble vitamin, vitamin E (α -tocopherol), has been established. It has also been synthesized. This anti-sterility factor, first discovered by Evans, has been shown by Fernholz to be a 6-hydroxy chromane derivative having a side chain of 16 carbon atoms attached to position two of the chromane ring. It is not an ether of durohydroquinone, as Fernholz first suggested last year, but the structure now proposed explains the formation of durohydroquinone during pyrolysis of the vitamin. Other investigators, notably John, Karrer, Bergel and Todd, and Evans and co-workers have submitted experimental evidence which corroborates this structure. Three syntheses of this vitamin have been reported (1) by Smith and co-workers, (2) by Bergel and Todd, and (3) by Karrer et al. The latter prepared the racemic vitamin by condensing trimethyl hydroquinone with phytol bromide. The optically inactive α -tocopherol, thus produced, was resolved into its optically active form by fractional crystallization of its bromocamphor sulphonate. The physiological activity of this synthetic product is the same as that of the natural vitamin.

Other experiments in this field have been reported which are of interest. Vitamin E has been found to produce growth in test animals. There also seems to be no definite relationship between constitution and physiological activity in the case of this vitamin, for John and von Werder have prepared 23 ethers of durohydroquinone, and six ethers of pseudocumohydroquinone, and they report that all these compounds show partial vitamin E activity.

Many papers continue to be published on the physiological properties of vitamin B₁ (Thiamin). Lack of this vitamin has been shown by a group of biochemists at Oxford to produce an excess of pyruvic acid in the system. It will be recalled that this latter compound is responsible for polyneuritis in pigeons. This function of the vitamin can be regarded as of an enzymatic nature. In fact, some time ago Lohmann and Schuster reported the isolation of an enzymatic system from yeast which exhibited co-carboxylase activity. The source of this co-enzyme and its function suggested the relationship to thiamin, and Tauber showed that the reaction product of pyrophosphoric acid, and thiamin exhibits the same enzyme activity as the co-enzyme of Lohmann. Recently Wijlard and Tauber isolated this co-enzyme in a chemically pure form, and from its reactions and analysis it was shown to be the

pyrophosphoric acid ester of thiamin. Thus, at least one of the specific reactive forms of thiamin in the animal system has been made available by synthesis.

Other experimental facts concerning this vitamin have been reported. Thiamin seems indispensable for the growth of excised tomato plants when grown in synthetic nutrient solutions. It is reported that it cannot be replaced by lacto-flavine, cysteine hydrochloride, indole-3-acetic acid, inositol, etc. 4-Methyl-5- β -hydroxy-thiazole, a constituent of the thiamin molecule, can replace it at a concentration of 0.17 per cc. However, the other part of the molecule, 2-methyl-5-bromomethyl-6-amino pyrimidine fails to replace the vitamin entirely. This leads to the speculation that whereas the pyrimidine portion of the vitamin may be synthesized in the plant itself, the thiazole fragment must be supplied in a pre-formed state.

Thiamin also seems to be an important factor in the life and growth of micro-organisms. Bacteria can, however, utilize not only the vitamin itself, but also its derivatives and even some of its analogues. Some very interesting facts in connection with biotin have been reported. Biotin is a new growth substance for yeast, and was isolated by Kogl. It has a composition C₁₁H₁₈O₆N₂S and is found in yeast and in newly laid eggs. Its activity is very great, having been found to stimulate the growth of yeast at a concentration of $1-4 \times 10^{-11}$. It occurs in yeast, however, in very small quantities (360 tons of yeast yield one gram of biotin). Together with thiamin this substance produces some interesting results. It has been found that *polyporus adushis* does not grow in a synthetic medium unless thiamin is supplied. Neither will *nematosporea gossypii* grow in a synthetic medium without biotin. If, however, these two kinds of bacteria are placed in the same medium they grow. Hence it would appear that in this instance a case of artificial symbiosis has been realized. The *polyporus* liberates biotin necessary for the *nematosporea*, while the latter supply the required thiamin necessary for the growth of *polyporus adushis*.

The year has witnessed an increase in our knowledge of vitamin B₆, the anti-dermatitis component of the vitamin B complex. It has been isolated in three different laboratories: (1) by Keresztesy and Stevens; (2) by Kuhn and Wendt; (3) by P. Gyorgi and Lepkowsky. Kuhn and Wendt obtained it from yeast, and showed that it was a protein compound with a prosthetic group attached to the protein residue in much the same manner as riboflavin is attached to the proteinic group to form vitamin B₂. The prosthetic group can be freed from the protein by heating. The substance, thus obtained, gives a hydrochloride which melts at 204-205° and has a composition C₈H₁₁NO₃.HCl. It has three hydroxyl groups, two of them being alcoholic, and one being phenolic. The nitrogen in the molecule appears to be in a ring, and is tertiary. The curative dose is 107. According to Gyorgi, for complete action it appears to need the "filtrate factor." Birch regards this "filtrate factor" as a fat-soluble substance while vitamin B₆ is water soluble. It is also known that this factor is contained in the fatty acid fraction of maize oil. Its function, therefore, may consist in the utilization of unsaturated fatty acids in the body.

The discovery of two new vitamins, L₁ and α_2 , by Nakahara, Inukai, and Uganui, has been reported. The former was found in bakers' yeast; the latter was isolated from beef liver. According to the discoverers both vitamins are essential to rats for the production of milk for their young. It is not clear,

however, whether the vitamin in beef liver is different from the one present in a "lactation factor" discovered by Mapson several years ago.

The importance of nicotinic acid has been greatly increased by the discovery of some new and important physiological properties which it possesses. Both this substance and its amide have been found to prevent pellagra in humans, and black tongue in dogs. Elvehjem and his co-workers isolated the vitamin, and showed that it is identical to nicotinic acid amide. It is now believed that this acid and its amide are a part of Warburg's co-enzyme. Also of interest is the discovery that both nicotinic acid and its amide are essential for the growth of certain staphylococci, diphtheria, and dysentery bacilli. This property is also shared by other substances more or less related to nicotinic acid. Changes of the molecule due to esterification or other modifications of the carboxyl group do not seem to affect its activity. Thus, methyl nicotinate, ethyl nicotinoacetate, N-methyl nicotinic acid amide, and nicotinonitrile are capable of supporting the growth of the above mentioned bacilli. On the other hand pyridine-2-sulphonic acid, 6-methyl nicotinic acid, and isonicotinic acid do not possess this interesting property.

Notable advances have been made during the year in the field of the hormones. Of special interest is prolactin, the hormone which regulates the flow of milk in mother animals. This compound, first isolated in a crystalline state by Dr. White of Yale University, is produced in the pituitary gland, and is of a protein nature. Injections of it in animals produce many startling effects, as, for example, gain in weight, enlargement of the liver, lengthening of the intestines, change in size of the sex organs, and development of the mother love instinct in virgin animals. It is also a powerful stimulating hormone and appears to have most pronounced effects on the whole endocrine system.

The existence of another hormone of the pituitary gland has also been reported by Newfield and Colip. This compound is found in the *pars intermedia*. It has ketogenic properties, and appears to possess anti-insulin activity. Other interesting observations have been made concerning the existence of anti-hormones. Apparently the production of these substances is not limited to the protein type of hormones, for it has been exhibited by hormones of simpler chemical nature. For instance, it is known that adrenalin produces fatal shock when administered in heavy doses. Swingle has observed that when a dog recovers from such shock induced by sublethal doses it builds up a resistance toward this hormone, and can withstand doses which are fatal to other dogs which did not receive previously such injections. It has also been noted that the cortical hormone can bring about this recovery from adrenalin shock.

The existence of other hormones which are of a protein nature has been noted. Zondeck and Sulman have described the existence and properties of an antagonodotropic factor in the blood which is produced by repeated injections of gonadotropic hormones. At present this factor has been obtained only as an acetone-dried powder. Apparently it is destroyed by heating at 80° for an hour. It is also inactivated by pepsin, trypsin, and by dilute alkali. It is stable, however, to ultra violet light and to a 1 per cent solution of hydrogen peroxide.

Laofburow has isolated a yellow crystalline material from yeast cells which have previously been injured by exposure to X-rays. He reports that it is a protein and that it possesses the property of

causing growth of both epithelial and of fibroblast cells. Already it has found application in the treatment of skin burns where it induces a rapid growth of epithelial cells. In this connection it may be of interest to note here that similar studies also have been made of other hormones. For example, anterior pituitary hormone and prolactin have been found to be active in checking the cell division process of sea-urchin eggs. Heparin, the anti blood clotting hormone, also retards cell growth at a concentration of 10^{-3} . It is to be noted, however, that although the development of the eggs was retarded they were not killed.

The existence of a pressor principle in the renal cortical tissue of kidney has been shown recently in Dr. Swingle's laboratory, Princeton University. This principle can be separated from the fresh saline extracts of the gland by precipitation with ammonium sulphate. It is not yet known whether it be a protein, but its chemical properties suggest this possibility. Since this substance causes hypertension it is of special interest because it is likely that its presence causes the hypertension of old age.

Exhaustive investigations of the steroid products in urine continue to be made. Marker and his co-workers have isolated a number of interesting compounds from stallions' urine and from mares' pregnancy urine. A new saturated alcohol, β -equistanol, has been isolated and the existence of its α -isomer has been demonstrated indirectly. The chemical structure of this molecule has been shown to be different from the natural sterols of the same molecular weight. From the ketonic fraction from mares' pregnancy urine these investigators have also isolated other compounds, notably pregnenedione, *allo*-pregnenedione, *allo*-pregnanol-3 β -one 20, and uranol-11-one 3. According to Marker the urane derivatives contain an hydroxyl group at C₁₁. This is, indeed, interesting in view of the possible biogenetic relationship with the cortical hormone, cortin, which to date is the only steroid hormone believed to possess this structural characteristic. Also of interest is uranediol, another hormone obtained from mares' pregnancy urine. This compound has the usual configuration at C₅ but possesses the unusual β -configuration at C₃, and is, thus, at the present writing the only compound in this series found in urine.

Work continues to be done on the cortical hormone. Although a number of substances possessing cortical activity have been isolated, it can be said that the amorphous substance obtained from the gland itself appears to have the maximum potency, and thus contains a compound whose chemical structure is not yet known. Some other observations on this material should also be recorded. It has been found that adrenalectomized dogs, which in the past could be kept alive only by supplying cortical extract, can maintain their lives if pure progesterone is administered in place of the cortical extract. Progesterone, it will be recalled, has a somewhat similar chemical structure, but it lacks an hydroxyl group at C₁₁, and does not have the

CH₂OH

terminal group, $\text{—}\overset{\text{O}}{\text{C}}\text{=}$, at C₁₇. It is known, however, from the properties of desoxycorticosterone that the hydroxyl group at C₁₁ is not essential for the activity. If the terminal side chain of corticosterone is essential, then it can be concluded that the side chain of progesterone is suitably modified by some enzyme system in the body. Investigations on this hormone also show that when properly administered it can produce a re-

fractory state in animals. Intravenous injections of the hormone of 20-40 cat units causes retention of sodium which lasts for six hours. When injections are repeated a refractory state is developed which continues for several weeks. It has also been demonstrated that a normal dog receiving an injection of the serum of the refractory dog develops a temporary refractory condition.

Important investigations on the activity of androgenic hormones have been published. From this work it is now clear that the activity can be increased by simultaneous administration of palmitic or stearic acid or of their sodium salts. The palmitic or stearic acid ester of testosterone, however, has been found to be almost inactive. Miescher and co-workers report that in the case of oestrone the duration of the oestrus period increases when palmitic acid or stearyl alcohol is administered with oestrone subcutaneously. The "threshold value" increases with the length of the acid chain to oestrone-n-octanoate. Then it decreases.

The year has witnessed great activity in the field of the phytohormones. From the many studies of different active substances which have been tested it appears that the property of cell elongation which a particular phytohormone possesses does not depend upon the nucleus, but rather it is a property of a particular molecular configuration. The minimum structural requirements appear to be: (1) at least one ring system in the nucleus; (2) presence of at least one double bond in the ring; (3) a side chain; (4) an active or a potentially active carboxyl group in the side chain, which is removed at least by one carbon atom from the nucleus; (5) when a side chain has a *cis* configuration to the nucleus the hormone is made active, a *trans* configuration makes it inactive.

Certain experimental results obtained from studies in the bile acids and on the sterols should be noted. Wallis and his co-workers at Princeton University have definitely established the structure of the isomeric ethers of cholesterol. They are configurationally related to a new isomer of cholesterol designated as *i*-cholesterol. This new sterol has a cyclopropane ring in ring A of the sterol molecule, and the hydroxyl group is located at the C₆ position.

From "metabolic balance" experiments it has been shown that in the mouse cholesterol can be synthesized from a diet free from this sterol. It cannot be definitely said, however, whether this holds true for other animals because unlike larger mammals mice have a very high metabolic rate. It has also been shown that sterols which are unabsorbable or only difficultly absorbable do not affect the biosynthesis of cholesterol. Administration of cholesterol itself, however, does affect it. Large amounts not only prevent the synthesis of this sterol, but actually bring about a destruction of the sterol molecule.

Hemolytic properties of bile acids and of sterols have been investigated. Those compounds whose hydroxyl groups at C₃ have a *cis* configuration to the methyl group at C₁₀ and have either a *trans* fusion of rings A and B or have a double bond between C₅-C₆ have been found to be antihemolytic, whereas the bile acids having the opposite configuration at C₃ and C₆ have hemolytic properties. To date no sterol has been observed which possesses hemolytic action. This fact may be ascribed to the low solubility of the sterols. It has also been observed that hemolytic activity can be modified by changing the hydroxyl group or other active groups

in bile acids, but such acids can not be made completely antihemolytic.

The field of the proteins, viruses, and enzymes continues to be exceedingly attractive to many investigators, and some of the most interesting researches have been concerned with these substances. A new theory of protein formation has been given by Dr. Max Bergmann of the Rockefeller Institute, New York City. According to him, proteins contain 288 units, or simple multiples of 288 units per molecule. Each kind of protein is synthesized by a specific enzyme; the simpler proteins then combine again under the influence of other specific enzymes to give more complex molecules, the chain stopping when no specific enzyme is available to continue the process. Enzyme synthesis of polypeptides has been accomplished, and apparently the first part of the theory has been substantiated. It is also to be mentioned that this theory has an important bearing on heredity, and will, therefore, be an important postulate for further investigations because, according to Bergmann, from generation to generation in the germ cells there is transmitted those specific enzymes capable of synthesizing proteins of a "predetermined sequence of specific reactions." Thus our hereditary characteristics are handed down from parent to child.

Some interesting facts have been observed in studies on enzymes. Herriot, Bartz, and Northrop have found that when swine pepsinogen is activated with chicken pepsin, the resulting enzyme is swine pepsin. Conversely, activation of chicken pepsinogen with swine pepsin yields chicken pepsin. Thus the structural characteristics which cause "species specificity" of the enzyme are present in the inactive enzyme precursor. Similar changes can be brought about with trypsinogen by an enzyme produced by a genus of *Penicillium*. This change takes place only in acid medium. The particular kinase which produces this change has a molecular weight of about 40,000 as determined by diffusion methods, and is destroyed either by heating at 70° or at a pH 6.5 or above.

Certain other facts in this field are of interest. Tauber has reported some new activators of the carboxylase system. Among others the action of sodium cyanide is of special interest. From its action it would appear that no heavy metal is associated with the catalytic activity of the enzyme. The cyanide activates the enzyme presumably by forming a more reactive "enol" compound, i.e. a cyanohydrin with the pyruvic acid. It is also observed that the carboxylase becomes very labile when it is separated from its co-enzyme, co-carboxylase.

Continued work on xanthine oxidase, which activates the purines and also "true" aldehydes, but not derivatives of the aldehydes, has shown that this material is identical to Schardingers' enzyme.

Hopkins and Morgan have found that when succinic dehydrogenase is incubated with a solution of cystine at pH 7.6, the enzyme loses its activity completely. When, after filtering and washing, the inactive material is incubated with cysteine, its activity is again restored. This interesting fact has been explained on the assumption that the first treatment involves the removal of the -SH groups by oxidation, and that during the second treatment a restoration of the -SH groups by reduction takes place. It has been noted that glycerophosphate dehydrogenase is not affected by similar treatment. It would, therefore, appear that for the activity of succinic dehydrogenase the existence of -SH groups in the molecule is indispensable.

Investigations continue on the problem of the

metabolism of fats and proteins. Schoenheimer is continuing his studies using the nitrogen isotope N^{15} . The carbon isotope is being made available by Urey. With it we may expect in the near future that many important problems in this field will be studied. Metabolic studies with radioactive substances as tracers are in progress. Using radioactive iron it has been shown that in the body the iron first enters the blood plasma. It then enters the blood cells. In six hours this absorption can be noticed. Other interesting facts have been observed with radioactive phosphorus. Leukemia cells concentrate in the bones, liver, and spleen. When radioactive phosphorus is administered to the animal these cells exchange their phosphorus for the radioactive modification in a much higher percentage than do the normal cells. Thus, the radioactive phosphorus is concentrated in these organs.

Among the important results obtained in the field of the viruses recent work at the Rockefeller Institute, Plainsboro, N. J., is of special interest to this reviewer. It has been shown that one of the constituent parts of the tobacco mosaic virus molecule is nucleic acid. This nucleic acid is similar to yeast nucleic acid and not to thymus nucleic acid. Since the structure of this form of nucleic acid is known the structure of a fragment of the virus molecule can be said to have been determined.

Advances continue to be made in chemo-therapy. The outstanding example is the discovery that pyridine sulfanilamide is effective in the treatment of type B pneumonia. This reviewer reported last year that sulfanilamide itself was effective in the treatment of a variety of bacterial infections and in certain types of pneumonia, but it has no effect on type B pneumococcus. Many other compounds of this nature have been prepared and studied, but the pyridine derivative is by far the most effective for this particular bacterial disease.

Research in the field of the carbohydrates progresses slowly, effort for the most part being concentrated on the polysaccharides, cellulose, starch, glycogen, insulin, varianose, etc. In the field of the simple sugars, mention may be made of a new method for the preparation of glycofuranosides developed recently by Pacsu and Green. If one allows the ethyl mercaptal of the sugar to react with mercuric chloride in a neutral solution of the chosen alcohol crystalline glycofuranosides can be obtained. By this means α -ethyl- β -rhamnofuranoside, β -methyl, β -propyl, and β -benzyl galactofuranosides, and α -methyl and α -ethyl- β -arabinofuranosides have been prepared, and it has been found that these new compounds have rotations which agree well with values calculated from Hudson's rules of isorotation.

Increasing interest is being shown in studies on the role of metals in the animal organism. It can now be stated with some degree of certainty that magnesium deficiency can be divided into two phases. The first phase produces vasodilation, hyperemia, and hyperexcitability; malnutrition, calchesia, and damage to the kidneys appear in the second phase. Administration of increased amounts of calcium increases the severity of magnesium deficiency. Similar conditions have also been observed in plants when magnesium compounds are withheld. Sugar beets develop yellowish white leaves, and the seedlings live only about two months. The percentage of sugar in the leaves also decreases. In the case of peach trees, lack of each of the following elements, K, Ca, Mg, P, N, S, Fe, Mn, and B, produce characteristic symptoms in the branch and root. So specific are these symptoms that it is pos-

sible to identify the particular metal missing in the nutrient.

Again it must be reported that progress in cancer research is slow. Certain results have been obtained, however, which are of interest. In the treatment of this disease, extracts from the placenta and certain sulphur compounds have been used with more or less beneficial effects. Strong reports that he has observed that breast tumors of mice soften, liquefy, and finally regress or disappear upon oral administration of heptylaldehyde. Methyl salicylate augments its activity. It is to be remembered that both of these substances are found in the natural oil of wintergreen.

In concluding this review mention should be made of two other fields of investigation. In studying the mechanism of nerve-transmission it has been observed that in every voluntary or involuntary movement a minute amount of acetylcholine is produced at the end of the nerve fibers. This compound then sets the muscle into motion. In the field of immunological chemistry Goebel reports that he has prepared an artificial antigen which protects rabbits against pneumonia. No bacterial product is used in the synthesis. Another antigen, which protects the body against scarlet fever, and childbed fever streptococci, has been prepared by Swag and Lackman. In their preparation bacterial products are used but the process is carried out without the usual immunological procedures involving the use of animals.

BIRMINGHAM-SOUTHERN COLLEGE. A coeducational institution for higher learning in Birmingham, Ala., founded in 1856. The enrollment for the autumn of 1938 was 927 full-time students and 285 part-time students, and for the summer session, 441. There were 59 faculty members. The endowment amounted to \$692,915, and the income for the year was \$280,796. There were 46,000 volumes in the library. President, Raymond Ross Paty, A.B., A.M., LL.D., inducted in July, 1938.

BIRO-BIDJAN, bē'rō-bī-jān'. A district in the Far Eastern Territory of the U.S.S.R., set aside in 1928 for colonization by Jews and made a Jewish Autonomous Territory by the decree of May 7, 1934. Area, 27,000 square miles; population, 50,000 (1934 estimate) of whom 10,000 were Jews and the remainder chiefly Russians and Koreans. See RUSSIAN SOVIET FEDERATED SOCIALIST REPUBLIC; UNION OF SOVIET SOCIALIST REPUBLICS.

BIRTH CONTROL CLINICAL RESEARCH BUREAU. The Birth Control Clinical Research Bureau was the first birth-control clinic to be legally established in America, and it is today the largest contraceptive clinic in the world. It was founded by Mrs. Margaret Sanger, who has directed its activities from 1923 until the present time. The Bureau provides clinical facilities for patients entitled to contraceptive advice under the laws of New York State, and promotes clinical and laboratory research, and the scientific study of contraceptive techniques and methods. To date, 68,000 patients have been instructed, representing every walk of life, every diversity of race, religion, and education. The Bureau also serves as an instruction center and model clinic for physicians, medical students, nurses, and social workers from this country and abroad, who wish to establish similar services in their own communities or countries.

The *Journal of Contraception*, the first and only publication devoted exclusively to the clinical and biological aspects of human fertility, is published by the Bureau. The Bureau has affiliated with it

more than 160 clinics throughout the country, in a mutual effort to maintain and improve clinic service. In 1936 the educational program of the Bureau was enlarged to meet the increased requests for advice and assistance from individuals and organizations, which followed the notable decision of the U.S. Circuit Court of Appeals for the Second Circuit, clarifying the legal right of the medical profession to give contraceptive advice, and from the subsequent medical recognition of birth control by the American Medical Association. Six Field Workers are now assisting in the establishment of clinics, and encouraging public health agencies to include birth-control service in their health programs. Literature, scientific motion-picture films for the medical profession, and phonograph records are available to organizations, medical groups, and interested individuals. A new talking-slide film "Why Let Them Die?" is also available for the general public. See CHILD WELFARE.

Officers of the Bureau are: Mrs. Margaret Sanger, director; Hannah M. Stone, M.D., medical director; Robert L. Dickinson, medical consultant; Clarence J. Gamble, M.D., medical field director; J. Noah H. Slee, treasurer. Headquarters, 17 West 16th St., New York City. Southern Regional Office, 715 E. St., S.W., Washington, D. C.

BIRTH RATES. See FRANCE, GERMANY, GREAT BRITAIN, SPAIN, ITALY, and JAPAN, and other principal countries under *Area and Population*; CHILD WELFARE.

BISMARCK ARCHIPELAGO. See NEW GUINEA, TERRITORY OF.

BLOOD DETERMINATION. See MEDICAL JURISPRUDENCE.

BOBSLEDDING. See SPORTS.

BOHEMIA. See CZECHO-SLOVAKIA.

BOILERS, STEAM. The number of new boiler installations for which orders were placed during 1938 was hardly sufficient to form a basis upon which to note any additional trends. The majority of such units were of small or medium capacity, designed to operate at moderate steam pressures and intended for industrial or institutional power plants, only three or four important contracts having been placed by the utilities. In view of this, most of the boilers sold during the year were of conventional design. However, as the year drew to a close there were some indications of increased activity in the field, involving advancement of construction schedules.

Some large-capacity high-pressure steam generating units upon which construction was begun in 1937, were completed and placed in service during the past year. In a few cases problems, incident to new designs and severe operating demands, were encountered. These pertained particularly to slagging of certain heat-transfer surfaces, feedwater conditioning, and circulation, but these difficulties have now been largely overcome.

Such a unit involves more than a boiler; it is a completely co-ordinated assembly of fuel-burning equipment, furnace, boiler, superheater, economizer, air preheater, and draft fans. It requires close design to meet the steam conditions, load demands, performance, and fuel characteristics specified. It is therefore sensitive to any departure from the anticipated conditions, particularly as pertain to variations in the quality of fuel burned or the feedwater conditioning employed. In general, this does not apply to such an extent in the case of units of moderate capacity and medium steam pressures, where operating conditions are usually less severe. The reliability of the modern steam-generating unit

is very high and comparable with that of the turbine which it serves.

Steam-generating units ranging from 300,000 to 1,000,000 lb. per hour capacity at 1200 to 1400 lb. per sq. in. pressure and 900 to 935 F. total steam temperature are now common in the utility field, as well as others employing a more moderate pressure of 800 to 900 lb. per sq. in. and around 900 F. steam temperature. The older low-pressure stations are rapidly being "topped" by high-pressure units, or placed in reserve, the low-pressure boilers in the "topped" plants being removed.

In the industrial power plant field, the majority of the newer boiler installations, except those of small capacity, employ pressures of 400 to 700 lb. per sq. in., and a few large outstanding plants have adopted 900 to 1400 lb. per sq. in. One plant has been designed for 2200 lb.

For industrial plants the more or less standardized two-drum, bent-tube steam-generating unit of self-contained design with extended furnace is gaining favor for capacities ranging from 20,000 to 200,000 lb. of steam per hour and pressures up to 750 lb. per sq. in. Such a unit is compact, has a low draft loss, and can be installed at moderate cost. It is adapted to burning any kind of fuel and has an efficiency of 80 to 82 per cent, or 84 to 86 per cent when equipped with an air preheater which is essential when burning pulverized coal.

An extension to one electric utility plant in the Middle West is now under construction for a steam pressure of 2400 lb. per sq. in. and preliminary studies have been made involving such a pressure for at least two other plants. The boiler in the first case mentioned is being designed for natural circulation. However, as the pressure of the steam is increased its specific weight approaches that of the water and the difference, upon which the effectiveness of natural circulation depends, becomes less. Because of this, some engineers are giving thought to the adoption of forced circulation, by means of a pump, where such extremely high pressures are involved. Forced-circulation boilers, heretofore, have not been accorded much consideration in this country although employed extensively in Europe for units of moderate capacity.

Bent-tube, multi-drum designs continue to be favored over the straight-tube, single-drum, header type, particularly for large and medium capacity units because of their more positive circulation. Bare-tube water-cooled furnaces predominate with high rates of heat absorption and, in the case of large pulverized-coal-fired units, the continuous slagging bottom method of ash disposal is being employed where the ash fusing characteristics and load conditions permit. Boiler drums are now quite generally fusion welded, annealed, and examined by X-ray before installation. These drums are made from steel having a tensile strength of 70,000 lb. per sq. in.

While practically all the newer large-capacity steam-generating units have been fired with pulverized coal, as well as about half those of medium capacity, the smaller boilers are generally stoker fired. On the other hand, in localities where natural gas or oil are plentiful and available at attractive prices, these fuels have been employed for boilers of all sizes. Despite this, in many cases provisions have been made for changing over readily to pulverized coal should future fuel prices make such a switch desirable. This can be done very easily inasmuch as a furnace that is proportioned for oil or gas is also adapted to burning pulverized

coal. In other cases provisions have been made for dual firing of two or more fuels.

The use of steam washers, placed in the steam drum of the boiler, is steadily increasing, especially for larger units and where the pressures exceed 400 lb. This insures clean steam to the turbine and the avoidance of deposits on the turbine blading which reduces capacity and often involves outages for removal of the deposits.

With practically all large steam-generating units, and many of medium capacity, automatic combustion control is now employed. Also, in superimposed installations automatic control is necessary for the pressure-reducing valves between the high- and the low-pressure systems and also the desuperheating equipment, in order to protect the low-pressure turbines and piping, should the high-pressure turbine be tripped out of service from any unforeseen cause.

In view of the conditions imposed by present operating practice, involving high rates of heat transfer, high pressures, and high temperatures, attention continues to be focused on correct feed-water treatment, maintenance of the proper alkalinity of the feedwater, the elimination of oxygen in the feedwater through deaeration and control of the concentration of solids in the boiler water. Recent investigations by the U.S. Bureau of Mines and the University of Illinois Experiment Station have disclosed that the once-accepted sulphate-carbonate ratio for the feedwater does not inhibit caustic embrittlement under all conditions and further studies are being made to discover commercially available substances that will inhibit embrittlement under all conditions. The most promising of these at present appears to be lignin compounds.

BOLIVIA. A land-locked Andean republic of South America. Sucre is the seat of the Supreme Court and nominally the capital, but La Paz, the largest city, is the actual seat of the government.

Area and Population. The Bolivian Statistical Office in 1935 estimated the area at 513,218 square miles, exclusive of the Chaco region, divided between Bolivia and Paraguay in 1938. The population was estimated at 3,226,000 on Dec. 31, 1936, as compared with 1,766,451 at the census of 1900, the last census taken. The racial composition of the population was estimated by the Statistical Office in 1935 as follows: White, 402,692; mestizo, 849,776; Indian, 1,613,941; Negro, 6342; unknown, 298,056; total, 3,170,807. Those listed as white included some persons in the upper classes with an admixture of Indian blood. Estimated populations of the chief cities are: La Paz, 150,165; Cochabamba, 49,000; Potosí, 35,900; Santa Cruz de la Sierra, 31,323; Oruro, 30,000; Sucre, 26,113; Tarija, 11,950. Spanish is the language of the educated classes. The Indians speak mainly Quechua and Aymara.

Education and Religion. The 1900 census showed that 16.7 per cent of the population of over seven years of age had received school instruction. Illiteracy is believed to have declined somewhat since that time. The government in 1938 issued a decree requiring all children from seven to 14 years of age and all illiterates under 21 to attend school. In 1937 there were 5500 primary schools of all descriptions, 40 secondary schools giving a six-year course, and universities at La Paz, Sucre, Cochabamba, and Oruro (established 1937). The former university at Santa Cruz de la Sierra was re-established in 1938. Under the Constitution of 1938, the Roman Catholic Church is recognized and

supported by the state, but the public exercise of other forms of worship is guaranteed.

Production. The tin-mining industry, accounting for 70-75 per cent of all Bolivian exports and producing about 12 per cent of the world's tin in 1937, is the principal factor in the national economy. The metal content of tin-ore exports in 1937 was 25,500 metric tons (24,400 in 1936); of tungsten ore, 1081 metric tons; of lead ore, 18,200; zinc, 11,500; antimony, 7127. The output of petroleum was about 15,000 metric tons; the metal content of copper ore exports, 3700 metric tons; exports of silver, 294.1 metric tons. Agriculture and livestock raising are the other chief occupations. The principal crops are wheat, quinoa (resembling millet), corn, rice, barley, sugarcane, cotton, coca leaves, tobacco, and coffee. Manufacturing consists mainly of the production of alcohol and beverages, food-stuffs, textiles, and clothing.

Foreign Trade. Imports in 1937 were valued at 59,234,000 bolivianos (55,464,000 in 1936) and exports at 124,599,000 bolivianos (100,008,000 in 1936). Of the 1937 imports, the United States furnished 16,429,000 bolivianos; Peru, 9,272,000; Germany, 7,887,000; Argentina, 7,688,000; Great Britain, 4,673,000. Of the exports, Great Britain took 74,646,000 bolivianos (mostly tin for smelting); Belgium, 29,179,000; United States, 9,075,000; Netherlands, 5,838,000; Argentina, 2,203,000. Minerals normally account for about 98 per cent of all exports. The chief imports are cotton and wool textiles, wheat, flour, sugar, live animals, machinery and metal products, lumber.

Finance. Budget estimates for 1939 balanced at 300,669,856 bolivianos and those for 1938 at 274,123,000 bolivianos; the latter figure represented an increase of nearly 100 per cent over the 1936 budget estimate. Actual receipts in 1937 were reported at 266,000,000 bolivianos and expenditures at 275,000,000 bolivianos. The public debt on Dec. 31, 1937, totaled 2,333,500,000 bolivianos (foreign, 1,930,800,000; internal, 402,700,000), compared with 1,937,400,000 bolivianos on Dec. 31, 1936. The boliviano, par value \$0.617, exchanged at an average of \$0.03 in 1936 and \$0.0412 in 1937 (bank rate).

Transportation, etc. Bolivia in 1938 had 1402 miles of railway line in operation, 50 miles under construction, and 498 miles under survey. At the beginning of 1937 there were 4172 miles of roads; the number of automobiles was 4260. The total length of navigable rivers was 5600 miles. Five steamers ply the waters of Lake Titicaca (12,500 feet high). Air lines link the principal cities of the republic and connect with the Pan American and Junkers air networks, providing service to all European and American centers.

Government. The Constitution of 1880, as amended in 1931, established the democratic-republican form of representative government. Executive power was vested in a president elected for four years by direct vote of literate males; he was ineligible for re-election until eight years after the expiration of his term. The cabinet was chosen by the president and was responsible to a bicameral congress elected by direct suffrage.

The constitutional regime was suspended Nov. 28, 1934, when army leaders, dissatisfied with the conduct of the Chaco War, forced the resignation of President Daniel Salamanca. His successor, Provisional President José Luis Tejada Sorzano, was ousted May 17, 1936, by a bloodless military coup led by Lieut.-Col. Germán Busch. Col. David Toro, Chaco War hero, was made Provisional

President. His government abolished the 1880 Constitution in favor of a military-civilian dictatorship committed to state socialism. A second bloodless military coup d'état of July 17, 1937, forced out Toro and installed Busch as Provisional President. His government on July 31, 1937, announced the abandonment of state socialism and on August 1 it restored the 1880 Constitution. For developments in 1938, see *History*.

HISTORY

Constitutionalism Restored. Elections for a National Assembly to draft a new constitution were held Mar. 13, 1938. In 1937 Provisional President Germán Busch had proclaimed a general amnesty for exiled political opponents and pledged the unrestricted participation of all political parties in the National Assembly elections. However, Busch's chief rivals for the Presidency—ex-President Bautista Saavedra, leader of the Republican Socialist Party, and Carlos Calvo, presidential candidate of the Liberal Party—were not permitted to return from exile. Consequently the opposition parties abstained from voting in the March elections. The 18 Senators and 106 Deputies elected were, with the exception of several independents, all members of the government-sponsored Socialist United Front comprising Socialists, Chaco War veterans, and workers' organizations.

The Assembly convened in La Paz May 26 and the following day elected Lieutenant-Colonel Busch Constitutional President for a four-year term. Dr. Enrique Baldivieso, Socialist Party leader and former Foreign Minister, was elected Vice-President. Both officials were sworn in May 29. President Busch pledged himself to work for an early solution of the Chaco dispute with Paraguay and to completely reorganize Bolivia's administrative system. The same day he appointed a new cabinet, composed largely of civilians and with Dr. Eduardo Diez de Medina holding the Foreign Affairs portfolio. Immediately afterwards he authorized the exiled political leaders, Calvo and Saavedra, to return to Bolivia.

The draft of a new constitution containing radical reforms was submitted to the Assembly on June 8. Following its adoption October 28 President Busch and the members of his cabinet took the oath of office under the new Constitution on October 30. The Assembly then adjourned. It was scheduled to divide itself into a Senate and Chamber of Deputies and reassemble as the constitutional Congress on Aug. 6, 1939, unless the President convoked it before that date. On the day before adjournment, President Busch sent a message assuring the Assembly that his government had no "totalitarian ambitions" and would continue to follow democratic principles after the Assembly disbanded.

The New Constitution. The Constitution promulgated Oct. 30, 1938, declared Bolivia to be a unitarian republic with a representative democratic government. Executive power is vested jointly in the President and his Cabinet. The President and Vice-President are elected by direct suffrage for four years and may not succeed themselves. Legislative power rests in a National Congress composed of a Chamber of Deputies chosen by direct suffrage for four years (half elected every two years) and a Senate selected on the basis of three representatives from each Department. The Senators serve for six years and one-third are named every two years. Citizenship is restricted to Bolivians over 20 years of age who can read and write

and who are inscribed in the Civic Register. For a detailed analysis, see Beatrice Newhall, "The New Constitution of Bolivia," *Bulletin of the Pan American Union*, February, 1939, p. 100 f.

Internal Developments. The Busch Government had to contend not only with the agitation of opposition political groups but also with public hostility to some of the measures of the Assembly and with pressing economic and financial difficulties. In March ex-President Toro secretly left Santiago, Chile, where he lived in exile, and crossed into the Bolivian Chaco from northern Argentina. On March 30 he issued a manifesto to the officers of the Bolivian troops in the Chaco, urging them to join him in a revolt against the Busch regime. Failing to win the expected support, he fled back to Argentina. Several of his fellow-conspirators were arrested and one of them, Col. Juan de Dios Cárdenas, was sentenced to death May 4 by a military court. He was shot to death at Tarija May 8 while attempting to escape from prison, according to an official announcement.

Late in April the government banned "all Communist, Anarchist and Bolshevik activity" and on May 15 it prohibited agitation by all foreign elements in Bolivia. The latter decree mentioned no faction, but barred public meetings by foreign groups, the use or exhibition of factional symbols or insignia, and "all public actions that tend to reflect the political ideologies of foreign nations." Yet the government permitted 29 students to visit Germany for six months at the expense of the Hitler Youth organization.

On July 13 the National Assembly repealed Article IV of the 1880 Constitution guaranteeing freedom of the press and authorized the President to suppress "the national press of the extreme Right." Protests of newspaper publishers led President Busch to assure them on August 25 that the press retained full liberty. On July 31 Deputy Chief of Police Ernest Fleischman was ordered deported in connection with another alleged revolutionary conspiracy. Coincident with Bolivia's ratification of the Chaco Peace Treaty on August 12, the Cabinet resigned and President Busch appointed a new one composed chiefly of Socialists. On November 25 a revolt plot in La Paz was foiled by the arrest of 20 persons described as Leftist agitators. A nationwide state of siege was immediately proclaimed. Two days later the government announced that eight leaders of the movement had been imprisoned.

In the economic and financial field, the Busch Government undertook a three-point program of reform. Two rates of exchange, based on the pound sterling sight rate, were established by the decree of June 11 in place of the three separate rates previously in effect. Foreign exchange for government expenditures was made purchasable at 100 bolivianos to the pound, while the second rate of 140 bolivianos to the pound applied to exchange acquired for all other purposes, including imports. Secondly, it was announced that an Agricultural Bank, with a capital of 14,000,000 bolivianos, would be established to promote agricultural production and eliminate the need for importing food supplies. The third point called for balancing the budget. However, the country's economic and financial difficulties were enhanced by restrictions on tin exports and the low price received for tin. Tin prices rose from approximately £150 sterling per ton during the early part of the year to around £220 per ton during December.

The National Assembly also created a Ministry

of Health and Hygiene and allotted up to 10,000,000 bolivianos for its work. The 1936 decree canceling the Standard Oil petroleum concession was approved. New taxes and authorization to borrow additional funds provided for increased railway and highway construction and the improvement of education and public health. The National Territory of Colonies in northeastern Bolivia was transformed into the Department of Pando, with Cobija as the capital. The department in turn was subdivided into the four provinces of Tahuamanu (capital, Cobija), Abuná (Manoa), Manuripi (Puerto Rico), and Madre de Dios (Las Piedras). Gabriel René Moreno University in Santa Cruz de la Sierra was re-established. The flour monopoly was abolished. A presidential decree of November 11 extended and raised existing sales taxes.

Other legislation passed during the year included a decree of April 8 relaxing restrictions on gold mining. The decree of April 22 required all public officials, members of the government and their relatives and intimate friends to declare the property which they owned in July, 1932, and that owned on the date of the decree, the object being to uncover fortunes acquired by profiteering or graft during and after the Chaco War. The decree further provided that thereafter all important public officials and those handling funds of the government, municipalities, or universities should state under oath the amount of their property on assuming and leaving their positions. The decree law of May 11 provided for the establishment of a fund permitting the retirement of journalists on full pay after 25 years of service. The Council of National Economy, created by decree in August, 1937, began to function on Jan. 3, 1938. In September the government had to contend with a serious outbreak of bubonic plague at Choreti in the Bolivian Chaco.

The Chaco Settlement. The 86-year-old boundary dispute between Bolivia and Paraguay that resulted in the sanguinary Chaco War of 1932-35 was settled by a Treaty of Peace, Friendship, and Boundaries signed at the Chaco Peace Conference in Buenos Aires on July 21, 1938, and the arbitral award of October 10. See CHACO DISPUTE, SETTLEMENT OF, for full details.

The settlement cost Bolivia much of the Chaco territory she held at the beginning of the war with Paraguay. But it satisfied in part Bolivia's demands for outlets to the Paraguay River and conferred other advantages. Because of these provisions the peace treaty was ratified by the National Assembly, 102 to 9, and was generally approved by Bolivian public opinion. Other factors inducing the settlement were the precarious financial condition in which Bolivia was left by the Chaco War, the heavy burden of maintaining a large force in the distant Chaco after the 1935 truce, the unwillingness of the Bolivian people to consider another war, and the sincere response to insistent appeals of neutral American governments and peoples for inter-American peace.

Other Foreign Relations. With the Chaco dispute disposed of, the Bolivian Government proceeded with the diplomatic negotiations and economic arrangements started in 1936 with Argentina, Brazil, Chile, and Peru for the purpose of providing new and improved facilities for Bolivia's internal and external commerce (see 1937 YEAR BOOK, p. 97). All of these economic, commercial and railway agreements were ratified by the National Assembly along with treaties definitely fixing the boundaries of Bolivia with Peru, Chile, and Argentina as well as Paraguay.

On Feb. 25, 1938, Bolivia signed two important treaties with Brazil, carrying into effect the recommendations submitted the previous October by a mixed Bolivian-Brazilian commission. One of these provided that £1,000,000 sterling due Bolivia from Brazil under the treaty of Dec. 25, 1928, should be applied to the construction of a railway linking Santa Cruz de la Sierra in eastern Bolivia with the Brazilian railway network at a point between Porto Esperança, Brazil, and Corumbá, Bolivia. Brazil agreed to lend Bolivia the additional amounts needed to complete the railway, the loan to be repaid in 20 annual installments either in sterling or in equivalent quantities of Bolivian crude petroleum or gasoline. The final survey of this railway was begun Jan. 25, 1938, and was to be completed within one year. Brazil was to proceed immediately to extend the Northwestern Railway of Brazil from Porto Esperança to Corumbá.

The same treaty bound Bolivia to construct and operate railways from the oil refinery at Camiri to Santa Cruz de la Sierra and from Camiri to Sucre on the Bolivian plateau, the latter already partly constructed. Moreover, Bolivia and Brazil agreed to co-operate in completing the Cochabamba-Santa Cruz railway, started in 1928 with an American loan, and in building a branch line from Santa Cruz de la Sierra to Puerto Grether or another point on the Ichilo River, thus affording an improved outlet for eastern Bolivia via the Amazon waterways system. Completion of the Cochabamba-Santa Cruz-Porto Esperança lines would link the Bolivian and Brazilian railway systems and permit direct transcontinental railway traffic between Santos, Brazil, and Arica, Chile.

The second Bolivian-Brazilian treaty provided for joint exploration and exploitation of the Bolivian petroleum deposits in the eastern foothills of the Andes north of the Parapeti River. In an exchange of notes between Bolivia and Brazil on the same date these treaties were signed, Brazil declared that she "considers as definite and, therefore, not susceptible to any modifications except those made by Bolivia's own will, the territorial status of Bolivia in the part in which this status has been juridically defined and formally admitted or recognized by it. With respect to the part yet to be defined (in the Chaco Boreal), Brazil will recognize and respect only what is freely covenanted, in accordance with the principles of international law, in general, and especially in accordance with the (inter-American) declaration of Aug. 3, 1932, which it hereby affirms." This declaration had a direct bearing upon Bolivia's territorial dispute with Paraguay. The two treaties were ratified by the Constitutional Assembly at La Paz August 19 by a vote of 88 to 11.

It was announced in Santiago, Chile, on June 7 that in accordance with the commercial and transit agreements concluded by Bolivia and Chile in 1937, Bolivia would establish its own customs facilities at Arica, the Chilean port through which the bulk of Bolivia's foreign trade passes. A reciprocal Bolivian-Chilean commercial treaty was signed at La Paz, May 21, 1938. The Bolivian Constitutional Assembly also approved during 1938 the Protocol of May 1, 1907, thus ratifying the Bolivian-Chilean treaty of Oct. 20, 1904, and providing for readjustment of their common frontier through mutual concessions. Chile had approved this protocol in August, 1917. Despite these agreements, Bolivia's oft reiterated desire for a Pacific port was again proclaimed by the Bolivian Foreign Minister at the Pan American Conference at Lima in December,

Chile replied unofficially that no further concessions could be made.

The rapprochement between Bolivia and Argentina, inaugurated in 1936 and 1937, was furthered during 1938. The Argentine-Bolivian boundary treaty, signed in 1935 and subsequently ratified by Bolivia, went into effect with its ratification by the Argentine Congress on September 7. Under the Bolivian-Argentine railway and petroleum treaties of 1937, mixed technical commissions conducted surveys during 1938 for the projected joint railway constructions and oil-field developments in that part of eastern Bolivia south of the Parapeti River.

A treaty with Peru, providing for an exchange of territories on the Copacabana Peninsula in Lake Titicaca, was ratified by the Bolivian National Assembly on October 3 by a vote of 38 to 34. On November 10 leading Bolivians, with the approval of the government, formed the Crucista Society, named after President Santa Cruz of the Peruvian-Bolivian Confederation and dedicated to the promotion of closer cultural and commercial intercourse between the two countries. A society with the same name and purpose already existed in Peru.

Consult Ronald Stuart Kain, "Bolivia's Claustrophobia," *Foreign Affairs*, July, 1938.

BOLLWORM, PINK. See ENTOMOLOGY, ECONOMIC.

BOOTS AND SHOES. See SHOES.

BORNEO. See BRITISH NORTH BORNEO; BRUNEI; NETHERLANDS INDIES; and SARAWAK.

BOSTON. See MASSACHUSETTS.

BOSTON UNIVERSITY. A nonsectarian institution of higher education in Boston, Mass., founded in 1839 and chartered as Boston University in 1869. The enrollment for the autumn session of 1938 was 11,621, distributed as follows: College of liberal arts, 922; college of business administration, 3269; college of practical arts and letters, 566; college of music, 209; Sargent college of physical education, 258; school of theology, 252; school of law, 393; school of medicine, 199; school of education, 2547; school of religious and social work, 167; graduate school, 502. The enrollment for the 1938 summer session was 2035. The University faculty numbers 630. Total income for the year 1937-38, \$1,992,477. The endowment amounted to \$5,121,780. Total volumes in the libraries, 185,000. The Charles Hayden Memorial, the new \$1,150,000 building for the College of Business Administration, is under construction and will be ready for occupancy in June, 1939. President, Daniel L. Marsh, Ph.D.

BOTANY. Origin and Distribution of Cultivated Plants. The origin of our cultivated plants has always aroused a great deal of botanical interest. Most of them originated in prehistoric periods and consequently no written records are available. The problem can be solved only by collecting wild plants in their probable home and then attempting to trace out their history in connection with their modern cultivated representatives. Kempton (*Smithsonian Inst. Ann. Rept.* 1937: 385-408) has contributed an interesting account of maize from the standpoint of the American Indian and has discussed some of the theories as to its place and method of origin. Three general theories regarding the origin of maize have been proposed. One view is that it developed from pod-corn; a second theory suggests that maize originated from teosinte; and a third that maize, teosinte, and related grasses have descended independently from a remote common an-

cestor. Mangelsdorf and Reeves (*Proc. Nat. Acad. Sci.* 24: 303-312) have approached the problem from the standpoint of hybridization, and have come to the conclusion that maize has descended from a wild plant which has hybridized with gamma grass or some similar type. Pod-corn is considered as a close representative of the ancestral form. Teosinte is excluded from the origin since it, in their view, is a hybrid. The accumulated evidence is that maize originated in Peru and not in Central America or Mexico. Merrill (*Bot. Rev.* 4: 1-20) has been interested in the problem of the distribution of plants by migrating peoples and has summarized the work in a recent paper in which the relation of domesticated plants to the diffusion of culture is considered. A long list of food plants are of American origin and became known to Europeans after the discovery of America in 1492. Man is the most important factor in their dissemination. David Fairchild has been associated for nearly forty years with the introduction of useful plants of foreign lands into the United States. His trips of exploration have taken him to many different parts of the world, and he has brought back, in the course of the years, a large number of useful plants. The interesting story of his travels as a plant explorer is told in his recent book *The World Was My Garden* (494 p., Scribners).

The Longevity of Plants. Some years ago, Molisch published an interesting book summarizing the information on the longevity of plants, a book which has recently been translated by Fulling (226 p., Science Press). This topic has always aroused the interest of biologists, and in this work extensive data are given on the longevity of both unicellular and multicellular organisms, as well as information concerning the means of prolonging the life of plants, their rejuvenescence, death, and the alleged potential perpetual life of a tree.

Plant Growth. Problems of growth have been attacked from different standpoints. Of special interest are those papers concerned with the role of vitamin B₁. In the culture of many fungi, difficulties have been encountered in getting adequate growth, and Robbins and Kavanagh (*Amer. Jour. Bot.* 25: 229-236; *Bull. Torrey Bot. Club* 65: 453-461) have published interesting results on the influence of vitamin B₁, or thiamin, and its intermediates pyrimidine and thiazole. They find that thiamin is essential for some fungi, while others can use intermediates as well. Noecker (*Amer. Jour. Bot.* 25: 345-348) has attacked the same problem in connection with the cultivation of certain species of wood-destroying fungi, and Bonner and Erickson (*Amer. Jour. Bot.* 25: 685-692) have contributed a paper on the value of the mold *Phycomyces* as an assay for thiamin. Bonner (*Amer. Jour. Bot.* 25: 543-549) has studied the effect of vitamin B₁ on the growth of roots.

Thimann and Schneider (*Amer. Jour. Bot.* 25: 270-280) have investigated the role of salts and hydrogen-ion concentration in the response of the coleoptile of *Avena* to auxins, and Schneider (*Amer. Jour. Bot.* 25: 258-270) has studied the interdependence of auxin and sugar for growth. Beal (*Bot. Gaz.* 99: 881-911) has reported on the histological responses of species of *Lilium* to indoleacetic acid. Hamner (*Bot. Gaz.* 99: 912-954) has studied the histological changes of *Mirabilis jalapa* to this same substance. Mitchell and Hamner (*Bot. Gaz.* 99: 569-583) have reported on the stimulating effect of beta(3)indoleacetic acid on the synthesis of solid matter by bean plants.

The Role of Selenium. In recent years, the chemical element selenium has been definitely as-

sociated with a type of stock poisoning in the West, where animals graze on certain kinds of plants. Moxon et al. (*Amer. Jour. Bot.* 25: 794-809) have worked out the distribution of selenium in Cretaceous formations of South Dakota and determined the selenium content in some of the associated vegetation. Martin and Trelease (*Amer. Jour. Bot.* 25: 380-385) have studied the absorption of selenium by tobacco and soybeans in sand cultures. Trelease and Trelease (*Amer. Jour. Bot.* 25: 372-380) have carried out some experiments which indicate that selenium is a stimulating and possibly an essential element of certain indicator plants. Hurd-Karrer (*Amer. Jour. Bot.* 25: 666-675) has given further data on the relation of sulphate to the absorption of selenium.

Photoperiodism. Allard (*Jour. Agric. Res.* 57: 775-789) has continued his studies on the influence of length of day on plants. Both long and short day plants have been known for several years. Allard now finds that certain plants come into the flowering condition when the days are neither too long nor too short; in other words, they are intermediate in their length of day requirements. Such intermediate behavior has been found in *Mikania scandens*, *Phaseolus polystachyus*, and *Eupatorium torreyanum*. The narrowest flowering response of any plant studied is a wild New Guinea sugarcane, the flowering range lying somewhere between 12 and 14 hours of daylight. Borthwick and Parker (*Bot. Gaz.* 99: 825-839; 100: 374-387) carried out various experiments on the photoperiodic reaction of soybeans, and Hamner and Bonner (*Bot. Gaz.* 99: 615-629; 100: 388-431) have considered the effects of environmental factors on photoperiodism and the relation of hormones to floral initiation and development.

Nutrition. Many interesting contributions on various phases of plant nutrition have been published. Dawson (*Bot. Gaz.* 100: 336-346) has studied the relation between nicotine synthesis in tobacco and the nitrogen supply. Archbold (*Ann. Bot.*, N. S. 2: 183-202; 403-435) has published additional papers dealing with the role of fructosans in the carbohydrate metabolism of the barley plant. Richards (*Ann. Bot.*, N. S. 2: 491-534) has contributed a paper on the relation of the respiration rate to the carbohydrate and nitrogen metabolism of the barley as determined by the supply of phosphorus and potassium. Petrie and Wood (*Ann. Bot.*, N. S. 2: 33-60; 729-750; 887-898) have carried out studies on the nitrogen metabolism of plants, particularly in connection with the relation between the content of proteins, amino-acids, and water in the leaves; the interrelations among soluble nitrogen compounds, water and the respiration rate; and also on the effect of water content on the relationship between proteins and amino-acids. Gregory and Purvis (*Ann. Bot.*, N. S. 2: 237-251; 753-764) have made additional interesting studies in the vernalization of cereals, especially in the use of anaerobic conditions in the analysis of the vernalizing effect of low temperature during germination.

Cytology and Genetics. Recently, the alkaloid colchicine has come into prominence in connection with the production of polyploids. Nebel and Ruttie (*Jour. Hered.* 29: 3-9) have made a contribution on the cytological and genetical significance of colchicine. Polyploids of marigold, petunia, snapdragon, and other plants have been produced. From a cytological standpoint, colchicine inhibits spindle formation and thus the cells become polyploid. Walker (*Amer. Jour. Bot.* 25: 280-285) has de-

scribed in detail the effect of colchicine on the microspore mother cells and microspores of *Tradescantia*.

Emsweller and Jones (*Bot. Gaz.* 99: 729-772) have studied the crossing-over, fragmentation, and formation of new chromosomes in a hybrid between species of *Allium*. McClintock (*Genetics* 23: 315-376) has studied the production in maize of homozygous deficient tissues with mutant characteristics by means of the aberrant mitotic behavior of ring-shaped chromosomes. MacArthur and Butler (*Genetics* 23: 253-268) have studied the inheritance of size and geometric growth processes in the fruit of the tomato. Sax (*Genetics* 23: 494-516) has reported on the aberrations of chromosomes induced by X-rays. Saunders and Stebbins (*Genetics* 23: 65-82; 83-110) have made cytogenetic studies in *Paonia*, one paper dealing with the compatibility of the species and the appearance of the hybrids, and another being concerned with the cytology of the diploid species and hybrids. The old problem of sexuality in the powdery mildews has been raised anew by Colson (*Ann. Bot.*, N. S. 2: 381-402) in her studies on the cytology and development of *Phyllactinia corylea*. She concludes that there is no fusion between the nuclei of the antherid and the oogonium, although earlier workers have described this fusion in detail.

Some years ago, Small and Alexander described a large number of so-called "new species" of iris from the Delta Region of Louisiana. The question has been raised as to whether these were actually species, or hybrids. Riley (*Amer. Jour. Bot.* 25: 727-738) has contributed a study on colonies of *Iris fulva*, *I. gigantea*, and their natural hybrids and has come to the conclusion that many of the types of iris plants discovered in Southern Louisiana have originated as crosses between these two species.

Taxonomy. Merrill (*Jour. Arnold Arbor.*, Harvard Univ. 19: 21-70) has recorded extensive additions to the Indo-Chinese plants. Among the 191 species described, 39 are recorded as new; in addition, two new genera are listed. Clausen (*Memoirs, Torrey Bot. Club* 19: 1-177) has published a monograph on the world-wide distribution of the Ophioglossaceae, an important family of the fern group. Altogether, three genera and a total of 52 species are recognized, two of the latter being new. Accounts of the botanical collections of the Second Byrd Antarctic Expedition have appeared (*Ann. Mo. Bot. Gard.* 25: 467-727). The plants were collected on Marie Byrd Land during the Second Expedition in Little America in 1934. Throughout Marie Byrd Land there are thousands of plant colonies, some of which are represented by a very dense growth of lichen forms. Siple has described the ecology and geographical distribution; Dodge and Baker listed the lichens and lichen parasites; and Bartram the mosses. Five species of mosses and 89 species of lichens, many of the latter new, have been described. Sherff (*Ann. Mo. Bot. Gard.* 25: 1-94) has published a revision of the Hawaiian species of *Euphorbia*, listing 21 distinct species and several varieties. Epling (*Ann. Mo. Bot. Gard.* 25: 95-188) has published a paper on the Californian species of *Salvia*, recognizing 18 species with numerous sub-species. Of special interest is the recording of 11 hybrids between certain of the species. Krukoff and Moldenke (*Brittonia* 3: 1-74) have made a study of American Menispermaceae, with particular reference to the species used in the preparation of arrow-poisons. Altogether, 7 genera and 63 species were treated.

Sherff (*Field Mus. Nat. Hist.*, Bot. Ser. 16: [Pt. 1, 2] 1-709) has published a very extensive monograph on the genus *Bidens*, bringing together an account of the species in various parts of the world. The 233 species of the genus are described and illustrated by 189 plants.

Cryptogamic Botany. This expression, which has been used to cover all plants below the seed plants, has been revived by Smith in his new two-volume work *Cryptogamic Botany* (McGraw-Hill). The first volume is devoted to a general treatment of the algae and fungi, and the second to the liverworts, mosses, and ferns. The general morphological and phylogenetic point of view is presented.

Two new books on the algae have been published. Tiffany's *Algae, the Grass of Many Waters* (171 p., Thomas) is a well-illustrated, interesting book on this group of plants. It takes up the question as to how the algae grow and reproduce; the algal floras of lakes, ponds, streams, soil, ice, and snow; the algae of the past; and relation of algae to human welfare. Taylor's book *Marine Algae of the Northeastern Coast of North America* (427 p., Univ. of Mich. Press) is a valuable work dealing with the characteristics and identification of the algae along the seacoast. It is a much-needed work, since no recent book along these lines has been published. Small has published an extensive work on *Ferns of the Southeastern States* (517 p., Science Press). This is valuable as a manual for this general region.

BOUNDARY DISPUTES. See CHACO DISPUTE, SETTLEMENT OF; ARGENTINA, CHILE, COSTA RICA, CZECHO-SLOVAKIA, ECUADOR, HONDURAS, HUNGARY, IRAQ, MANCHOUKUO, PARAGUAY, and POLAND under *History*.

BOWDOIN COLLEGE. An institution of higher education for men in Brunswick, Me., founded in 1794. The enrollment for the autumn session of 1938 was 641. There were 57 faculty members and four Teaching Fellows. The productive funds of the college amounted to \$8,215,542, and the income for 1937-38 was \$627,673. The library contained more than 176,000 volumes. President, Kenneth Charles Morton Sills, LL.D.

BOWLING. See SPORTS.

BOXING. See SPORTS.

BOYS' CLUBS OF AMERICA, INC. A national organization formed in 1906, with headquarters at 381 Fourth Ave., New York City. Membership in a Boys' Club is open to boys of all races and creeds from the age of 8 to 18. Through interesting boys in supervised leisure-time activity, Boys' Clubs have an opportunity to do character formation work of distinct value. They specialize in service to the underprivileged boy. Latest statistics give a federation of 342 Boys' Clubs in 190 cities in 37 States, with an enrollment of 300,000 boys. The Boys' Club Federation of Canada, with 21 Boys' Clubs, is affiliated with Boys' Clubs of America.

The officers in 1938 were: President, William Edwin Hall; chairman of the Board, Herbert Clark Hoover; secretary, William Ziegler, Jr.; treasurer, Albert H. Wiggins, and executive director, Sanford Bates.

BOY SCOUTS OF AMERICA. An organization incorporated in 1910, and chartered by Congress in 1916, to develop the character of boys and train them for the duties of adult life by influence brought to bear in their work and play. Each boy, on joining the organization, takes the Scout Promise to keep himself "physically strong, mentally

awake, and morally straight." The movement is nonsectarian and without military or political connection.

The membership as of October, 1938, numbered 1,221,338; 809,850 were Scouts, 116,151 Cubs, and 269,621 Adult Leaders. There were 12 regional districts subdivided into 535 Local Councils.

The official magazine for boys is *Boys' Life*, and for Scout Leaders *Scouting*. The National Officers in 1937 were: President, Walter W. Head; Treasurer, Lewis Gawtry; National Scout Commissioner, Daniel Carter Beard; Chief Scout Executive, James E. West; Deputy Chief Scout Executive, George J. Fisher. Headquarters of the National Council are at 2 Park Avenue, New York City.

BRAZIL. A republic of South America, comprising 20 States, the Federal District, and one Territory. Capital and largest city, Rio de Janeiro.

Area and Population. Brazil has an area of 3,286,170 square miles and a population estimated on Dec. 31, 1937, at 43,247,000 (30,635,605 at the 1920 census). The population is greatly mixed, with Portuguese, Italian, Spanish, and German strains predominating in the central and southern States and with strong infusions of Negro and Indian blood in the north. Japanese constitute nearly 20 per cent of the population of the State of São Paulo; they occupy less than 2 per cent of its land but produce 30 per cent of all farm crops in the State. Portuguese is the official and principal language, although German and Italian are widely used in the south. Estimated populations of the chief cities in 1936 were: Rio de Janeiro, 1,711,466; São Paulo, 1,120,405; Recife, 472,764; Bahia de São Salvador, 363,726; Porto Alegre, 321,628; Belém, 293,036; Bello Horizonte, 167,712; Fortaleza, 143,277; Maceió, 129,105; Nictheroy, 125,247; Curitiba, 116,632; João Pessoa, 101,280; Manaus, 89,346.

Education and Religion. The population is estimated to be about 70 per cent illiterate. There were 33,251 schools of all types in 1935 (29,553 primary, 447 high schools, 383 domestic schools, 328 normal schools, 874 special schools, and 248 superior schools conferring degrees) with a total of 65,731 teachers and 2,574,802 students and pupils. There are also four universities—at Rio de Janeiro, Porto Alegre, Bello Horizonte, and Curitiba—besides various other faculties that confer degrees. Roman Catholicism is the predominant religion, but there are many followers of various Protestant denominations, Judaism, Buddhism, Mohammedanism, etc.

Production. Agriculture, stock-raising, and manufacturing are the chief occupations. Brazil ranks first in the world in production of coffee, second in cacao, and third in sugar and tobacco. Coffee annually accounts for between 60 and 75 per cent of the value of all exports. Coffee production in 1937-38 was about 1,547,900 metric tons (1,577,000 in 1936-37). The cotton acreage increased from 1,967,960 hectares in 1936 to 2,211,000 hectares in 1938 (hectare equals 2.47 acres) and the yield in 1937-38 was 478,000 metric tons, ginned (400,000 in 1936-37). Production of other leading crops in 1936-37 was (in metric tons): Wheat, 150,000; barley, 11,300; rye, 16,000; oats, 13,800; corn, 6,625,500; rice, 1,250,200; potatoes, 334,200; cacao, 127,200; cane sugar, 958,700 (about 1,017,000 in 1937-38); tobacco, 93,400; cotton-seed, 1,113,700 in 1937-38. The wool clip in 1936 was 17,000 metric tons. The estimated number of livestock slaughtered in 1936 was: Cattle and calves, 4,538,-

000; sheep, 309,000; goats, 200,000; swine, 2,769,000.

Output of the chief mineral and metallurgical products in 1937 were (in metric tons): Coal, 762,789 (value, 40,054,000 milreis); manganese ore (exports), 247,115 (value, 44,730,000 milreis); cement, 571,452 (value, 125,342,000 milreis); salt, 390,000 in 1936; iron ore (metal content), 20,000 in 1936; pig iron and ferro-alloys, 78,000 in 1936; steel, 74,000 in 1936. Gold production in 1937 was 4534 kilograms, valued at 80,617,000 milreis. Diamonds, monazite, chrome, and other minerals are produced. The forests yield hardwoods, rubber, carnauba wax, oil seeds, and kernels. Cotton weaving is the leading manufacturing industry. Other manufactures are clothing, metal products, chemicals, electric power and ice, wood products, construction materials, ceramics, paper, leather, refined sugar, tobacco products, flour, meat products.

Foreign Trade. Imports in 1937 were valued at 5,314,551,000 milreis (4,268,667,000 in 1936) and exports at 5,092,059,000 milreis (4,895,435,000 in 1936). In U.S. paper dollars, imports in 1937 totaled \$330,554,094 (\$246,718,000 in 1936); exports, \$347,565,000 (\$320,043,000 in 1936). Leading 1937 imports in order of value were: Machinery, apparatus, utensils and tools, \$62,521,000; foodstuffs and beverages, \$59,446,000; iron and steel and their manufactures, \$45,512,000; motor cars and trucks, \$16,611,000. The chief exports were: Raw coffee, \$147,394,000; raw cotton, \$64,458,000; cacao, \$15,645,000; cattle hides, \$15,185,000; oilseeds and kernels, \$14,607,000. The distribution of trade is shown in the accompanying table.

BRAZILIAN TRADE WITH CHIEF COUNTRIES
[Value in thousands of dollars]

Country of origin or destination	General imports		Exports of Brazilian products	
	1936	1937	1936	1937
United States	54,661	76,410	124,328	126,328
Germany	57,948	79,013	42,209	59,502
United Kingdom . .	27,739	39,926	38,227	31,296
France	7,259	7,796	23,681	22,318
Argentina	40,561	45,827	13,000	16,502
Japan	2,865	5,326	13,719	16,404
Per cent of total:				
United States . .	22.2	23.1	38.8	36.3
Germany	23.5	23.9	13.2	17.1
United Kingdom .	11.2	12.1	11.9	9.0
France	2.9	2.4	7.4	6.4
Japan	1.2	1.6	4.3	4.7
Argentina	16.4	13.9	4.1	4.7

Finance. The budget estimates for 1938 placed total revenues at 3,823,623,000 milreis and expenditures at 3,875,227,000 milreis. For 1939 the respective estimates were 4,071,000,000 and 4,065,000,000 milreis. The 1939 budget did not provide for extraordinary expenditures in connection with the proposed five-year plan and special requirements of the army and navy.

In 1937 actual current revenues were 3,462,476,000 milreis and capital revenues were 1,742,354,000 milreis including 1,478,029,000 raised through credit operations. Current expenditures were 4,143,959,000 milreis and total expenditures 5,204,830,000 milreis, which balanced with total receipts. The internal funded debt on Dec. 31, 1937, was 3,748,252,000 milreis and the internal floating debt, including 4,532,450,000 milreis of money in circulation, was 6,979,366,000 milreis. The external debt on the same date was divided as follows: 104,192,440 pounds sterling, 229,185,500 gold francs, 273,634,213 paper francs, and 168,771,745 U.S. dollars. Complete suspension of the foreign debt service was announced Nov. 20, 1937. The exchange value of the paper mil-

reis in 1937 was \$0.0869 in the official market and \$0.0622 in the free market.

Transportation, etc. Railway lines in 1937 extended 20,945 miles; roads, 93,135 miles; airlines, 21,246 miles (1938); navigable waterways, 21,944 miles. A branch railway 103 miles long providing direct service between the port of Santos and Mayrink, center of a rich farming region in southern São Paulo, was opened Dec. 3, 1937. A new air service connecting Rio de Janeiro with Buenos Aires via São Paulo, Curitiba, the Iguassú Falls, and Asunción (Paraguay) was opened by Pan American Airways on Feb. 21, 1938. There were 144,000 automobiles in Brazil in 1937. Rio de Janeiro and Santos are the leading ports. In 1936 a total of 32,503 vessels of 48,272,000 tons entered Brazilian ports.

Government. The "authoritarian" Constitution promulgated Nov. 10, 1937, provided for the dissolution of all political parties and vested greatly increased powers in President Getulio Dornelles Vargas (see 1937 YEAR BOOK, p. 102 for detailed description). It provided for a bicameral Parliament consisting of an upper chamber (the Federal Council) of 41 members, including one chosen from each State by the State Legislature and 10 appointed by the President, and a lower chamber (Chamber of Deputies) composed of not more than 10 nor less than 3 members from each State, elected by municipal (county) councils. The "corporative organization of national economy" was to be undertaken by a National Economic Council composed of "representatives of the various branches of national production."

President Vargas assumed office Nov. 3, 1930, following the overthrow by military force of the government headed by President Washington Luis Pereira de Sousa. Under the Constitution promulgated July 16, 1934, he was elected constitutional President the following day for a four-year term. The 1937 Constitution increased the presidential term to six years and extended President Vargas's tenure. For developments during 1938, see *History*.

HISTORY

The Vargas Dictatorship. Developments during 1938 banished fears expressed in democratic circles after President Vargas's coup of Nov. 10, 1937, that Brazil had entered the ranks of the totalitarian dictatorships and would substitute close collaboration with Germany and Italy for its traditional friendship with the United States. Instead of this, the year witnessed a steadily widening breach between Brazil and Germany, leading to the virtual severance of diplomatic relations, and a tightening of the economic and political ties between Brazil and the United States.

Yet the ultimate objectives and final form of the Vargas dictatorship remained uncertain. Little if any progress was made during the year in establishing the governmental institutions provided for by the new Constitution. The plebiscite promised by Dr. Vargas to give the nation a chance to ratify or reject the new fundamental law was not held. The regime remained an exclusively personal dictatorship of the President, backed by the armed forces and made possible by the acquiescence of a large proportion of the Brazilian people.

Some steps toward clarification of the constitutional situation were taken early in the year under pressure from the pro-democratic elements among the Vargas supporters, led by Dr. Oswaldo Aranha, influential Ambassador to the United States and organizer of the 1930 revolt that had placed

Dr. Vargas in power. Dr. Aranha had returned to Brazil in December, 1937, to study the new political situation. After lengthy negotiation with the President, he gave his support to the regime by accepting the post of Foreign Minister, effective March 15. He was reported to have first received assurance that a plebiscite would soon be held on the Constitution and that a constitutional convention would be summoned to democratize certain much-criticized sections of that document. Dr. Aranha had also publicly urged the resumption of payments on the foreign debt, suspended since Dec. 15, 1937; elimination of the trade advantages enjoyed by Germany through the use of compensated marks over the United States and other free-currency countries; closer co-operation between the United States and Brazil; and the development of Brazilian natural resources with the aid of foreign and Brazilian capital. It was reported in June that a national political party was being formed with the backing of the armed forces to bolster the Vargas regime and permit the holding of the promised plebiscite. Little progress was made toward this goal during the remainder of the year.

The Fascist Revolt. The major factor behind the postponement of the plebiscite and constitutional convention was the revolt staged by the *Integralistas* (Brazilian Fascists) on May 11. It failed by only a narrow margin to overthrow the Vargas Government and establish a frankly Fascist regime. The *Integralistas*, whose leader, Plinio Salgado, was one of the three candidates for President in the 1937 campaign interrupted by Dr. Vargas's coup, were dissolved as a political party on Nov. 10, 1937, along with all other political groups. It later sought to continue its political activity under the guise of an incorporated cultural and sporting organization. President Vargas moved to frustrate this plan by a decree defining cultural societies as those owning and maintaining establishments suitable to their purpose. Since the *Integralistas* had no such equipment, the movement was partially disorganized. Early in 1938 it split into several groups which continued undercover political activities.

After a series of minor clashes between police and *Integralistas*, in which the police uncovered large arms depots, the government on March 18 announced the frustration of an *Integralista* conspiracy to assassinate President Vargas and other governmental leaders. Salgado and five of his chief aides escaped the police dragnet, but some 600 of his followers were arrested. Despite police vigilance, the radical wing of the *Integralistas* on the early morning of May 11 attempted to seize control of the government through a well-planned effort to kidnap or kill President Vargas and his chief associates and to capture strategic centers within the capital. Simultaneous attacks were made upon Guanabara Palace, the residence of the President, the Navy Ministry, the Naval Arsenal, the Treasury Building, the telegraph and telephone headquarters, and the residences of the Minister of War and the chief of staff of the army. Most of the guard at the Guanabara Palace joined the revolt and only the effective armed resistance offered by the President and his sons and secretaries prevented his capture. Loyal troops soon came to the President's aid and within a few hours the uprising was crushed. More than 20 persons were killed in the fighting.

A more intensive police roundup of *Integralistas* was now begun. In subsequent weeks more than 1000 were arrested, including Belmiro Valverde,

ringleader of the revolt, and a number of prominent army and navy officers, industrialists, professional men, and writers. Additional arms caches were discovered. In a speech on May 13 President Vargas declared that the revolt was planned "with foreign help." The Brazilian press identified German and Italian emissaries in Brazil as the sources of this aid.

Trials of participants in the revolt began in June even before the National Security Court had finished trials of the radicals charged with participation in the Leftist uprising of November, 1935. On June 21 at Recife 160 of these Leftists were sentenced to prison for terms of from one to eight years. Trials of *Integralistas* implicated in the March conspiracy and the May uprising proceeded throughout the remainder of the year. By the end of October about 300 had been sentenced to prison for terms ranging from 3 to 10 years. Many of them were sent to the prison colony on the islands of Fernando de Noronha. On July 28 Plinio Salgado and former Governor José Flores da Cunha of Rio Grande do Sul were indicted for alleged participation in the May rising. Both were reported in exile in Argentina. On October 18, and again on November 3, the police announced that they had nipped in the bud new *Integralista* plots to assassinate high government officials.

Anti-Nazi Measures. Closely connected with the warfare between the *Integralistas* and the government were the measures taken by the Vargas regime to check Nazi and Fascist propaganda and activities among Brazilians of German and Italian origin or descent. A start in this direction was made in 1937 as a result of Brazilian alarm at the success achieved by agents of the German Government in instilling Nazi principles and loyalty to the Reich among German-speaking Brazilians (see 1937 YEAR BOOK, p. 105).

On Feb. 17, 1938, the police in the State of Rio Grande do Sul ordered the dissolution of all Nazi, Fascist, and other political groups affiliated with or working under foreign political direction. On March 29 it was announced that Brazilian educational authorities in Rio Grande do Sul and Santa Catharina had assumed control of German, Italian, and Polish private schools in those States. A decree nationalizing education in Rio Grande do Sul and forbidding the teaching of any language except Portuguese was issued early in April. Foreign governments and associations were forbidden to subsidize schools in the State.

These steps, aimed chiefly at German activities, were followed on April 19 by a decree barring all foreign political propaganda from Brazil. Foreign schools and societies were placed under government supervision and naturalized Brazilians were forbidden to join even those non-political foreign societies that were permitted. In September the head of a German parochial school charged with Nazi propaganda was forced to leave Brazil. Several German schools and colleges charged with continuing anti-Brazilian propaganda were closed. The government also transferred a force of the regular army artillery to the predominantly German city of Blumenau in Santa Catharina.

Naturalization and Immigration Laws. Various other measures of the Vargas regime in both the political and economic fields reflected its strong nationalism. A nationality law of Apr. 25, 1938, provided for the revocation of naturalization for "political and social activities injurious to the national interests." Requisites for naturalization included 10 years' continuous residence in Brazil and

knowledge of the Portuguese language. A decree of April 28 provided for the deportation of foreigners who committed crimes "against the integrity of the state."

The important immigration law of May 4 restricted the number of immigrants of any nationality entering Brazil each year to 2 per cent of the number of persons of that nationality admitted during the 50 years from 1884 to 1933. However, the Immigration and Colonization Council, created to administer the law, was authorized to raise to 3000 persons the annual quotas from countries not entitled to this number under the 2 per cent requirement. The decree further provided that at least 80 per cent of each quota must be "farmers or technicians in rural industries" who could not change their occupation for at least four years after entering the country. To encourage more rapid assimilation of immigrants, the law forbade the establishment of settlements in which foreigners of one nationality comprised more than 25 per cent of the total population. It required elementary education in Portuguese by teachers born in Brazil and prohibited the teaching of a foreign language to children under 14. Foreign language publications might not be printed in rural areas without permission of the Council.

The Immigration Council ruled on September 13 that persons who had entered the country on tourist visas and stayed more than the allotted time and those who had entered the country illegally were subject to deportation. Such persons were given four months from July 30, 1938, to seek legalization of their residence for a longer period, the apparent intent being to decide each case on its merits. The ruling applied to some 5400 foreigners, including 1800 Jewish refugees from Germany, who had entered the country as tourists and remained.

Other Nationalistic Measures. A decree of April 29 nationalized the petroleum industry. The National Petroleum Council was established to regulate all branches of production, importation, transportation, distribution, and sale. All refineries were to be owned and operated by native Brazilians. Companies in operation at the time the decree was issued were given six months to conform. The decree forced the reorganization of Brazilian branches of American companies with an investment of \$30,000,000 in the selling and distribution of petroleum products in Brazil. On August 4 the Brazilian Zionist Federation was banned under the law dissolving all foreign political societies. A decree of August 22 ordered the Brazilian Rotary Clubs to sever their connection with Rotary International. On October 22 President Vargas instructed his Finance Minister to proceed with the nationalization of foreign banks and insurance companies, as required by the new Constitution. On the other hand, the government liberalized its restriction upon the employment of foreign capital in mining enterprises.

A number of other laws decreed during the year tended to centralize political and economic control at Rio de Janeiro. A Labor Day decree, effective May 2, established minimum wages for workers, including farm hands and domestic servants. Consumption taxes on domestic and imported products were sharply increased on February 24, thus permitting a start toward gradual elimination of interstate export taxes, provided for in the decree law of April 18. A National Maté Institute was created by the decree-law of April 13 to co-ordinate and supervise the production, sale, and advertising

of maté. In April President Vargas announced that the government would build national packing plants to supply the meat needs of Brazil, which he said were neglected by the foreign-owned *frigoríficos* interested chiefly in export markets.

Although the abandonment of the seven-year-old coffee stabilization program had been announced Nov. 10, 1937, the National Coffee Department during 1938 continued to destroy surplus coffee stocks, to compensate the growers, and to regulate exportation.

Foreign Relations. A diplomatic break between Brazil and Germany that greatly handicapped the Reich in its drive for trade supremacy in Brazil was the major development in the country's foreign relations during 1938. Germany had ousted the United States as the principal supplier of Brazilian imports in 1936 as a result of the compensated mark system of bartering German manufactures for Brazilian raw materials. In 1937 the Reich increased its lead, and with the development of Brazilian economic dependence upon Germany Nazi propaganda there became more and more bold.

A reversal of this situation set in early in 1938 as a result of the Brazilian restrictions on Nazi propaganda, the arrest of nine German citizens charged with complicity in the May revolt against the Vargas Government, and the uncovering of evidence by Brazilian police pointing to the German Government as a supporter of the *Integralista* movement. These developments led to severe recriminations between the German and Brazilian press and a steadily growing coolness in official relations. German representations against the repression of "cultural" activities among German-speaking elements in Brazil were curtly rejected in March by the Brazilian Foreign Office, which was angered by Chancellor Hitler's proclamation of a protectorate over German minorities abroad in his Reichstag speech of February 20.

The German-Brazilian hostility aroused in connection with the *Integralista* revolt in May was followed by Brazil's suspension of cotton exports to Germany on a compensated basis on June 3 and Germany's termination of all purchases from Brazil on July 12. This trade war was ended on July 22, when the Bank of Brazil resumed purchases of German compensation marks. However, the Bank prohibited further purchases in such marks of cotton and cacao, two products which Germany had formerly bought on a large scale. The net result of these difficulties was that the United States again outdistanced Germany in the Brazilian market.

Meanwhile German-Brazilian diplomatic friction had increased. On October 15 the Brazilian Government bluntly informed Berlin that it did not desire the return to Rio de Janeiro of Dr. Karl Ritter, the German Ambassador, who had been on an extended vacation in Germany. The Reich Government immediately demanded the recall of the Brazilian Ambassador from Berlin. The German press angrily charged the United States with plotting to disturb German-Brazilian relations.

The fear that Germany had designs upon the southern States of Brazil with their large German populations and the satisfactory state of Brazilian-United States trade relations led the Brazilian Government into closer political and economic relations with the North American republic. These ties of friendship were drawn closer by the appointment of a mixed Brazilian-American trade committee in January, the inauguration in October of

improved shipping services to the east coast of South America by the U.S. Maritime Commission's "Good Neighbor Fleet," and various other developments.

Brazil also tightened its ties of friendship with the other American republics. The Argentine and Chilean Foreign Ministers visited Rio de Janeiro in April and May, respectively, and their close collaboration in the solution of inter-American problems was strengthened. The termination of the Chaco dispute between Bolivia and Paraguay followed on July 21, eliminating a fertile source of dissension among the American republics (see CHACO DISPUTE, SETTLEMENT OF). New treaties signed with Bolivia provided for joint Bolivian-Brazilian development of petroleum deposits and construction of railways in Eastern Bolivia (see BOLIVIA under *History*). A mixed Brazilian-Paraguayan commission developed plans for closer economic ties and political relations. The three-year task of marking the boundary between Brazil and Surinam was completed May 3 by a mixed Brazilian-Dutch technical commission. On November 9 it was announced that Brazil and Colombia would raise their legations in Bogotá and Rio de Janeiro, respectively, to the rank of embassies.

Brazil and Venezuela took the same step on December 9. A treaty of non-aggression, conciliation, and arbitration was signed by Brazil and Venezuela on December 7.

See ARGENTINA and PARAGUAY under *History*; PAN AMERICAN CONFERENCE.

BREMEN. See GERMANY.

BRETHREN, CHURCH OF THE. A church established in 1719 at Germantown, Pa. It originated at Schwarzenau, Germany, in 1708, and is the largest of the five branches of the denomination formerly known as the German Baptist Brethren or Dunkers. Other churches of the group are: The Church of God (New Dunkards); Brethren Church (Progressive Dunkers); German Seventh Day Baptists; and Old Order German Baptist Brethren.

There were on Sept. 30, 1938, in the 49 district conferences of the United States and Canada, 1344 churchhouses, of which 218 were in cities and 1126 in small towns and rural districts. These churchhouses represented 1024 congregations. The total membership was 169,571. Foreign mission work was carried on in India, China, and Africa. The church membership in India was 6054; in China 2361; and in Africa 448.

The denomination supported the following colleges: Bridgewater in Bridgewater, Va.; Elizabethtown in Elizabethtown, Pa.; Juniata in Huntingdon, Pa.; Manchester in North Manchester, Ind.; McPherson in McPherson, Kans.; and La Verne in La Verne, Calif. Bethany Biblical Seminary was located in Chicago. The *Gospel Messenger* was the official church paper.

The officers presiding at the 1938 general conference were: Dr. V. S. Schwalm, moderator; the Rev. James M. Moore, reader; the Rev. J. E. Miller, secretary. The moderator-elect for 1938 was Dr. D. W. Kurtz. The conference, which was held at Lawrence, Kans., June 8-15, gave considerable time to the 200th anniversary of the founding of the Sower Press, established in Philadelphia in 1738, which printed in 1743 the first Bible printed in America in a European language and which yielded a wide influence in the colonies for nearly half a century. The 1939 conference will meet at Anderson, Ind., June 7-13.

Headquarters of the four general boards of the

church—mission, Christian education, ministerial, and general education—and of the Brethren Publishing House are in Elgin, Ill.

BRIDGES. In response to the demands of modern highway traffic, the center of activity not only shifted from railway- to highway-bridge building after the World War, but the States, pressed for highway funds, were, apparently, glad to have private interests undertake toll-bridge constructions. This movement reached its peak just before the depression and was followed by a marked trend toward public constructions, usually of the commission or authority type (see 1929 and 1930 YEAR BOOKS). This movement has been accelerated in recent years, particularly through the use of PWA funds, and today, publicly owned PWA highway bridges constitute almost the entire activity in American bridge building.

Bridge Openings. Among the notable bridge openings of the year, the dedication on August 6 of the bridge over the Connecticut River, between Middletown and Portland, Conn., should be noted. The two 600-ft. tied steel arches of this new higher-level crossing were erected by an unusual and daring plan of cantilevering the two halves of the arches from the center pier through the use of a temporary tie-link and tie-back cables, balancing the construction on each side of the pier with the aid of a single supporting bent.

Another notable opening was that of the multiple cantilever over the Ohio River at Cairo on July 1. This highway bridge, with a 20-ft. roadway, consists of three main spans, two of 600 ft. each and a third of 800 ft., the latter being the only one to carry a suspended span between the cantilever arms.

On October 8 a new international bridge, the Blue Water, a flat-arch cantilever with a main span of 871 ft., was opened between Port Huron, Mich., and Sarnia, Ont., at the south end of Lake Huron. This bridge is very similar in general form to the high-level bridge over the Neches River in northeast Texas which was opened in March. The latter, however, has the remarkable clearance of 230 ft. (against 150 ft. for Blue Water) and was specially designed for hurricane wind loads.

Special ceremonies marked the dedication on August 18 of the Thousand Islands Bridge which provides an international crossing over the St. Lawrence in the Alexandria Bay area, north of Watertown, N. Y. This project actually involves several bridges, spanning from island to island, including an 800-ft. suspension span on the American side and a 750-ft. span on the Canadian.

A notable suspension span, the Lions Gate Bridge over the First Narrows at Vancouver, was opened in November. This \$6,000,000 structure has a main span of 1550 ft.

New York. A second deck was added to the Henry Hudson arch over Spuyten Duyvil, on the new West Side Parkway extension, to take care of the rapid increase in traffic on this recently completed structure.

The opening of a new roadway on the Queensborough cantilever at 59th St. marks the completion of a program for modernizing the floor systems of the East River bridges so as to provide both improved roadway surfaces and to reduce dead loads, thereby increasing load capacities.

In the extension of the West Side elevated highway below Canal St., a remarkable "dry-land" arch has also been built. In order to avoid the Holland tunnels and a sewage-screening plant, the highway was carried over Canal St., with a 360-ft.,

two-hinged tied arch—one of the largest bridges ever built over dry land.

Still another bridge operation in the New York area was that of providing new approaches at the Manhattan end of the great George Washington suspension bridge as well as encasing the huge but ugly anchorage in a granite facing.

The Whitestone suspension, to connect the Bronx and Long Island, has reached the floor erection stage, with every effort being made to open the structure in mid-summer of 1939 for the World's Fair.

Concrete Bridges. European engineers have frequently employed hollow, or cellular, construction in reinforced concrete bridges, but American engineers have generally found it more economical, with our higher labor costs, to use solid sections. The recent completion of a three-span, two-lane, highway bridge over an arm of Puget Sound at Purdy, Wash., however, marks the appearance of this type of construction in America. The three spans of this bridge consist of a continuous hollow girder of 190-ft. central and 140-ft. side spans. The 20-ft. roadway is carried by three vertical ribs, with a pleasing, curved lower chord, which form two longitudinal cells and are braced transversely by diaphragms at intervals of about 20 ft. Interior forms for the cells were removed before pouring the deck.

A high-level, concrete-arch viaduct over the Little Miami River at Foster's Crossing, Ohio (on route Columbus-Cincinnati), also deserves a note. Although not of remarkable size, this viaduct is on a grade of 2 per cent and, in order to maintain similar arch forms in the interest of appearances, a constant ratio of rise to span required different spans (155–175 ft.) for each of its six arches. Unable to use centering over again for successive arches, the contractor resorted to the plan of building unusual trussed-timber arched ribs to support the two concrete ribs of each arch during construction.

Probably the most unique bridge project ever proposed is that to span Lake Washington with a concrete pontoon bridge near Seattle. Reinforced concrete pontoons, each 59 by 350 ft. in size, are to be used, with a 200-ft. draw span provided by a pontoon which is to slide into a slot between the two traffic lanes. PWA funds have been made available for this work but the first bids for construction proved to exceed estimates and were rejected.

The proposed use of an incomplete railway in Pennsylvania (see TUNNELS) and the reconstruction of the famous Key West railroad in Florida indicate a probable use for some of our branch railroad lines as these are abandoned for lack of traffic and other reasons. Connecting the tip of Florida with the mainland, the Key West Railway was badly wrecked by the hurricane of 1935. After reconstructing some 11 bridges, so as to provide a 20-ft. roadway, and hardsurfacing the line throughout, at a cost of \$3,500,000, this line was opened as a highway toll road on March 29.

Golden Gate Bridge. Two experiences at the great Golden Gate suspension bridge (longest span in the world, 4200 ft.) are of interest. In an attempt to determine the effect of a reduction in tolls, a temporary cut from 50 to 25 cents was made during the summer. While there was a marked increase in volume of traffic it was not clearly demonstrated that this was due to the cut in tolls and it was insufficient to overcome the reduction. The older practice was, therefore, resumed, although the volume of traffic fails to meet costs.

The other item has to do with the tremendous

effect of lateral wind loads on suspension structures. A wind, recorded at a nearby station at 78 m.p.h., caused a lateral deflection in the Golden Gate Bridge estimated by one of the engineers to have been as much as 8 ft. Waves, or ripples, passed over the floor system with changes in the wind and the twin suspender cables (15-in. centers) were slapped one against the other.

Failures. The collapse on March 14 of the 245-ft. welded Vierendeel-type truss bridge over the Albert Canal, near Hasselt, Belgium, led to some questioning of the adequacy of recent welded construction. It appears that European designers have used very thick plates on such structures and that the welding is probably inadequate to develop the full strength of such plates. On this bridge, plates $2\frac{1}{4}$ in. thick were used in the flanges (plates as much as $3\frac{1}{2}$ in. have been used in Germany), but the failure in this case appears to have been due to the poor, brittle character of the steel employed.

During early January the public was advised that unusual ice jams in the Niagara Gorge, just below the Falls, were threatening the supports of the famous Falls' View International Bridge. This 840-ft. steel arch was, when completed in 1898, the largest arch span in the world. The great bridge literally died by inches and finally collapsed on the 27th. Plans are already under way to replace the structure, probably with another arch, but with the abutments well above maximum ice levels.

The Narrows Bridge, TACOMA. The Washington Toll Bridge Authority opened bids in September for a \$6,000,000 suspension bridge across the Narrows in Puget Sound near Tacoma. This bridge, although a light highway construction with 26-ft. roadway, will be a notable addition to American suspension structures with a main span of 2600 ft., and with side spans of unusual length—1300 ft. each. The contract was awarded in November.

BRIGHAM YOUNG UNIVERSITY. A coeducational institution in Provo, Utah, founded in 1875 and maintained under the auspices of the Church of Jesus Christ of Latter-day Saints. In the 1938 summer session 820 students were enrolled; the autumn session enrollment was 2292. The faculty numbered 150 members. The library contained 109,000 volumes. The budget for the year was \$413,000. A women's dormitory was erected at a cost of \$100,000 and 15 acres of land were added to the campus in 1938. President, Franklin Stewart Harris, Ph.D.

BRISTOL PEACE CONFERENCE. See PEACE.

BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE. An association founded in York, England, in 1831, and incorporated by Royal Charter in 1928, for the purpose of fostering the interests of workers in all branches of science, and to give a stronger impulse to scientific research, both theoretical and practical.

The 108th annual meeting was held in Cambridge, England, Aug. 17–24, 1938, under the presidency of the Rt. Hon. Lord Rayleigh, who opened the session with an address entitled "Vision in Nature and Vision Aided by Science." At this meeting, the General Committee adopted the proposal for the substitution of a quarterly publication for the annual volume hitherto issued.

The addresses delivered by the sectional presidents included: "Logic and Probability in Physics," by Dr. C. G. Darwin (mathematical and physical sciences); "Recent Investigations in the Chemistry of Gold," by Prof. Charles S. Gibson (chemistry); "Development and Evolution," by Prof. H. H.

Swinerton (geology); "Oceanography and the Fluctuations in the Abundance of Marine Animals," by Stanley Kemp (zoology); "Correlations and Culture," by Prof. Griffith Taylor (geography); "Scope and Method of Economics," by R. F. Harrod (economic science and statistics); "The Changing Outlook of Engineering Science," by Prof. R. V. Southwell (engineering); "The Orient and Europe," by Prof. V. G. Childe (anthropology); "Eye and Brain as Factors in Visual Perception," by R. H. Thouless (psychology); "The General Physiology of the Plant Cell and Its Importance in Pure and Applied Botany," by Prof. W. Stiles (botany); "The Function of Administration in Public Education," by J. Sargent (educational science); "Ley-Farming and a Long-Term Agricultural Policy," by Prof. R. G. Stapledon (agriculture).

Sir Albert Seward was elected president to succeed Lord Rayleigh, and Dundee, Scotland, was selected as the site of the 1939 meeting, to be held August 30-September 6. The secretary was O. J. R. Howarth, and the headquarters of the Association were at Burlington House, London, England.

BRITISH CAMEROONS. See CAMEROONS, BRITISH.

BRITISH COLUMBIA. The most westerly province of Canada. Area, 366,255 square miles (exclusive of salt-water area); population (1938 estimate), 761,000 compared with 694,263 (1931 census). During 1936 there were 15,786 births, 5451 marriages, and 7222 deaths. Chief towns (with 1931 census figures): Vancouver, 246,593; Victoria (capital), 39,082; New Westminster, 17,524; North Vancouver, 8510; Trail, 7573; Nanaimo, 6745; Prince Rupert, 6350; Kamloops, 6167. The primary and secondary schools had 117,073 students enrolled (1935-36); the university of British Columbia had 1383 students and Victoria College, 213.

Production. The gross agricultural revenue for 1937 totaled \$45,025,000, of which field crops from 487,700 acres accounted for \$16,592,500. In 1936 gross agricultural revenue was estimated at \$41,869,000 (field crops, \$15,891,000; fruits and vegetables, \$8,484,000; dairy products, \$8,245,000; poultry and eggs, \$4,412,000; farm animals, \$3,808,000). Livestock in the province (1937): 333,800 cattle, 183,200 sheep, 62,090 horses, 55,700 swine. Fur production (1935-36) was 194,596 pelts valued at \$1,201,523. The forest production (1937) was equivalent to 670,948 M cu. ft. valued at \$32,734,704. In 1937 the value of the fisheries catch was \$16,155,439.

Mineral production (1937) was valued at \$75,555,798, which included gold (505,857 fine oz.), \$17,799,936 including exchange equalization; lead (403,589.913 lb.), \$20,623,445; zinc (287,192,877 lb.), \$14,078,195; copper (45,797,988 lb.), \$5,989,461; silver (11,530,177 fine oz.), \$5,174,859; coal (1,598,843 tons), \$5,863,849. During 1936 the 1695 manufacturing plants (including those in the Yukon), with 39,796 employees, produced goods valued at \$87,780,346 net.

Finance. For the fiscal year ended Mar. 31, 1938, revenue amounted to \$31,036,942; expenditure, \$27,672,043. On Oct. 31, 1937, the net provincial debt totaled \$151,162,657.

Government. Executive power is vested in a lieutenant-governor (appointed by the Canadian governor general in council), assisted by a ministry of 9 members which is responsible to the legislative assembly of 48 members elected by popular vote of the people. At the provincial election of June 1, 1937, 31 Liberals, 8 Conservatives, 7 Co-

operative Commonwealth Federationists, 1 Labor, and 1 Independent were elected to the legislative assembly. In the Dominion parliament at Ottawa, the province is represented by 6 Senators and 16 members in the House of Commons. Lieutenant-Governor, Eric W. Hamber (appointed May 1, 1936); Premier, T. D. Pattullo (Liberal).

History. During the year 1938, a scheme was being considered for the construction of a highway (known as the "Alaska Highway") from the border of the State of Washington, through British Columbia and the Yukon, and to Fairbanks in Alaska. Mr. Pattullo, the Premier of British Columbia, stressed the value of such a road as a tourist attraction to the province.

During July, great fires were raging in the forests along the east coast of Vancouver Island. The fishing resort of Forbes Landing was destroyed and there was a considerable loss of standing timber and young second growth. See CANADA under *History*.

BRITISH COMMONWEALTH OF NATIONS. A commonwealth comprising (1) the British Empire (GREAT BRITAIN and NORTHERN IRELAND, Channel Islands, Isle of Man, INDIA, BURMA, and the various British colonies, protectorates, and dependencies) and (2) the Dominions (CANADA, AUSTRALIA, NEW ZEALAND, SOUTH AFRICA, and IRELAND). Including the British mandated areas of CAMEROONS, NEW GUINEA, PALESTINE, NAURU, SOUTH-WEST AFRICA, TANGANYIKA, TOGOLAND, and WESTERN SAMOA, the British Commonwealth of Nations had a total area of 13,355,426 square miles and a total estimated population of 500,774,000. Consult the separate articles.

BRITISH EAST AFRICA. See KENYA, TANGANYIKA, and UGANDA.

BRITISH GUIANA, gè-a'na. A British colony in northern South America. Area, 89,480 square miles; population (Jan. 1, 1938), estimated at 387,039 including 142,978 East Indian immigrants. The birth rate was 33.3, and the death rate 21.9 per 1000 of the population in 1937. In the interior there are some 8797 aboriginal Indians living in their primitive state.

Production and Trade. Sugar, rice, gold, diamonds, rum, coconuts, timber, bauxite, balata, and coffee are the principal products. Livestock in the colony (1936): 131,637 cattle, 26,310 sheep, 22,480 swine, 11,321 goats, 5962 donkeys, and 2817 horses. There are important local manufactures of matches, cigarettes, boots and shoes, and edible oil. In 1937 imports were valued at \$11,496,496; exports, \$13,128,774, of which the chief items were sugar (181,569 tons), \$7,607,680; bauxite (300,707 tons), \$1,719,984; gold (39,047 oz.), \$1,012,913; rice (18,545 tons), \$773,412; rum (1,235,056 gal.), \$297,226. Great Britain supplied \$6,165,166 of the imports and took \$4,907,844 of the exports; Canada sent \$1,690,101 of the imports and received \$5,881,714 of the exports. British Guiana's sugar-export quota for 1938-39 was fixed at 166,700 long tons. The number of tourists visiting the colony in 1937 totaled 3434.

Government. For 1937 revenue amounted to £1,374,133; expenditure, £1,274,300; public debt, £4,525,685. Budget (1939): revenue, \$5,408,342; expenditure, \$6,363,581. The British Guiana (Constitution) Order in Council, 1928 (amended in 1935) provided for the government of the colony and for the constitution of a legislative council consisting of the governor as president, 10 official members, and 19 unofficial members. Executive and administrative functions rested with the governor and

the executive council. Governor, Sir W. E. F. Jackson (appointed Jan. 19, 1937).

History. In January, 1938, it was reported by the Terry-Holden Expedition that a huge meteor had crashed into the Marudi Mountain, Rupununi, cutting a path 30 miles long and devastating a wide area. A factory to manufacture bricks, drainage, and roofing tiles, and pipes was erected in La Penitence, near Georgetown, during the year. British Guiana sent a representative to the Inter-Colonial customs conference which met on Jan. 31, 1938, at Jamaica to discuss uniform customs procedure. The British Royal Engineers, sent out to demarcate the boundary between Brazil and British Guiana, completed their work in October. In February of 1939 the West Indies Royal Commission was expected to visit British Guiana. See JAMAICA under *History*.

BRITISH HONDURAS, hōn-dōō'ras. A British crown colony in Central America. Area, 8598 square miles; population (Dec. 31, 1937, estimate), 56,893. Belize, the capital, had 16,687 inhabitants in 1931. During 1937 there were 1876 births, 1054 deaths, and 467 marriages.

Production and Trade. Mahogany, cedar, logwood, rosewood, banak, pine, chicle, bananas, coconuts, citrus fruits, plantains, sugar, and rice are the main products. The export of bananas in 1937 totaled 938,985 bunches, valued at \$330,491. In 1937 total imports were valued at \$3,981,249; total exports, \$2,602,600.

Education. In 1937 there were 78 schools with 9059 pupils which were aided by the Government, and 4 private schools for secondary education, conducted by religious denominations, with a total of 456 students.

Communications. The weekly air-mail and passenger service through Mexico and Miami, Florida, was discontinued in 1938. There is a weekly air-mail and passenger service between Belize and points in Honduras and Guatemala. In 1937 there were 149 miles of roads.

Government. For 1937 revenue totaled \$1,188,536 (excluding loan-in-aid from Imperial funds of \$36,675 and payments from the Colonial Development and Loan Funds of \$360,104); expenditure, \$1,187,364 (excluding \$378,421 for Colonial Development Fund grants and Loan Works). Revenue for 1938 was estimated at \$1,091,299; expenditure, \$1,271,443. The colony is administered by a governor, aided by an executive council of 6 members and a legislative council of 13 members. Governor and Commander-in-Chief, Sir Alan C. M. Burns (appointed, May 18, 1934).

BRITISH MALAYA. A geographical term for the Federated Malay States, Straits Settlements including dependencies, and Unfederated Malay States (see the separate articles). The term should, strictly speaking, include British North Borneo, Brunei, and Sarawak, but these possessions in Borneo are not included in the statistics of this article. Total area, 51,977 square miles; population (1937 estimate), 5,107,339.

Production and Trade. The principal products are rubber, tin, copra, pineapples, coconut oil, palm oil, sugar, rice, areca nuts, timber, gold, and resin. In 1937 imports were valued at \$5692,165,000; exports, \$5902,878,000 (Straits dollar averaged \$0.5797 for 1937). British Malaya, in 1937, produced 41.4 per cent of the world's rubber. During 1937 a total of 26,890 fishermen, using 10,679 boats, landed 88,530 tons of fish (valued at \$9,605,000) in British Malaya.

History. The Straits Settlements legislative

council passed the currency ordinance providing for a currency commission to be set up to introduce an all-Malayan currency instead of the Straits Settlements currency now in use throughout British Malaya. Royal Netherlands Airways completed negotiations for an air service between Singapore and Saigon. Imperial airways inaugurated, using flying boats, a tri-weekly air mail between Malaya and Great Britain.

BRITISH NEW GUINEA. The former name of PAPUA, TERRITORY OF (q.v.).

BRITISH NORTH BORNEO. A state in northern Borneo, under British protection. Area, 31,106 square miles; population (1936 estimate), 291,000. Chief towns: Sandakan (capital), 13,826 inhabitants in 1931; Jesselton.

Production and Trade. Rubber, timber, sago, rice, coconuts, gums, coffee, and tobacco are the main products. In 1937 imports were valued at \$56,361,937 (1936, \$4,804,668); exports, \$514,295,287 (1936, \$8,985,766). The Straits dollar (S\$) averaged \$0.5797 (U.S.) for 1937. A railway runs from Jesselton (the chief port on the west coast) to Beaufort (the center of the rubber industry) where it runs inland to Melalap. In 1937 there were 244 miles of roads.

Government. For 1936 revenue amounted to £341,586; expenditure, £203,148. The country is under the jurisdiction of the British North Borneo (Chartered) Company. It is administered by a governor (approved by the British Secretary of State for the Colonies) in Borneo, and a court of directors in London. Governor and Commander-in-Chief, C. R. Smith (appointed, July 17, 1937).

BRITISH SOLOMON ISLANDS PROTECTORATE. See SOLOMON ISLANDS, BRITISH.

BRITISH SOMALILAND. See SOMALILAND, BRITISH.

BRITISH SOUTH AFRICA. See SOUTH AFRICA, UNION OF.

BRITISH WEST AFRICA. The British territories in West Africa. See CAMEROONS, BRITISH; GAMBIA; GOLD COAST; NIGERIA; SIERRA LEONE.

BRITISH WEST INDIES. The possessions of Great Britain in the West Indies consisting of (1) BAHAMAS, (2) BARBADOS, (3) JAMAICA with Turks Islands, (4) LEEWARD ISLANDS, (5) TRINIDAD AND TOBAGO, (6) WINDWARD ISLANDS. Consult the separate articles.

BROOKINGS INSTITUTION. An organization devoted to public service through research and training in the social sciences. Established in Washington, D. C., in 1927, it maintains as operating units the Institute of Economics, the Institute for Government Research, and a division of training in which only those who have had at least two years of graduate work are accepted as research fellows.

In carrying out its purpose to aid constructively in the development of sound national policies without regard to the special interests of any group, whether political, social, or economic, the Institution conducted during 1938 several significant investigations. The resulting studies were published under the following titles: *Industrial Price Policies and Economic Progress*; *America's Stake in International Investments*; *The Income Structure of the United States*.

The Institution is supported from endowment funds and annual grants. The officers of the board of trustees for 1938-39 were: Chairman, Dwight F. Davis; vice chairman, Leo S. Rowe; president,

Harold G. Moulton; treasurer, Henry P. Seidemann; and secretary, Elizabeth H. Wilson. Headquarters are at 722 Jackson Place, Washington, D. C.

BROOKLYN COLLEGE. A coeducational institution of higher education in Brooklyn, N. Y., founded in 1930 as one of the four institutions of higher learning, supported by municipal taxes and administered by the Board of Higher Education. The others are Hunter College, Queens College, and the City College. The enrollment for the autumn of 1938 was 13,440, of whom 6214 were in the Day Session, 5985 in the Evening Session, 612 in the Division of Courses for Teachers, and 629 in the Graduate Division. The 1938 summer session had an attendance of 3519. The faculty numbered 501 including 56 additions. The budgetary allowance for 1938 was \$1,925,424. There were 150,000 volumes and 406 periodicals in the library. Brooklyn College moved into its new quarters at Bedford Avenue and Avenue H in October. There are five buildings which will accommodate 7500 students in the day and 7500 in the evening. The cost is \$5,500,000 financed by a PWA loan and grant. The site of 42 acres cost \$1,600,000. President, William A. Boylan (resigned Sept. 19, 1938); Acting President, Mario E. Cosenza.

BROOKLYN INSTITUTE OF ARTS AND SCIENCES. One of America's oldest and largest institutions for informal education, located in Brooklyn, N. Y. Its public activities are conducted at four centers: The Institute at the Academy of Music, the Central Museum, the Children's Museum, and the Botanic Garden. Founded in 1824, the Institute was incorporated in its present form in 1890. Total membership is about 8000 and is open to everyone.

The Institute at the Academy of Music presents an annual program of concerts, lectures, forums, and classes of instruction in every major field of the arts and sciences. Attendance at these events for the season 1937-38 totaled 246,199. The Institute's Museums possess collections in art, ethnology, and natural science. The Central Museum reference library contains more than 27,000 volumes as well as many pamphlets and complete sets of rare periodicals. It includes the Steward Culin Library on Ethnology and the Charles Edwin Wilbour Library on Egyptology. Attendance at both Museums for the year 1938 totaled 817,841. The Institute's Botanic Garden comprises more than 50 acres and plant houses containing tropical and sub-tropical species. The Botanic Garden reference library has over 25,000 volumes and pamphlets. Botanic Garden attendance for the year 1938 totaled 1,628,444.

In 1938 the permanent funds of the Institute amounted to \$4,438,038 and the funds to meet current expenses, to \$934,131. Under a general reorganization plan adopted in April, 1938, James G. McDonald was named president of the Institute. Other officers are: Edward C. Blum, chairman of the board of trustees; Irene Miles, acting director of the Institute at the Academy of Music; Laurance P. Roberts, director of the Museums; Mrs. William Lloyd Garrison, 3d, curator-in-chief of the Children's Museum; C. Stuart Gager, director of the Botanic Garden. Executive offices are located in the Academy of Music, 30 Lafayette Avenue, Brooklyn.

BROWN, ERNEST WILLIAM. An American mathematician, died in New Haven, Conn., July 22, 1938. Born in Hull, England, Nov. 29, 1866, he was educated at Christ's College, Cambridge (A.B., 1887; A.M., 1891; Ph.D., 1897) and held a fellowship there from 1889 to 1895. In 1891 he came to

the United States as an instructor in mathematics at Haverford College, becoming professor of applied mathematics in 1893, and professor of mathematics in 1900. He joined the faculty of Yale University in 1907 as Josiah Willard Gibbs professor of mathematics, and in 1932 was retired with the title emeritus.

One of the world's leading mathematicians and an authority on the motions of the moon, Dr. Brown's researches dealt chiefly with the new lunar theory and tables, the evolution of nebulae and the solar system, the planetary theory, and measures of time. In his studies of the moon, he passed 30 years determining its orbit and his calculations, which included mapping the moon's course for several hundred years, resulted in *Yale Tables of the Moon's Motion* (1920), which are used in computing the nautical almanacs of different countries.

Many honors came to this brilliant scientist, including the Royal Astronomical Society gold medal (1907), the Pontécoulant prize, Paris Academy of Science (1910); a fellowship in (1898) and the Royal medal (1914) of the Royal Society of England for his investigation in astronomy, chiefly in lunar theory; the Bruce gold medal of the Pacific Astronomical Association (1920), and the Watson medal of the National Academy of Sciences (1937), given in recognition of his outstanding contributions to astronomical science, mainly in the field of gravitational theory in the solar system.

Dr. Brown was president of the American Mathematical Society (1914-16) and edited its *Transactions* (1900-07) and *Bulletin* (1910-12). Also president of the American Astronomical Society (1928-31) he served as associate editor of its *Journal* from 1911. In addition to many papers on the lunar theory and on celestial and general mechanics, his published works included *Treatise on the Lunar Theory* (1896); *A New Theory of the Moon's Motion* (1897-1905); *The Inequalities in the Motion of the Moon Due to the Direct Action of the Planets* (1908), and *Planetary Theory*, with C. A. Shook (1923).

BROWN UNIVERSITY. An institution of higher education in Providence, Rhode Island, founded in 1764; it has three major subdivisions: The College, for undergraduate men; Pembroke College for undergraduate women; and the Graduate School. The College includes a division of engineering. The enrollment in the autumn of 1938 was 1387 undergraduate men, 489 undergraduate women, and 330 graduate students. The faculty consisted of 254 members. The productive fund of the University on June 30, 1938, was \$11,628,000. Income for the year ending June 30, 1938, was \$1,768,000. Gifts and bequests during the academic year amounted to \$450,021. The libraries contained approximately 536,000 volumes. During 1938 a Chemical Research Laboratory, the gift of Jesse H. Metcalf, was completed, and the University revised its requirements for degrees, to be effective in September, 1939, so that the standard year's work consists of four courses instead of five. President, Henry Merritt Wriston, Ph.D., Litt.D.

BRUCCELLOSIS, PATHOLOGY OF. See MEDICINE AND SURGERY.

BRUNEI, brōō-nī'. A native state in northern Borneo, under British protection. Area, 2280 square miles; population (Dec. 31, 1937), 35,963 as against 30,135 (1931 census). Brunei, the capital and chief port, had 10,453 inhabitants in 1931. During 1937 there were 1472 births and 772 deaths.

Crude oil, rubber, cutch, natural gas, and jelutong are the main products. In 1937 imports

were valued at \$2,516,154; exports, \$5,553,428, of which crude oil (550,247 tons) represented \$3,873,959 and plantation rubber (3,964,191 lb.) \$1,240,995; revenue totaled \$1,049,293; expenditure, \$653,149 (Straits dollar averaged \$0.5797 for 1937). The State is ruled by a sultan, subject to the advice of a British Resident who has charge of the administration of government. Sultan, Ahmed Tajudin Akhazul Khairi Wadin (succeeded, 1924); High Commissioner, the Governor of the Straits Settlements; British Resident, J. Graham Black (assumed office, January, 1937).

BRUNSWICK. See GERMANY.

BRYN MAWR COLLEGE. An institution for the higher education of women in Bryn Mawr, Pa., founded in 1885. The enrollment for the autumn of 1938 totaled 598. The teaching staff numbered 97. The productive funds of the college amounted to \$6,415,000, and the receipts for the year 1937-38 were \$871,000. The Library contained 158,000 volumes. President, Marion Edwards Park, Ph.D., LL.D.

BUCHANAN DAM. See FLOOD CONTROL.

BUCKNELL UNIVERSITY. A coeducational Baptist institution of higher learning in Lewisburg, Pa., founded in 1846 under the name of the University of Lewisburg but renamed in 1886 in honor of its benefactor, William Bucknell. In the autumn of 1938 the enrollment was 1324, of whom 866 were men and 458 women. At the junior branch in Wilkes-Barre, Pa., there were 207 students. There were 553 students enrolled in the summer session of 1938. The faculty numbered 78. The productive funds amounted to \$1,381,373; the income for the year was \$867,560, and the benefactions received were \$324,295. The library contained 77,000 volumes. A fourth unit of the 12-year endowment and building program was erected in 1938 through gifts from alumni and friends. The first unit of a \$500,000 gymnasium was built in 1938, and construction was begun on a \$275,000 addition to the Engineering Building. President, Arnaud C. Marts, appointed in April, 1938.

BUCKWHEAT. Estimates by the U.S. Department of Agriculture placed the 1938 production at 6,682,000 bu. harvested on 453,000 acres as compared with 8,569,000 bu. and 542,000 acres, the average for the 10 years 1927-36. The yield per acre in 1938 was 14.8 bu. and the 10-year average 15.9 bu. Of the 22 States reporting production, New York ranked first with 2,496,000 bu. and Pennsylvania second with 2,170,000 bu. These yields are about 37 per cent and 32 per cent respectively of the country's total yield. The average yield per acre was 15.5 bu. in both States. Usually about 58 per cent of the total acreage is grown in these two States. The States ranking next and their yields were reported as follows: West Virginia 256,000 bu., Michigan 243,000 bu., and Ohio 210,000 bu., with acreages of 16,000, 18,000, and 14,000 acres, respectively. The buckwheat acreage in 1938 was only about 60 per cent of the acreage 20 years ago. The average yield per acre in the 22 States ranged from 7 bu. in North and South Dakota to 20 bu. in Maryland.

During the fiscal year ended June 30, 1938, the United States exported 379,000 bu. of buckwheat and imported 72,000 lb. as compared with 1000 bu. and 6,809,000 lb. respectively in the fiscal year 1937.

BUFFALO, THE UNIVERSITY OF. A coeducational institution of higher learning in Buffalo, N. Y., founded in 1846. The enrollment in the various schools for the autumn of 1938 was: Full-

time students, 1689; part-time students, 3256. The enrollment for the 1938 summer session was 828. The faculty numbered 708. The endowment fund totaled \$5,740,353, and the income for the year (1937-38) was \$1,037,410. The libraries contained 140,177 volumes and 97,071 pamphlets. The Irwin B. Clark Memorial Gymnasium was expected to be completed. Chancellor, Samuel P. Capen, Ph.D.

BUILDING. Construction contracts for buildings in 37 Eastern States of the United States in 1938, were estimated at \$2,050,000,000 by the F. W. Dodge Corporation, which is 1 per cent less than the actual 1937 figure of \$2,061,454,000. Breaking down the 1938 total, the non-residential buildings are estimated at \$1,065,000,000 or 8 per cent under the 1937, and the residential, including apartments, hotels, and one and two family houses, are estimated at \$985,000,000 or 9 per cent more than 1937. The figures just given do not include repair and maintenance contracts. Slum sections of many cities were cleared, and there were erected apartment houses, where apartments of 2, 3, and 4 rooms could be obtained at nominal rents. In the suburbs, there have been developments of small low-priced houses of 4, 5, and 6 rooms. Both apartment houses and suburban developments were generally partly financed by Federal funds. As to 1939, many expansion and plant-extension programs, deferred in 1938, are likely to be encouraged by renewed business optimism. The Federal housing program (USHA) will doubtless continue through the year. A moderate increase is indicated in one- and two-family houses, on the assumption of peak activity in the spring, and seasonal tapering off later. Accommodations were provided for about 215,000 families during 1938 in the United States. For 1939, the F. W. Dodge Corporation estimate that between 240,000 and 250,000 families will be accommodated. These figures include apartments, and one- and two-family houses, and count both new buildings and additional dwelling units provided through alterations. See BUSINESS REVIEW.

VALUE OF TOTAL CONSTRUCTION CONTRACTS
(37 EASTERN STATES)
[In thousands of dollars]

Classification	1937 Actual	1938 Estimate ^a	% Change from 1937
Commercial buildings	297,043	225,000	-24
Industrial buildings	313,689	135,000	-57
Educational and science ..	223,208	290,000	+30
Hospital and institutional ..	81,845	120,000	+47
Public buildings	104,901	115,000	+10
Religious buildings	36,867	40,000	+8
Social and recreational ..	83,826	115,000	+37
Misc. non-residential	14,782	25,000	+69
Total non-residential ...	1,156,161	1,065,000	-8
Apartment and hotels ...	223,857	269,000	+20
One and two family houses	681,436	716,000	+5
Total residential	905,293	985,000	+9
Total building	2,061,454	2,050,000	-1
Public Works & Utilities .	851,606	1,190,000	+40
Total construction	2,913,060	3,240,000	+11

^a Based on 10 months' data. F. W. Dodge Corp.

From a survey by Dun & Bradstreet, Inc. of the building activities in 215 important cities in the United States, the total estimated cost of building permits granted during the 12 months of 1938 amounted to \$1,147,543,436, a slight gain as compared with the \$1,130,915,007 for 1937, and the largest total recorded for the past seven years. Although the year-to-year advance was small—

1.5 per cent—it marked the fifth consecutive yearly gain, with the rise from the 1933 low point of \$313,676,276, amounting to 266.0 per cent.

Analysis of changes by geographical groups for the year showed 4 advances and 4 declines. New York City alone disclosed a gain of 19.4 per cent, while the 214 outside cities revealed a drop of 5.2 per cent.

BUILDING PERMITS IN THE UNITED STATES FOR 215 CITIES

(From Dun & Bradstreet, Inc.)

Geographical groups:	Twelve months 1938	Twelve months 1937	Change per cent
New England	\$ 59,345,889	\$ 75,597,830	—21.5
Middle Atlantic ...	458,261,696	412,768,047	+11.0
South Atlantic	106,064,820	109,174,143	—2.8
East Central	172,251,211	209,454,572	—17.8
South Central	107,857,776	96,186,453	+12.1
West Central	49,523,530	47,737,724	+3.7
Mountain	20,229,552	21,561,857	—6.2
Pacific	174,008,962	158,434,381	+9.8
Total U.S.	\$1,147,543,436	\$1,130,915,007	+1.5
New York City	365,301,696	305,857,854	+19.4
Outside N. Y. C. ..	782,241,740	825,057,153	—5.2

A preliminary estimate by *Engineering News-Record* of total construction volume (including buildings, dams, etc.) for 1938 is \$6,480,000,000, made up of Federal construction \$560,000,000, state and municipal \$3,120,000,000, private \$1,600,000,000, and residential \$1,200,000,000. This represents an 11 per cent gain over the estimated total for 1937.

The Department of Commerce, Division of Economic Research, estimates that \$5,185,000,000 was invested in new construction, plus \$1,075,000,000 in work relief, plus \$2,530,000,000 for maintenance, making a total of \$8,790,000,000 spent for construction and maintenance in 1938. This estimate represents Federal construction, maintenance, and Federally financed work relief \$2,430,000,000, non-Federal construction and maintenance \$1,675,000,000, private construction and maintenance \$4,685,000,000.

BUKHARIN, bōo-khā'rēn, NIKOLAI IVANOVICH. A Russian editor and economist, executed for treason, Mar. 14, 1938. Born in 1888 he was educated at the University of Moscow where he joined the Social Democratic Party. From 1902, when he was first arrested, to 1917, his life was a series of arrests, imprisonments, and banishments. With Lenin he published *Pravda* in Austria, and in 1916 he edited *Novy Mir* (*The New World*) in New York City. After the Russian Revolution in 1917 he returned to Russia where he became a member of the Central Committee of the Communist Party. He was one of the leaders of the Left Wing Bolsheviks, editor of *Spartak*, and opponent to the Brest Litovsk Treaty (1918).

A member of the Politbureau from 1918 to 1929, in 1926 he succeeded Gregori Zinoviev as head of the Third International. He resigned in March, 1929, and apparently allied himself with the Trotskyists and in August of that year he was suspended and subsequently expelled from the Communist Party. Acknowledging the supremacy of Stalin he was restored to Party membership, but not until 1934 was he again admitted to favor. Then with Karl Radek he was appointed editor of *Izvestia*, the government newspaper. Until 1936 they were firm supporters of the government, but thereafter they deviated occasionally from the Party line. In 1937 Bukharin was again expelled from the Communist Party, and on March 5 was arrested on charges of subversive activities. See UNION OF

SOVIET SOCIALIST REPUBLICS under *History* for an account of the trial.

One of the foremost of Soviet intellectuals and propagandists, a facile writer and a fluent orator, Bukharin was a member of the Academy of Science, the Communist Academy, and President of the Association of Research Institutes. He was the author of *Theory of Historic Materialism* (1925), *A.B.C. of Communism* (in collaboration), *Economics of the Transition Period*, "Theory and Practice from the Standpoint of Dialectical Materialism" in *Science at the Cross-Roads*, and editor of *Marxism and Modern Thought* (1935).

BULGARIA. A Balkan monarchy. Capital, Sofia. King in 1938, Boris III, who succeeded to the throne Oct. 3, 1918.

Area and Population. The area is 39,825 square miles and the population in January, 1938, was estimated at 6,280,000 (1934 census, 6,077,939). About 21 per cent of the population is urban. Estimated populations of Sofia in 1937 and all other cities in 1936 were: Sofia, with suburbs, 350,000; Plovdiv (Philippopolis), 125,000; Varna, 75,000; Ruse (Ruschuk), 51,000; Burgas, 30,000. Living births in 1937 numbered 150,040 (23.9 per 1000 inhabitants); deaths, 84,432 (13.4); marriages, 50,772 (8.1).

Religion and Education. The independent Bulgarian Orthodox Church is the state church. At the 1934 religious census it had 5,128,890 members as against 821,298 Moslems, 48,398 Jews, 45,704 Roman Catholics, 23,476 Armenian-Georgians, 8371 Protestants, and 1802 others. About 40 per cent of the adult population are illiterate. In 1936-37 there were 7974 schools, with 30,879 teachers and professors and 1,072,397 students. Attendance in kindergarten and elementary schools was 704,468; pre-gymnasium and gymnasium, 324,218; higher learning and universities, 11,400; trade and professional schools, 41,735; others, 285.

Production. Agriculture and fishing support about 80 per cent of the population. The arable land, comprising 39 per cent of the total area, was divided into 750,613 farms in 1934. Yields of the chief cereals in 1938 were (in metric tons): Wheat, 1,608,900; barley, 319,000; rye, 224,100; oats, 123,000; corn (1937), 859,300. Production of other crops in 1937 was: Potatoes, 5,695,000 bu.; tobacco, 69,052,000 lb.; wine, 38,306,000 gal.; sugar beets, 181,000 metric tons; beet sugar (1937-38), 23,000 metric tons; sunflower seed, 332,296,000 lb.; attar of roses, 92 oz.; silk cocoons, 3,527,000 lb. Coal production in 1937 was 1,688,000 metric tons; iron ore, 12,000 metric tons. There is little manufacturing.

Foreign Trade. Imports in 1937 were valued at 4,929,158,000 leva (3,181,068,000 in 1936) and exports at 5,019,499,000 leva (3,910,382,000 in 1936). In old U.S. gold dollars, the respective figures were \$37,398,000 (\$24,346,000) and \$38,084,000 (\$29,927,000). Raw cotton, iron and steel products, textiles, mineral oils, and wood pulp were leading imports. Leading exports in order of value in 1937 were tobacco leaf, wheat, eggs, fresh grapes, and dressed poultry. Germany supplied 54.8 per cent of the 1937 imports for consumption (61 in 1936); United Kingdom, 4.7 (4.6); Czecho-Slovakia, 5.0 (7.7); Italy, 5.0 (0.6). Of the 1937 exports, 43.1 per cent by value went to Germany (47.6 in 1936); 13.8 to the United Kingdom (11.6); Czecho-Slovakia, 5.6 (3.3); Italy, 4.2 (3.6).

Finance. Actual budget receipts in 1937 were 9,348,000,000 leva (including railway receipts of 1,669,000,000) and expenditures were 8,707,000,000

leva (railway expenditures, 1,620,000). Including railway operations, the 1938 estimates were: Receipts, 9,077,000,000 leva; expenditures, 9,059,000,000 leva. The 1939 estimates, excluding railway operations, balanced at 7,732,754,000 leva. The public debt on Mar. 31, 1938, totaled 28,734,000,000 leva (funded exterior, 19,833,000,000; floating interior, 2,169,000,000; debts guaranteed by the state, 6,732,000,000). The unit of currency is the lev (plural, leva), with an average exchange rate of \$0.01285 in 1937 and \$0.0124 in 1938.

Transportation, etc. In 1936 there were 1801 miles of standard-gage railways (1771 miles of state lines) and 260 miles of narrow-gage lines (all state owned). In that year the standard-gage lines carried 8,723,000 passengers and 4,620,000 metric tons of freight and had gross receipts of 1,149,000,000 leva. Roads and highways in 1937 extended 16,030 miles; number of automobiles, 4111 on Jan. 1, 1938. Air lines link Sofia with the leading cities of Europe and the Near East. In 1936, 6699 ships of 1,811,423 net registered tons entered the Black Sea ports and 14,211 ships of 2,317,334 tons the Danube ports.

Government. The Constitution of 1879 remained suspended from the Georgiev coup d'état of May 19, 1934, through 1938. All political parties were dissolved in 1934 and the formation of new ones was prohibited. King Boris ruled as virtual dictator after overthrowing Premier Georgiev's dictatorship on Jan. 22, 1935. For developments in 1938, see *History*.

HISTORY

Internal Developments. The struggle between parliamentary and anti-parliamentary forces in Bulgaria continued during 1938, with King Boris holding the balance of power between the hostile factions. That the conflict dividing the nation was reflected in the government itself was demonstrated by the cabinet reorganization of January 24. War Minister Christo Loukov, who favored continuation of a rigid dictatorship, and Minister of Interior Krasnovski, who urged immediate restoration of parliamentary government, were both dismissed. Premier George Kiosseivanov, who espoused the King's policy of maintenance of the status quo, was retained at the head of the government.

Immediately afterwards the government conducted a wholesale roundup of Leftists to prevent their participation in the electoral campaign. On the other hand, King Boris strengthened his position by accepting the retirement of several leading army officers opposed to restoration of parliamentarism. On April 30 the police banned Professor Kantartjev's Nazi organization. The parliamentary elections provided for in the October, 1937, electoral law (see 1937 YEAR BOOK, p. 112) were held on the four Sundays of March. Women voted in national elections for the first time.

Despite the fact that the candidates were forbidden to represent or campaign for political parties, many opponents of the government were elected. When the new Parliament convened on May 22, the government candidate for president of Parliament was elected by a vote of 92 against 63, with five Deputies abstaining. As Parliament had been reduced to the status of a mere advisory body, the anti-government bloc immediately brought forward their demand for the restoration of representative democratic government, including their former powers of legislating. Several weeks of wrangling followed, with the debate hinging upon the recommendation, made by a parliamentary com-

mittee charged with examining election results, that five opposition Deputies alleged to be Communists be deprived of their seats.

On June 17 the 65 Opposition Deputies walked out of Parliament in protest against the government's methods. Returning two weeks later, they submitted a memorandum urging the King to restore constitutional rights, including freedom of the press and amnesty for all political offenses, and to authorize the establishment of a new government from the ranks of Parliament. The government's response to this appeal was to pass a press law which proclaimed that the press was free but imposed a far more drastic censorship than that previously in effect. On September 27, during the European crisis over Czecho-Slovakia, the outstanding pro-democratic weekly newspaper in Sofia was suspended. Two other democratically inclined newspapers were warned to modify their editorial policies or suffer the same fate.

The government's repressive measures were intensified after the assassination in Sofia on October 10 of Maj.-Gen. Yordan Peyev, Chief of Staff of the Bulgarian Army, and his aide-de-camp, Major Stoyanov. The assassin was Stoil Kirov, who shot himself immediately after the act and died two days later in a Sofia hospital.

The police and troops immediately began a roundup of hundreds of Oppositionists, including leaders and members of the Imro, friends of the former dictator, Col. Damian Veltchev; various Communists, and five members of Parliament. On October 13 Sofia was placed under rigid martial law and all business activities were suspended while troops proceeded with arrests and "the repression of subversive elements." The same day the government announced that a wide conspiracy for a revolutionary uprising had been uncovered and that King Boris had ordered the military measures to frustrate it. Several hundred of more than 1200 persons arrested were interned in remote villages. The five Deputies arrested were released, however, and took part in an Opposition demonstration demanding the government's resignation when Parliament reconvened on October 23. On November 9 Parliament rejected a government bill for the establishment of a state press. The resulting cabinet crisis was ended by reorganization of the ministry on November 14. Kiosseivanov remained as Premier and Minister of Foreign Affairs.

Foreign Relations. The rapprochement of Bulgaria and Yugoslavia, manifested by the signature of a treaty of "perpetual peace and friendship" on Jan. 24, 1937 (see 1937 YEAR BOOK, p. 112), paved the way for the further development of amity among all of the Balkan countries in 1938. On July 31, 1938, a pact was signed at Salonika, Greece, by Premier John Metaxas of Greece as president of the Balkan Entente (q.v.) and Premier Kiosseivanov by which Bulgaria, Greece, Rumania, Turkey, and Yugoslavia pledged themselves to settle their mutual disputes by peaceful means. The Balkan Entente also renounced all claims to enforcement of the Treaty of Neuilly, which drastically restricted Bulgaria's armaments, and agreed to the abolition of the demilitarized zones along the frontiers of Greece, Turkey, and Bulgaria established by the Treaty of Lausanne. Bulgaria thus obtained the legal right to restore conscription and to arm as heavily as she considered necessary.

Bulgaria had previously rearmed to a considerable degree in violation of the Neuilly Treaty with the tacit consent of the Balkan Entente. The treaty of July 31 not only regularized this situation but

enabled Bulgaria to undertake a considerable expansion of her armament program with the aid of her enemies in the World War. Early in August, a French banking syndicate loaned Bulgaria 375,000,000 francs (about \$10,360,000) for the purchase of armaments and railway equipment in France. In connection with its rearmament program, the government in September commenced the registration of all male citizens for military service and of all material suitable for use in time of war. An airplane manufacturing plant built by the Italian Caproni Company was opened at Kazanlik on October 17. On October 25 Parliament approved the issuance of a 4,500,000,000 leva loan for armaments to be ordered in Germany. Meanwhile, the demilitarized zones in Thrace had been reoccupied by Greek, Bulgarian, and Turkish troops on August 28.

Bulgaria's agreement with the Balkan Entente was expected to lead to its eventual association with the Entente. The July 31 treaty had been preceded by other evidences of growing inter-Balkan friendship. On April 21 Bulgaria and Yugoslavia signed a protocol providing for the removal of barbed-wire entanglements and machine-gun emplacements along the frontier. On June 8 Premier Kiosseivanov emphasized to Parliament Bulgaria's close relations with Yugoslavia and her other Balkan neighbors, at the same time denying rumors that Bulgaria had a secret understanding with Germany and Italy.

However, the partition of Czecho-Slovakia agreed upon at Munich late in September aroused Bulgarian hopes for German aid in securing the restoration of Bulgarian minorities ceded to Greece, Rumania, and Yugoslavia by the Treaty of Neuilly. It thus gave a powerful stimulus to the elements in Bulgaria opposed to co-operation with the Balkan Entente and favoring a pro-German foreign policy. Such a policy was advocated by the Military League, the Fascist movement under Prof. A. Tsankov, and the Imro, which was believed to have plotted the assassination of Major-General Peyev in furtherance of this objective.

The Kiosseivanov Government announced a policy of strict neutrality during the European crisis over Czecho-Slovakia. Nevertheless, King Boris turned up in Berlin, where he was reported seeking German aid for the return of part of the Dobruja district along the Black Sea from Rumania. On October 30 the President of the Bulgarian Parliament publicly announced that Bulgaria would demand the return of some territories lost during the World War and hoped to obtain them by peaceful means. Great demonstrations in support of this demand took place in Sofia in connection with the observance on November 27 of the 19th anniversary of the signing of the Treaty of Neuilly. Declaring the demonstrations were "of a revolutionary character," the government dispersed the mobs, ringed the capital with troops, proclaimed martial law, and forbade the people to leave their houses. More than 350 demonstrators were arrested.

BUND, GERMAN-AMERICAN. See FASCISM.

BURGENLAND. See AUSTRIA.

BURMA. A British Crown Colony, formerly a province of British India, from which it was separated on Apr. 1, 1937. Total area, 261,610 square miles comprising Burma proper, with the Chin Hills and Kachin Hill Tracts (192,158 sq. m.), Shan States (62,335 sq. m.), and unadministered territory (7,117 sq. m.). Total population (1931), 14,667,146. Rangoon, the capital, had 400,415 inhabitants; Mandalay, 147,932. Over 84 per cent of

the people, in 1931, were Buddhists. There were 756,464 students in the schools and colleges during 1936-37.

Production and Trade. The area sown to rice in 1937-38 totaled 12,856,350 acres from which 6,937,400 metric tons of rough rice were produced. Millet, cotton, tobacco, and sesamum were other important agricultural products. At the end of 1936-37 the reserved forests had an area of 31,339 square miles, from which the out-turn of teak by lessees for the year was 345,793 tons. Mineral production (1936), in metric tons, was tin, 4689 (4100 in 1937); tungsten ore, 3006; silver, 185.1 (192 in 1937). The output of petroleum in 1936 was 265,570,120 gal. In 1936 there were 985 factories of all kinds, the total number of employees being 89,230. In 1937-38 imports were valued at Rs238,027,428; exports Rs499,179,456 (rupee averaged \$0.3733 in 1937).

Communications. In 1936-37 the total length of roads was 10,139 miles. There were 60 miles of navigable canals. The Irrawaddy (navigable for 900 miles from the sea) and its tributaries (the Chindwin, the Shweli, and the Myitnge) form the chief artery of commerce. As a result of the separation of Burma from India, the railways were taken over by the government of Burma dating from Apr. 1, 1937, the mileage open to traffic in 1936-37 was 2060. The Burma railways have reached Myitkyina on the Upper Irrawaddy, and a branch line has been extended to the Shan States.

Finance. Revised estimates for the year ended Mar. 31, 1938: Revenue, Rs150,086,000; expenditure, Rs149,405,000. Budget estimates for 1938-39: Revenue, Rs158,083,000; expenditure, Rs154,229,000. Burma's indebtedness to India was estimated at Rs507,500,000 in March, 1938. In addition the government of Burma has to bear $7\frac{1}{2}$ per cent of the liabilities of the government of India in respect to central government pensions in force at the date of separation.

Government. The Government of India Act, 1935, as passed by the British Parliament, provided for the separation of Burma from India, effective Apr. 1, 1937, and its establishment as a Crown Colony within the British Empire. Executive and administrative powers were vested in a governor appointed by the Crown. The governor is assisted by an executive council of not more than 10 ministers, chosen by him. Legislative powers over matters pertaining to Burma's internal affairs were vested in a legislature, consisting of a senate of 36 members, partly appointed by the governor and partly elected, and a house of representatives of 132 members elected by popular suffrage. Considerable areas in the northern and eastern hill districts were excluded from the legislature's control and placed directly under the Governor. The Government of India Act provided that laws in force in India as of Apr. 1, 1937, should remain in force in Burma until such time as the Burmese Government formulated laws of its own. Governor, Sir Archibald D. Cochrane, who assumed office May 8, 1936, and was reappointed as head of the new state effective Apr. 1, 1937.

History. The rapid growth of Burmese nationalism evidenced itself in connection with the serious riots that broke out late in July, 1938, between Burmese Buddhists and Indian Moslems. The rioting started following the publication of a book written by an Indian Moslem which the Buddhists considered insulting to their religion. Burmese mobs paraded through the streets of Rangoon attacking Indians, looting their shops, and shouting

"Burma for the Burmese." The rioting spread from Rangoon to Mandalay and other districts. British troops were compelled to fire on both Burmese and Indian mobs and to adopt severe measures against public gatherings and demonstrations to restore order. The authorities also banned the offending book. In the first phase of the rioting, 149 persons were killed and hundreds injured. A large emigration of Indians from Burma followed and many of those who remained refused to reopen their shops for fear of further attacks. Since the Indians were the principal purveyors of food-stuffs in Burma, some hunger among the Burmese resulted.

These events had repercussions in the Senate and House of Representatives. There were blows between Burman and Indian members. One stormy session forced the Speaker of the House to suspend its sitting. Opposition criticism was aimed at the government methods of repressing the rioters. A no-confidence vote in Premier Ba Maw's coalition ministry failed of carrying by only five votes in the House on August 26. Early in September the rioting broke out anew in Rangoon, causing 15 deaths. On September 6 an Opposition leader in the House, U Ba Hlaing, threatened both Europeans and Indians with mob action. The Speaker again suspended the sitting and on September 9 the British Governor invoked his special powers under the 1935 Constitution to impose more drastic repressive measures against the rioters. Without consulting the Legislatures, he proclaimed the Rangoon Emergency Security Act empowering the police to arrest without warrant and to hold such prisoners 15 days without bail. Forbidden even to discuss this measure, the Legislatures displayed increased hostility to those provisions of the Constitution giving the Governor special powers for "the prevention of any grave menace to the peace or tranquillity of Burma or any part thereof." The Governor was moved to use these powers partly by a motion adopted by the Central Legislature in India demanding immediate action by the British authorities to end anti-Indian violence in Burma.

The Governor had previously vetoed a bill passed by the Burman House of Representatives which sought to deprive considerable numbers of former government servants of their pensions. With these exceptions, Dr. Ba Maw's native government was given full leeway in the administrative organization of the new state and the enactment of social and economic reforms. The ministry concentrated its attention on efforts to improve agricultural conditions, lighten peasant indebtedness, and encourage the return to the land of many Burmans who had flocked to the cities. Medical dispensaries were established in every township. A long-term educational program was adopted and a first step toward its application was taken through a bill establishing compulsory free education in certain areas. Other government measures and plans provided for a new short-wave broadcasting station at Rangoon to serve all Burma, the employment of the radio and moving-picture films for adult education, the reopening of the Agricultural College in Mandalay, the establishment of a polytechnic in Rangoon, and of a fine arts school and state library. Financial reforms introduced included the abolition of the poll and household taxes and the establishment of a State lottery to compensate in part for the consequent reduction in revenues.

BURYAT-MONGOLIAN AUTONOMOUS SOVIET SOCIALIST REPUBLIC.

See RUSSIAN SOVIET FEDERATED SOCIALIST REPUBLIC; SIBERIA.

BUSINESS REVIEW. The course of business during 1938 was practically the reverse of that of the preceding year. Whereas the first half of 1937 was a very prosperous period during which industrial activity in the United States almost equaled the record level of 1929, the second half of the year was marked by a very severe recession. The first half of 1938, by contrast, witnessed a sustained low level of industrial activity, but during the second half of the year a recovery developed that was probably as sharp as any recorded within so short a period of time. As a result, the Federal Reserve Board's index of industrial activity for December was the highest for that month in any year since 1928, except 1936.

Economists will probably be disagreed for a long time to come in their interpretation of this spectacular recovery from the 1937-38 recession. The low level of production during the first half of 1938 permitted not only manufacturers but also distributors and consumers to draw down the large stocks of goods that had been accumulated during the two preceding years in anticipation of higher costs and prices. The basis was thus laid through deflation of inventories for a substantial recovery, as production had to be expanded to meet current consumption requirements when the latter could no longer be filled in part from stocks on hand. Accordingly, there would probably be general agreement that some improvement in business activity from the low levels of the first half of the year would have occurred in any event, regardless of whether or not the Government adopted special recovery measures of its own. On April 14, the President sent a special message to Congress outlining a program of Federal spending and lending to stimulate economic recovery which undoubtedly spurred the business recovery of the second half of the year. However, there is wide difference of opinion as to whether or not this pump-priming program was the decisive factor in making the recovery as rapid as was the case.

The course of business activity during 1938 may be traced through the index of industrial production of the Federal Reserve Board as shown in the table below:

Months	1933	1934	1935	1936	1937	1938
January	65	78	90	97	114	80
February	63	81	89	94	116	79
March	59	84	88	93	118	79
April	66	86	86	101	118	77
May	78	86	85	101	118	76
June	91	84	87	104	114	77
July	100	76	86	108	114	83
August	91	73	88	108	117	88
September	84	71	91	109	111	91
October	76	74	95	110	102	96
November	72	75	96	114	88	103
December	75	86	101	121	84	104 *
<i>Annual Indices (unadjusted)</i>						
1921	67	1927	106	1933	76	
1922	85	1928	111	1934	79	
1923	101	1929	119	1935	90	
1924	95	1930	96	1936	105	
1925	104	1931	81	1937	110	
1926	108	1932	64	1938	86 *	

* Preliminary.

A feature of the upturn in business activity was the rise in new residential construction to a level well above the 1937 peak. The failure of building

activity to register more than a partial recovery from the low point reached in 1933 during the subsequent years had been one of the most discouraging features of the economic situation. It had been pointed out repeatedly, however, that the protracted period of sub-normal construction would inevitably culminate in a major revival of building activity. The fact that the construction industry participated so fully in the recovery that began during the second half of 1938 gave the promise that this industry would at last resume its normal place as a contributing factor to general economic activity. Opinions differed as to how far exceptionally favorable financing conditions made possible by the liberalization of mortgage insurance by the Federal Housing Administration, and the slum clearance program conducted by the U.S. Housing Authority, accounted for the vigor of the upturn.

The volume of output of six major industries, with comparisons with previous years, is indicated in the following more detailed tables:

INDICES OF ACTIVITY IN CHIEF INDUSTRIES

	<i>Automobiles</i> ^a	<i>Iron and steel</i>	<i>Bituminous coal</i>	<i>Freight car loadings</i> ^a	<i>Electric power</i> ^b	<i>Copper</i> ^c
1929	135	130	102	107	105.2	98.3
1930	85	94	89	92	99.7	71.4
1931	60	60	73	74	95.0	51.1
1932	35	31	59	55	85.7	25.8
1933	48	53	64	58	88.4	23.4
1934	69	60	69	62	91.5	26.8
1935	99	79	71	64	94.3	41.1
1936	112	110	84	75	101.3	60.4
1937	121	118	84	78	104.9	80.3

	1937 ^a	1938 ^a	1937 ^a	1938 ^a	1937 ^a	1938 ^a	1937 ^b	1938 ^b	1937 ^d	1938 ^d
January	120	65	139	52	87	65	80	65	105.5	94.3
February	120	61	129	50	98	64	82	62	105.9	94.3
March	121	54	126	49	112	58	83	60	105.0	92.0
April	130	54	130	50	72	62	84	57	105.4	90.6
May	135	49	134	47	80	57	80	58	106.8	91.1
June	130	46	119	46	81	57	78	58	106.4	91.7
July	129	43	140	62	79	60	80	61	106.9	94.4
August	157	45	142	70	78	64	79	62	108.6	96.4
September	135	46	125	76	87	71	78	64	106.6	97.1
October	142	84	100	90	84	72	76	68	105.2	97.9
November	92	96	68	109	78	77	71	69	99.8	98.9
December	78	99	49	101	79	77	67	69	96.8	99.8
Year	124	62	117	82	84	64	78	63	104.9	94.9

^a Board of Governors of Federal Reserve System (adjusted for seasonal variations), monthly average 1923-25 = 100.

^b Monthly average of *Annalist* (computed normal = 100).

^c Average monthly U.S. smelter production in thousands of short tons.

^d Refinery production in thousands of short tons; new series.

^e Board of Governors of Federal Reserve System, 1923-25 = 100.

Agriculture. American agriculture did not retain in full during 1938 the sharp gains registered in the preceding year, which was the most favorable for the nation's farmers since 1929. For the year as a whole, the cash income of the farm population suffered a shrinkage of 11 per cent from the 1937 level. The chief reason for this decline was the fall in commodity prices which began in the spring of 1937 and continued to some extent during the first half of 1938. This decline in farm prices was in part a reaction from the high levels reached as an aftermath of the 1936 drought. A contributing factor was the decline in business activity and the troubled international situation, which affected adversely the demand for American agricultural products at home and abroad. Increased production in 1937 and 1938 of various crops offset the decline in prices only to a partial extent. Another factor moderating the decline in farm income was an increase in Government payments to farmers of \$133,000,000 over the 1937 total.

In February, 1938, Congress enacted a new Agri-

cultural Adjustment Act providing for more effective control over the production of five staple farm products, cotton, wheat, corn, tobacco, and rice. This law also made provision for the establishment of an ever-normal granary plan, under which surplus production of years of large crops would be impounded through Government loans to growers, while stocks thus accumulated would be resold in the market whenever prices declined. Loans were made on the 1938 cotton and wheat crops under this provision at levels that sustained the prices of these commodities well above the levels to which otherwise they would have fallen. This hampered exports, as foreign buyers could purchase their requirements more cheaply from other producing countries that did not peg prices artificially through government loans. Recognizing this, the Department of Agriculture embarked upon a program of subsidizing wheat exports late in 1938 in order to sell part of the surplus output abroad, but cotton

exports were not promoted artificially in this way and they fell to the lowest level of the century. Toward the end of the year, a good deal of dissatisfaction was expressed with the functioning of the Agricultural Adjustment Act of 1938, and numerous proposals were advanced for its amendment. The Secretary of Agriculture indicated that he favored a lesser use of crop loans, because they discouraged exports, but as an offset he was ready to increase further parity payments made to farmers. The cost of the farm adjustment program to the Government may be increased to exceed a billion dollars annually in soil conservation, parity, and other outlays if this plan is adopted.

Live-stock producers did better than most other farm groups. Output was larger, and prices held up fairly well during 1938. Dairy farmers were aided by marketing plans which stabilized prices of fluid milk, while Government buying of butter sustained income from that source.

Cash income of farmers during the past two years has fluctuated as follows:

CASH FARM INCOME
(Including AAA Payments)
[Millions of dollars]

	1937	1938
January	681	620
February	557	487
March	707	572
April	646	549
May	610	554
June	631	559
July	751	644
August	771	629
September	821	747
October	911	839
November	716	708 ^a
December	683	652 ^a
Year	8,574 ^b	7,632 ^{ab}

^a Preliminary. ^b Annual totals exceed sum of monthly figures, owing to revision at end of year.

The following table indicates the chief source of such income in 1937 and 1938:

Source of income	[Million dollars] 1937	1938 ^a
Income from farm marketings	8,208	7,150
All crops	3,846	3,160
Grains	1,008	843
Cotton and cottonseed	884	667
Fruits and vegetables	1,164	906
Tobacco	318	294
All livestock	4,362	3,990
Meat animals	2,039	1,893
Dairy products	1,530	1,430
Poultry and eggs	637	569
Government payments	367	482
Total income including Government payments	8,574	7,632

^a Preliminary.

Manufacturing. The durable goods industries, which had suffered the sharpest decline in activity during 1937, registered the widest gains in 1938. Building, iron and steel manufacturing, and automobile manufacturing played a leading part in the broad industrial recovery of the second half of the year.

The upturn in building began earlier than that of most industries, following the adoption by Congress shortly after the turn of the year of a series of amendments to the Federal Housing Act. For the year as a whole, new construction contracts placed were somewhat smaller in dollar value than in the year before. However, owing to a moderate decline in building costs, the physical volume of new residential construction was actually larger than in 1937. Approximately 300,000 new dwelling units were built during the year. This does not include the very ambitious slum clearance program of the U.S. Housing Authority, under which approximately \$650,000,000 of loans to local housing bodies were approved during the year. Actual construction on slum clearance projects will assume substantial proportions only in 1939. Non-residential building remained at a low ebb during the year, except for public works projects, which increased sharply following the adoption of the spending-lending program by Congress. New construction contracts for residential and all other buildings varied from month to month during 1937 and 1938 as shown in table in next column.

Operations in the steel industry remained at a relatively low level during the first half of the year, but slightly above 30 per cent of capacity. They turned upward sharply in the second half of the year, rising to a peak of 62 per cent in November, although the usual seasonal decline occurred in the closing weeks of the year. Operations expanded sharply when prices were reduced in June and dif-

CONSTRUCTION CONTRACTS AWARDED
[Millions of dollars] ^a

	1937		1938	
	Resi- dential	Non- residential	Resi- dential	Non- residential
January	78.4	164.3	36.2	156.0
February	63.0	125.3	40.0	78.9
March	90.2	141.0	79.4	147.5
April	107.8	161.7	74.6	145.4
May	83.9	159.8	83.2	200.0
June	93.0	224.7	85.7	165.3
July	81.0	240.6	88.0	151.8
August	73.4	207.8	99.7	213.4
September	65.6	141.5	99.6	201.3
October	65.5	136.6	112.7	245.0
November	59.9	138.5	95.3	206.4
December	43.5	166.0	91.4	300.0
Year	905.3	2,007.8	985.8	2,211.0

^a F. W. Dodge Corporation figures for 37 states east of the Rocky Mountains.

ferentials in quotations between Pittsburgh and other basing points were largely eliminated. Further price reductions occurred in October, affecting chiefly automobile steel, but these proved short-lived. Despite the drop in prices, wage rates were sustained, so that profit margins of steel producers were materially reduced. In order to cut their costs, the steel companies spent substantial sums upon the modernization of their productive facilities which largely increased efficiency. The production of steel ingots month by month, with comparisons with 1937, are shown in the following summary:

STEEL INGOT PRODUCTION ^a
[Thousand long tons]

	1937	1938
January	4,718	1,733
February	4,415	1,704
March	5,218	2,012
April	5,071	1,925
May	5,152	1,807
June	4,185	1,638
July	4,556	1,982
August	4,878	2,547
September	4,290	2,658
October	3,393	3,118
November	2,154	3,572
December	1,473	3,143
Year	49,503	27,839

^a Source: American Iron and Steel Institute.

The automobile industry entered 1938 with large inventories, as production of new model cars in the closing months of 1937 reflected an overestimation of the available purchasing power. Manufacturers curtailed their schedules sharply during most of 1938, while inventories of new and used cars were brought down to low levels and the basis laid for a closer relationship between output and actual consumption. In 1937 the automobile industry produced 5,016,000 units, a record exceeded only in 1929. Expectations of higher prices and fears of interruptions of production due to labor troubles in that year accelerated both consumer and dealer buying, so as to create an unsound situation in the industry. The 1938 production of some 2,650,000 cars in the United States and Canada, by contrast, was sub-normal in that it did not fully cover estimated normal replacement requirements. With the introduction of 1939 model automobiles in November, retail sales improved materially, and in the closing weeks of the year production rose above the level of the corresponding period in 1937. Small price reductions and substantial changes in models, as well as the improvement in general economic conditions, contributed materially to the revival in the automobile industry. The output of new cars month by month compared as follows:

OUTPUT OF NEW AUTOMOBILES

	1937	1938 ^a
January	379,603	209,506
February	364,193	186,523
March	494,121	221,796
April	536,150	219,314
May	516,919	192,068
June	497,312	174,667
July	438,968	141,437
August	394,330	90,484
September	171,213	83,534
October	329,876	209,522
November	360,055	372,358
December	326,234	388,436
Total	4,808,974	2,489,635

^a Preliminary. Source: U.S. Department of Commerce and Automobile Manufacturers Association.

The consumers' goods lines generally conformed to the pattern of the steel and automobile industries. Production was at a low level during the first half of the year, as inventories on hand were drawn down and the basis thus laid for an early recovery. During the second half of the year, buying by both consumers and distributors increased, and operations expanded sharply in the textile manufacturing, shoe manufacturing, and other important lines. By the close of the year, activity in these industries was well above the corresponding 1937 level.

Distribution. The volume of retail trade showed no such wide fluctuations as did manufacturing activity. One important reason for this was the increase in Government relief spending, which tended to sustain consumer income despite the drop in industrial payrolls. Another contributing factor was the relative stability of farm income, also induced in large part by Government intervention. The upturn in business activity during the fall was not fully reflected in retail trade statistics for a time, because unseasonably warm weather curtailed apparel buying. However, a good deal of this business was regained in December, and with the help of an active holiday season retailers reported dollar sales volume for the final month of the year somewhat larger than the year before, despite the fact that retail prices averaged about 5 per cent less. Department store sales and inventories as reported by the Federal Reserve Board on a monthly basis were as follows:

INDICES OF MONTHLY DEPARTMENT STORE SALES AND STOCKS

[1923-25 = 100; adjusted for seasonal variation]

	1937		1938	
	Sales	Stocks	Sales	Stocks
January	93	74	90	71
February	95	76	88	70
March	93	76	86	70
April	93	76	83	69
May	93	76	78	69
June	93	76	82	68
July	92	77	83	67
August	93	78	83	67
September	94	77	86	67
October	93	76	84	67
November	91	75	89	67
December	89	72	89	66
Year	92	76	85	68

Commodity Prices. As compared with the three preceding years, commodity prices during 1938 were relatively stable, with the main trend downward. Prices of farm products, after declining during the spring under the weight of large supplies, became firmer as Government loans to growers, plans for further production curtailment, and expanding consumption exerted their effect. Prices of industrial raw materials, such as metals, rubber and lumber, improved during the closing months of the year with the rise in business activity. Manu-

factured goods prices, on the other hand, which normally lag behind raw material prices, sagged during the year, the anti-monopoly investigation tending to encourage price cuts in the steel manufacturing and other industries. Oil prices were depressed because production tended to outrun the demand.

Business men for the most part paid less attention to monetary developments as they might affect commodity prices. Although huge gold imports raised the monetary gold stock of the United States to a far higher level than ever before, while excess reserves of the member banks of the Federal Reserve System rose to a new peak and deposits in commercial banks expanded, there was no renewal of the rush to expand inventories because of the fear of "inflation" which was so marked late in 1936 and early in 1937. The sharp decline in commodity prices during 1937 discouraged a renewal of such anticipatory buying, and business men displayed more skepticism with regard to vague predictions of coming price inflation due to monetary conditions.

The wide discrepancy between prices of raw materials and finished products that developed during 1937 continued during the year, as was inevitable because of the stability of wage scales in industry and increases of hourly wages in certain lines because of the application of the Fair Labor Standards Act. However, as prices of some farm products and most industrial raw materials improved later in the year, while finished goods prices registered small declines, the divergence between the two groups of prices narrowed somewhat.

The cost of living registered a small decline during the year, especially food and fuel prices.

The wholesale price index of the Bureau of Labor Statistics fluctuated as follows:

WHOLESALE PRICE MOVEMENT
[1926 = 100]

Combined index	
1929	95.3
1930	86.4
1931	73.0
1932	64.8
1933	65.9
1934	74.9
1935	80.0
1936	80.8
1937	86.3

	Combined index		Farm products only	
	1937	1938	1937	1938
January	85.9	80.9	91.3	71.6
February	86.3	79.8	91.4	69.8
March	87.8	79.7	94.1	70.3
April	88.0	78.7	92.2	68.4
May	87.4	78.1	89.8	67.5
June	87.2	78.3	88.5	68.7
July	87.9	78.8	89.3	69.4
August	87.5	78.1	86.4	67.3
September	87.4	78.3	85.9	68.1
October	85.4	77.6	80.4	66.8
November	83.3	77.5	75.7	67.8
December	81.7	77.0	72.8	67.6
Year	86.3	78.6	86.4	68.6

Industrial Earnings. Several conflicting factors affected the course of business profits during 1938. The most important of these was the upturn in volume during the last half of the year, which not only increased the total of sales, but also, as usual, made for a wider margin of profit. Another favorable factor was a marked improvement in industrial efficiency in a number of industries, which had been sadly impaired as a result of the strikes and unionization campaigns of 1936 and 1937. In many cases, in fact, the impairment of efficiency during those two years was more than corrected

in 1938. On the other hand, the inflexibility of wage scales in most industries, the application of minimum wage and maximum hour standards under the Fair Labor Standards Act, the high level of taxation and Government pressure for lower prices in the steel, building materials, and other industries combined to keep down the level of profits. In a number of industries such as steel manufacturing, the "break even point" is considerably higher than it was a number of years ago as a result of these influences.

For the year as a whole, profits ruled far below those of 1937, when quite favorable conditions prevailed during the first eight months of the year.

Business Failures. Commercial failures increased during the first half of 1938, as is usual during recession periods. However, as conditions improved during the latter half of the year, failures decreased in number and size. As has proved true in the past, a short-lived recession such as that that lasted from September, 1937, to July, 1938, does not exert sufficient pressure upon business concerns to lead to any really serious failure epidemic. The monthly record of commercial failures as reported by Dun & Bradstreet was as follows:

COMMERCIAL AND INDUSTRIAL FAILURES IN THE UNITED STATES *

	1937		1938	
	Number	Liabilities (thous. of dollars)	Number	Liabilities (thous. of dollars)
January	841	12,003	1,377	21,415
February	755	14,004	1,149	21,028
March	861	22,951	1,167	40,325
April	818	12,893	1,172	21,147
May	875	13,088	1,123	19,139
June	703	12,829	1,073	15,918
July	651	12,780	1,038	14,761
August	736	14,950	1,015	16,382
September	584	9,818	866	14,341
October	815	14,079	997	13,219
November	842	16,400	984	12,302
December	1,009	27,817	875	36,528
Total for year	9,490	183,253	12,836	246,505

* Revised series by Dun and Bradstreet.

The sharp decline in traffic and the failure to obtain any reduction in wages caused the railroad industry to suffer a severe decline in earnings during the year. The earning power of this industry almost fell back to the low levels of 1932 and 1933, as wage scales have risen 17½ per cent since those years. No material progress was made in reorganizing the many railroads in equity receivership or bankruptcy, and a few additional lines initiated reorganization proceedings. Late in the year, the Baltimore & Ohio and Lehigh Valley attempted to obtain a sharp reduction in their interest charges by seeking the assent of the bondholders to a voluntary reduction in payments for a limited period of time.

CALIFORNIA. Area and Population. Area, 158,297 square miles; included (1930) water, 2645 square miles. Population: Apr. 1, 1930 (census), 5,677,251; July 1, 1937 (Federal estimate), 6,154,000; 1920 (census), 3,426,861. Sacramento, the capital, had (1930) 93,750; Los Angeles, 1,238,048; San Francisco, 634,394; Oakland, 284,063.

Agriculture. The table in next column shows the acreage, production, and value of the chief crops of California in 1938 and 1937.

Mineral Production. The fourth successive increase in California's yearly production of petroleum carried the total to 238,521,000 bbl. for 1937, from 214,773,000, in value \$215,900,000, for 1936. The greater part of the gain of 1937 was

Crop	Year	Acreage	Prod. Bu.	Value
Oranges	1938	.....	45,660,000 ^a	\$34,848,000
	1937	.....	45,605,000 ^a	30,071,000
Hay (tame) ..	1938	1,506,000	4,352,000 ^b	35,251,000
	1937	1,459,000	4,127,000 ^b	51,588,000
Grapes	1938	.....	2,331,000 ^b	31,727,000
	1937	.....	2,454,000 ^b	46,680,000
Lemons	1938	.....	11,097,000 ^b	23,304,000
	1937	.....	9,355,000 ^a	18,710,000
Cotton	1938	336,000	2,423,000 ^c	19,246,000
	1937	620,000	738,000 ^c	32,290,000
Dry beans ..	1938	343,000	4,563,000 ^d	13,872,000
	1937	386,000	5,369,000 ^d	17,598,000
Barley	1938	1,102,000	27,550,000	12,948,000
	1937	1,050,000	28,350,000	18,144,000
Peaches	1938	.....	20,835,000	6,048,000
	1937	.....	23,252,000	19,426,000
Wheat	1938	749,000	12,733,000	8,531,000
	1937	832,000	17,888,000	16,994,000
Potatoes	1938	72,000	18,720,000	10,296,000
	1937	68,000	18,156,000	10,712,000
Sugar beets ..	1938	157,000	1,993,000 ^b	.....
	1937	132,000	1,707,000 ^b	10,123,000
Pears	1938	.....	11,751,000	3,763,000
	1937	.....	9,334,000	6,007,000
Rice	1938	130,000	9,100,000	4,914,000
	1937	132,000	9,108,000	5,283,000

^a Boxes. ^b Tons. ^c Bales. ^d 100-lb. bags.

matched by added exports of oil from the State to the Far East, and demand for the product was said to have warranted the growth of the output; there was no urgent general demand for new measures of proration. The greater part of the rise in yearly output occurred in the Los Angeles basin, which again became the State's chief producing district. The yield of natural gas rose somewhat, to 357 billion cu. ft. for 1937, from 320 billion, valued at \$82,401,000, for 1936. Of the gas produced in 1937, 231 billion cu. ft. went to public utilities. The quantity of gasoline extracted from natural gas, 612,467,000 gal. for 1937, exceeded the total of 593,416,000 gal., valued at \$35,437,000, for 1936.

The quantity of California's yearly production of gold, for 1938, exceeded that for any prior year after 1862. As approximately determined by the U.S. Bureau of Mines, ore mined in 1938 contained recoverable gold totaling 1,294,400 oz.; this was about 10 per cent more than the total, of 1,174,578 oz., for 1937; by value, these totals came to \$45,304,000 (1938) and \$41,110,230 (1937). While gold held by far the chief place in metal-mining, a substantial production of silver continued, attaining about 2,755,000 oz. for 1938, as against 2,888,265 oz. for 1937. As the Government paid less for silver than it had the year before, the yield of silver fell, by value, to \$1,781,010 (1938), from \$2,234,073 (1937). The small production of copper shrank to some 2,210,000 lb. (1938), from 10,502,000 lb. (1937), and by value to \$216,680, from \$1,270,742. In addition to gold, silver, and copper, mines produced a little lead and zinc; and the value of the year's production of all five metals attained \$47,349,570 for 1938, as against \$44,757,593 for 1937.

Increased operation of mines already producing, the reopening of old producers that had been closed, and yields from new enterprises coming into production all attended the further increase of the production of gold in 1938. The Grass Valley and Nevada City district held its place as the foremost source of the output.

Charities and Corrections. The Department of Social Welfare was the State's administrative agent for aid to the needy aged, children, and blind, and for divers other services. California's task of supporting the aged poor continued to grow. The number of recipients of old-age assistance attained 123,722 at the end of October, or 44 per cent above the figure of a year earlier. The beneficiaries

received, in that month, \$4,016,019, or 40 per cent more than a year earlier. The Legislature appropriated \$6,000,000 for distribution in the fiscal year, over and above its ordinary part of the cost of this aid for the aged; the money, at the rate of \$500,000 a month, was shared among all the counties, at the rate of their several totals of cost for these pensions. This temporarily lifted from the counties about half of their burden of individually matching the State's payments toward this cost. As the State supported its aged poor at a monthly rate (\$32.36 in August) higher than the \$30 up to which the Federal Government would pay one-half, the State and county contributions considerably exceeded the Federal. While the State's extra contribution of \$6,000,000 was nominally temporary, it raised the question of future reduction of the contribution required of the counties.

Counties, on the other hand, continued to pay, each for itself, the cost of "indigent aid," or general outdoor poor-aid. This expense, for all the counties, rose above \$900,000 for March and thereafter diminished, to \$823,237 for October. Los Angeles County alone paid out nearly half of this sum; it had on its hands not only the needy unemployed of its regular population but people who had drifted in during the early 'thirties. See OLD AGE PENSIONS.

Legislation. Called into special session by Governor Merriam, mainly for the enactment of new laws to regulate drilling for petroleum on tidal lands, the Legislature convened March 7 and adjourned March 13. It enacted authority for a commission, to be composed of the Lieutenant-Governor, Comptroller, and Director of Finance, to administer the leasing of the State's oil-bearing and other mineral lands. Its chief appropriations were: \$4,000,000 for aid to the needy unemployed; \$6,000,000, partly for aid to sufferers in recent floods and partly for increases in some State salaries, and \$6,000,000 for the counties, toward their payment of aid to the aged for one year. It voted to propose an amendment to the State constitution, authorizing the Legislature to transfer the duties of the State's Relief Administration, presumably the Social Welfare Department. A Soil Conservation Committee was created to deal with the setting-up of soil-conservation districts in connection with Federal and State provisions for maintaining the fertility of the soil. All employees of the University of California were admitted to the State's system of retirement for superannuated public employees. Provision was made whereby the State and its subdivisions might participate in the Federal financing of "low-cost" housing. The Senate, as in 1937, killed a House bill designed to pardon Thomas J. Mooney, convicted bomber.

Political and Other Events. The State was swept politically in the course of the summer by a new agitation for a high grant of public support to people of advanced years. This plan swept out of view the previously popular Townsend plan. More bountiful in its provisions, it captured the support of many of the latter's earlier friends. It proposed the State's paying, as its slogan said, "\$30 every Thursday" to every "retired" Californian 50 or more years of age; the State was to make the payments in scrip or warrants, which were to be transferable, and to which stamps at the rate of 2 cents on the dollar must be affixed every Thursday for a year, making the paper pay its own value at maturity. Campaigners for the scheme ascribed its theory to Dr. Irving Fisher of Yale; the liberal Aberhart government of Alberta, Canada, had given a

brief trial to a similar scheme, "prosperity certificates," two years before. The California movement, started in October, 1937, had reportedly among its early workers several recruits from the staffs of the Townsend and EPIC movements. Its quarters in Hollywood, once the proposal became known, were deluged with contributions by mail. A petition to put the scheme on the ballot to be voted as an initiated measure at the November election, was circulated; by mid-July it had nearly a million signatures—over five times the needful total. The movement became the most potent element in the year's political campaign (see *Elections*, below).

Business in the State was disturbed in the course of the year by the continued prevalence of strikes in some industries. Difficulties with longshoremen's labor organizations, centralized to some extent about San Francisco Bay but felt up and down the coast, impeded shipping activity in the winter and spring. The Alaskan Cannery Workers' Union struck before the sailing time of the salmon-fishery fleet from San Francisco and delayed the sailing of the ships until the closing days of May. A warehousemen's strike checked the movement of many sorts of goods in San Francisco and some other cities until settled early in August. See STRIKES AND LOCKOUTS.

The withdrawal of the ships of the Grace and Panama Pacific lines from the route between Atlantic and Pacific ports, carried out about the beginning of 1938, left the ports of California, particularly San Francisco, without regular connection with the ports of the eastern seaboard for several months. A strong organized effort was made to have the service restored. Eventually the Maritime Commission announced (June 9) that five vessels of the Baltimore Steamship Co. would be put on the route in July.

A long spell of heavy rains, beginning in January, caused floods in both northern and southern sections of the State. They became destructive by February 13. In low-lying areas of southern California additional rains caused widespread calamity at the beginning of March. An estimate of March 5, attributed to a representative of the Red Cross, put the expected total of resulting deaths at 400; damage was thought to approximate \$50,000,000. The Santa Ana River, bursting its banks at Riverside and in Orange County, caused much of the destruction, but the greater part of the harm occurred in scattered localities. So much did locality govern the effects that races were run at the Santa Ana race track at the height of the flood. Homeless persons maintained after the flood by the Red Cross and other agencies were reported to number 15,000. Devastation occurred chiefly in five counties: Los Angeles, Orange, Riverside, San Bernardino, and Ventura. The city of Los Angeles did not suffer heavily, in proportion to its magnitude.

An investigation of asserted corruption among members of the Legislature was held, in public hearings, by a grand jury of Sacramento County; this was the first resort to a law passed in 1937 allowing public hearings by grand juries, on official malfeasance. The inquiry started on May 24; it elicited from Arthur H. Samish, an alleged lobbyist, copies of friendly letters and a photographic portrait from Governor Merriam and receipts for contributions to Merriam's campaign for election; but no evidence of illegal action on the Governor's part appeared. The Grand Jury ultimately considered and rejected proposals to indict two members of the Assembly for receiving money to vote

against a bill. It failed to indict Samish for perjury, he having denied in testimony that he had received \$10,000 from a film agency to work against a bill, whereas other testimony ran to the effect that he had received the money for this purpose. Samish was thereafter arrested on a charge of perjury and brought before a Police Judge at Sacramento, who refused to hold him.

The State had in preparation early in the year an application to the courts to declare it the possessor of the right to take petroleum from tidal lands; the proposed suit bore upon the practice of Los Angeles and Long Beach, both of which granted leases and received royalties. A third possible claimant to the tidal petroleum appeared when at Washington a resolution originating in the U.S. Senate and brought before the House of Representatives proposed that the Attorney-General sue to establish Federal title thereto; the resolution, disturbing to California, did not pass in 1938. In the field of public utilities, the Railroad Commission ordered (February, 7) reductions amounting to \$2,000,000 a year in the charges of the Pacific Gas and Electric and the San Joaquin Light and Power companies for natural gas. Ruling on a long conflict of the former company and the commission over a similar order issued in 1933, a Federal District Court held (September 8) that the company must repay about \$7,000,000 of charges collected in excess of rates after that order. Two officials of the State's agency regulating the petroleum industry were charged in August with conspiring to gain valuable petroleum lands in the Long Beach field.

Occurrences in Los Angeles. A so-called "citadel" of the open shop prior to the advent of Federal regulation of laboring conditions, Los Angeles had become by 1937 unionized only in part and subject to strife in the field of labor. Many employers had made bargaining agreements with employees' organizations; but some of these were independent unions, and some were "independent chartered unions" incorporated under State law and unable to become affiliated with any major combination of individual unions. The N.L.R.B. ruled against one of the incorporated unions in a decision (April 21) on a strike of February, 1937, against the Douglas Aircraft Co. at Santa Monica, near Los Angeles. It ordered strikers of a rival C.I.O. group, who had seized the factory and held it for three days, re-employed, with back pay, while the incorporated union of the non-striking workers, held to have been dominated by the employer, was ordered disestablished.

Efforts were carried on during the course of 1938 to investigate the spread of commercialized vice in Los Angeles and its alleged protection by persons in the police force. A private investigator engaged in collecting information on the subject narrowly missed being murdered (January 14) by the explosion of a bomb under the hood of his automobile. A captain and one of two lieutenants of police, brought to trial for the crime, were convicted and sentenced to prison for indeterminate periods (from a year to life). The Parker Dam, an element in the unfinished works of the Metropolitan Water District to bring water 392 miles from the Colorado River to Los Angeles and other cities, started its function of storing water (June 26). A petition for the recall of Mayor Frank L. Shaw brought the election of Fletcher Bowron as his successor; Bowron took office on September 26.

The Affairs of San Francisco. A Committee of 43, formed in the interests of employers, sought

during the year to promote a solution of difficulties with organized employees by stimulating a public sense of the community's interests. It held gatherings, called town meetings, at which the public attended and spokesmen for the C.I.O., for the Associated Farmers (unable in the labor troubles to bring produce safely into the city), and for other groups were heard. Many of the year's strikes, though not of a wholly local character, centered in San Francisco and caused more disturbance of business there than elsewhere. Trade was particularly hampered by interruptions caused by teamsters, warehousemen, and longshoremen, in conflicts involving rivalry between the C.I.O. and the A.F.L.

The effort of the Federal Department of the Interior to make the city give up selling electric current from the Hetch Hetchy water system through the Pacific Gas and Electric Co., was aided by a Federal District Court's decision (June 28) that this proceeding violated the Raker Act and an accompanying order to end such sales by December 28. The city made preparations to appeal, and Secretary Ickes was accused of threatening to hold back allocations from the PWA to the city in order to lead it to comply. The city also considered steps to satisfy the Federal demand by again submitting to popular vote a proposal to issue bonds for the cost of providing San Francisco with a municipal system of distribution for its electricity. The Board of Supervisors drew such a proposal but voted (September 23) to postpone submitting it until some date after the election of November 8. The plan called for an issue of \$55,000,000 of revenue bonds; the net receipts from sale of electric current through the agent company ran, as reported, about \$2,000,000 a year.

Plans to refinance the cost of the Bay Bridge, with the aid of the Reconstruction Finance Corporation, so as to save on the cost of amortizing the principal of about \$77,000,000, were approved by the Toll Bridge Authority (April 21). Arrangements were made in February to buy out the Southern Pacific's Golden Gate ferry service, which had been forced, by the competition of the Golden Gate Bridge, to lower its charges to a level tending to hurt the receipts from the bridge's tolls. The Market Street Ry., suffering from inadequate income, obtained from the State Railroad Commission an increase of the rate of fares to 7 cents (May 9), but traffic at the new rate declined, canceling the intended improvement of income. A proposal for municipal purchase of the line was rejected in a popular vote on November 8. The construction of buildings for the coming San Francisco exposition occupied thousands of men for most of the year, and expenditure was expected to exceed \$20,000,000.

Elections. At the general election on November 8, Sheridan Downey (Dem.) was elected U.S. Senator, defeating Philip Bancroft (Rep.); Culbert L. Olson (Dem.), elected Governor, defeated Gov. Frank F. Merriam (Rep.), who sought reelection.

Among measures submitted to the popular vote of the State, a plan for the regulation of labor was defeated; the proposal to pay retired persons 50 years or more of age \$30 weekly for support, in self-liquidating State scrip, as described earlier in this article, was rejected; a proposal to abolish the sales tax and allegedly, by language not plain to voters, to institute the Single Tax, was likewise rejected.

Downey, the Senator-elect, rode to victory by the

aid of the \$30-weekly-pension movement, though that movement itself failed. Presenting himself earlier in the year as a candidate in the Democratic primary, and particularly as an advocate of the scheme, he won a striking victory over Senator McAdoo, despite President Roosevelt's having traveled to California and made public declaration of his approval of McAdoo's record. Governor-elect Olson, frankly an advocate of the New Deal, was a declared and strong liberal; he had been associated with some of the phases of Upton Sinclair's EPIC movement.

Officers. California's chief officers, serving in 1938, were: Governor, Frank F. Merriam (Rep.); Lieutenant-Governor, George J. Hatfield; Secretary of State, Frank C. Jordan; Treasurer, Charles G. Johnson; Comptroller, Harry B. Riley; Attorney-General, U. S. Webb; Superintendent of Public Instruction, Walter F. Dexter.

Judiciary. Supreme Court: Chief Justice, William H. Waste; Associate Justices, William H. Langdon, Douglas L. Edmonds, Jesse W. Curtis; Emmet Seawell, John W. Shenk, Frederick W. Houser.

CALIFORNIA, UNIVERSITY OF. A coeducational institution of higher learning with headquarters at Berkeley, Calif., founded in 1868. Campuses are found in various parts of the State. At Los Angeles, the University of California at Los Angeles, the Los Angeles Medical Department; at Mt. Hamilton is the Lick Observatory; at San Francisco, the California School of Fine Arts, Hastings College of the Law, Medical School, the George Williams Hooper Foundation for Medical Research, College of Dentistry, College of Pharmacy, Training School for Nurses; at Davis, a campus devoted chiefly to instruction and research by the College of Agriculture; at Riverside, the Citrus Experiment Station and the Graduate School of Tropical Agriculture; at La Jolla, the Scripps Institution of Oceanography.

The total number of resident students in the academic and professional departments, fall session, 1938, was 24,809, of whom 14,817 were men and 9992 were women. At Berkeley 15,633 were enrolled; at Los Angeles 7911. The enrollment in the University extension division, fall of 1938, was 14,765 in classes and correspondence courses. The 1938 summer-session enrollment (Berkeley and Los Angeles) totaled 6801. At the beginning of the fall semester there were approximately 2087 members on the regular teaching staff and 717 on the extension staffs. The total income for 1937-38 was \$14,701,487, including gifts totaling \$504,713 for current use. In addition, gifts were received totaling \$142,509 for plant, \$411,044 for endowment, and \$12,735 for loan funds. Total assets were listed at \$85,532,807 including \$52,626,492 in real estate, improvements, and equipment, and \$23,880,920 in endowment and trust funds. The libraries contained approximately 1,489,167 volumes. President, Robert Gordon Sproul, LL.D.

CALIFORNIA INSTITUTE OF TECHNOLOGY. An institution for collegiate and graduate instruction and research in the pure and applied sciences in Pasadena, Calif., founded as Throop University in 1891. The enrollment for 1938-39 was 868, of whom 606 were in the undergraduate and 262 in the graduate school. The faculty numbered about 200. The endowment was approximately \$10,000,000 and the annual income approximately \$875,000. There were 45,615 volumes in the library. Construction was completed on four new buildings. The institute has no president, the

administration centering in an executive council of nine, of which Robert A. Millikan, Ph.D., LL.D., Sc.D., is chairman.

CAMBODIA. See FRENCH INDO-CHINA.

CAMERAS. See PHOTOGRAPHY.

CAMEROON, kām'ēr-ōn', FRENCH. An autonomous territory, formerly part of the German territory of Kamerun, confirmed as a French mandate by the League of Nations in 1922. Area, 166,489 square miles; population (Jan. 1, 1937), 2,379,508, including 2383 Europeans, of whom 1799 were French. Yaoundé, the capital, had 20,000 inhabitants in 1936.

The chief crops, with production in metric tons, included: Maize, 34,200 (1936); sesame, 3500 (1934); groundnuts, 37,200 (1936). Exports of other leading crops, in metric tons, were: Cacao, 26,500 (1936); palm oil, 10,000 (1937 estimate); palm kernels, 17,300 (1937 estimate). The production of gold in 1937 was estimated at 500 kilograms. Other products are almonds, hides, timber, and ivory. Livestock in 1936: 747,553 oxen, 1,002,487 sheep, 176,204 pigs, 16,005 horses, and 18,627 asses. In 1937 the estimated value of merchandise imports (in old U.S. gold dollars) was \$5,400,000 (1936, \$4,500,000); exports, \$7,400,000 (1936, \$6,000,000). There are 3105 miles of roads and 314 miles of railway line. In 1937, 657 vessels of 1,523,992 tons entered and cleared the ports of Kribi, Campo, Garoua, and Douala. The general budget for 1936 indicated 62,765,145 francs for revenue and 57,785,174 francs for expenditure (franc averaged \$0.0611 for 1936). Public education was provided for to the amount of \$1,841,523 francs in the 1937 budget (franc averaged \$0.0405 for 1937). Government is vested in a commissioner aided by an administrative council. Commissioner, M. Boisson.

CAMEROONS, kām'ēr-ōnz', BRITISH. A part of the former German territory of Kamerun in West Africa, confirmed as a British mandate by the League of Nations in 1922. Area, 34,081 square miles; population (1937 estimate), 825,234. Victoria and Tiko are the two ports of entry. The principal products are palm oil, palm kernels, cacao, bananas, and rubber. In 1937 imports were valued at £328,270 (£242,588 in 1936); exports, £526,544 (£445,459 in 1936). During 1936, 264 vessels aggregating 486,281 tons entered and cleared the ports of Victoria and Tiko. For 1936-37, revenue totaled £125,075; expenditure, £173,092. The northern part of British Cameroons is attached to the Nigerian provinces of Adamawa, Benne, and Bornu; the southern part, known as Cameroons province, is attached to the Southern Provinces of Nigeria. Administration is under the governor of Nigeria.

CAMPBELL, WILLIAM WALLACE. An American astronomer and educator, committed suicide at San Francisco, June 14, 1938. Born in Hancock County, Ohio, Apr. 11, 1862, he was educated at the University of Michigan (B.S., 1886). Thereupon he went to the University of Colorado as a teacher of mathematics, but returned to Michigan two years later as an instructor in astronomy. His comet observations while director of the observatory there attracted wide attention and in 1890 he went to Mount Hamilton to engage in spectroscopic work.

In 1891 he was invited to become astronomer at Lick Observatory, and began a long association with that organization which ended with his retirement as astronomer emeritus in 1930. In 1900 he was acting director of the Observatory, becoming director in the following year and serving until 1930. From 1923 to 1930 he served as president of

the University of California, retiring as emeritus in the latter year.

During his long association with the Observatory, Dr. Campbell was in charge of eclipse expeditions to India, January, 1898; Georgia, May, 1900; Spain, August, 1905; Flint Island, January, 1908; Kiev, Russia, August, 1914; Goldendale, Wash., June, 1918; Wallal, Western Australia, September, 1922; and also he served as a member of the expedition to Lower California in September, 1923.

Considered one of the world's foremost astronomers, Dr. Campbell was placed by Dr. Albert Einstein among the first of his profession to develop part proof of Einstein's relativity theory. Campbell's contribution was to prove, by means of photographs of eclipses of the sun, the correctness of Einstein's calculation of the bending of rays of light of stars coming past the sun. Dr. Campbell was himself the author of the first substantial catalogue of the radial velocities of stars, a result of his work as head of the department of spectroscopy at the observatory. His researches dealt particularly with comets and orbits, the motion of the solar system, and solar eclipse problems.

Silliman lecturer at Yale (1909-10), William Ellery Hale lecturer of the National Academy of Sciences (1914), and Halley lecturer at Oxford (1925), his work was recognized by numerous honors, including the Lalande prize (1903) and the Janssen Prize (1910) of the Paris Academy of Sciences; the gold medal of the Royal Astronomical Society (1906); the Draper Medal of the National Academy of Sciences (1906); and the Bruce gold medal (1915). Besides honorary degrees from American and foreign educational institutions he was a commander of the Order of Leopold (1919), an officer of the French Legion of Honor (1927), and commander of the Order of the Crown of Italy (1928). On Mar. 31, 1938, a symposium was held at Harvard University "in appreciation of the scientific contributions of Dr. Campbell."

He held membership in the world's outstanding scientific societies, and was president of the American Association for the Advancement of Science (1915), of the National Academy of Sciences (1931-35), of the American Astronomical Society (1922-25), and of the International Astronomical Union (1922-25). An associate editor of the *Astrophysics Journal*, he was the author of many papers on the motion of solar eclipses, stars, and comets, and of *The Elements of Practical Astronomy* (1899); *The Return of Halley's Comet* (1909); *Stellar Motions* (1913), and *Stellar Radial Velocities*, with J. H. Moore (1926).

CAMP FIRE GIRLS, Inc. An organization providing constructive leisure-time activities for 250,000 girls between the ages of 10 and 20, and, through the Blue Birds, the junior organization, for girls 8 to 10.

During 1938, Camp Fire Girls in every part of the country made real contributions in the field of conservation: Planting trees, charting water and soil erosion areas, co-operating with state and government agencies in research and construction activities, etc. This interest found its greatest expression in the conservation activities in and around the 128 Camp Fire Girls' camps, where thousands of girls spend many weeks both in winter and summer.

National Headquarters are at 41 Union Square, New York City.

CANADA. A Dominion of the British Commonwealth of Nations comprising nine provinces and two territories. Capital, Ottawa.

Area and Population. The land area, the census population of June 1, 1931, and the estimated population on June 1, 1938, are shown by provinces and territories in the accompanying table. The fresh-water area is about 228,070 square miles, making the total land and water area 3,694,863 square miles.

AREA AND POPULATION OF CANADA

Provinces and Territories	Land area, sq. miles	Population	
		1931	1938
Prince Edward Island	2,184	88,038	94,000
Nova Scotia	20,743	512,846	548,000
New Brunswick	27,473	408,219	445,000
Quebec	523,534	2,874,255	3,172,000
Ontario	363,282	3,431,683	3,731,000
Manitoba	219,723	700,139	720,000
Saskatchewan	237,975	921,785	941,000
Alberta	248,800	731,605	783,000
British Columbia	359,279	694,263	761,000
Yukon Territory	205,346	4,230	4,000
Northwest Territories	1,258,217	9,723	10,000
Total	3,466,556	10,376,786	11,209,000

The Indian population in 1931 was 122,920. Of the white population in 1931, 5,381,071 were of British origin (English, 2,741,419; Scottish, 1,346,350; Irish, 1,230,808; other, 62,494) and 2,927,990 of French origin. There were 5,374,541 males and 5,002,245 females. The principal religious groups in 1931 were: Roman Catholics, including 186,654 Greek Catholics, 4,285,388; United Church (Methodists, Congregationalists, and Presbyterians), 2,017,375; Anglicans, 1,635,615; Presbyterians (not included in United Church), 870,728; Baptists, 443,341; Lutherans, 394,194; Jewish, 155,614. Of the 2,927,990 Canadians of French origin in 1931, 2,849,096 were Roman Catholics.

In 1931, 4,804,728 inhabitants resided in rural districts and 5,572,058 in urban communities. Populations of the chief cities in 1931 were: Montreal, 818,577 (1,263,298 in 1938); Toronto, 631,207 (648,309 in 1938); Vancouver, 246,593; Winnipeg, 218,785 (215,814 in 1936); Hamilton, 155,547; Quebec, 130,594; Ottawa, 126,872; Calgary, 83,761 (83,407 in 1936); Edmonton, 79,197 (85,774 in 1936); London, 71,148; Windsor, 63,108; Verdun, 60,745; Halifax, 59,275; Regina, 53,209 (53,354 in 1936); Saint John, 47,514; Saskatoon, 43,291 (41,734 in 1936). Including suburbs, Montreal had 1,000,157 inhabitants in 1931 (1,443,588 in 1938); Toronto, 808,864 (855,235 in 1938); Vancouver, 308,340; Winnipeg, 280,202.

The number of immigrants into Canada in 1937 was 15,101 (11,643 in 1936). Of the 1937 total, 5555 came from the United States, 2859 from the British Isles (England, 890; Ireland, 338; Scotland, 581; Wales, 50), 1144 from the countries of northern Europe, and 5543 from 36 other countries. Living births in Canada, exclusive of the territories, totaled 220,371 in 1936 against an annual average of 228,352 for 1931-35. The crude birth rate stood at the comparatively high figure of 20.0 per 1000 in 1936. This was mainly due to the influence of Quebec, with its prolific French Canadian population. The Quebec birth rate was 24.3 per 1000 in 1936 against 16.9 per 1000 in Ontario. In the other provinces the rate varied from a low of 14.1 in British Columbia to a high of 24.2 in New Brunswick. Deaths in 1936 totaled 107,050, or 9.7 per 1000 of population, the same as the average rate for the years 1931-35.

Education. The illiteracy rate at the 1931 census was 7.2 per cent of the total population of five years and over, including 122,920 Indians, whose high illiteracy rate raised the general average. With

a total estimated population of 11,028,050 in 1936, there were 2,444,243 pupils enrolled in schools of all descriptions, including 2,222,891 in provincially controlled schools (2,127,796 in ordinary and technical day schools), 107,396 in privately controlled schools (89,892 in ordinary day schools), 18,033 in Dominion Indian schools, and 96,923 in universities and colleges (44,585 in courses of university standard). The total expenditure on educational institutions was \$140,359,083, divided as follows: Provincially controlled schools, \$114,685,037; privately controlled, \$4,969,000; Indian schools, \$1,936,744; universities and colleges, \$18,768,302.

Production. The Dominion Bureau of Statistics estimated the gross value of production in Canada for 1936 at \$4,933,384,000 (\$4,346,117,000 in 1935) and the net value at \$2,665,861,000 (\$2,369,064,000 in 1935). The gross value represents the total of all individual commodities produced, while the net value represents the value added in the process of production. Eliminating duplications represented in primary production, the net value of manufacturing production in 1936 was \$1,041,378,000, or 39.06 per cent of the total net production of the Dominion. Agriculture came second with a net production value of \$690,379,000 (25.9 per cent) followed by mining, \$291,972,000 (10.95); forestry, \$231,937,000 (8.7); electric light and power, \$133,561,000 (5.01); fisheries, \$34,234,000 (1.28). Primary production (\$1,391,298,000) accounted for slightly more than half the total value of all output. Secondary production consisted of manufactures; construction, \$135,851,000; custom and repair, \$97,333,700. Ontario accounted for 44.4 per cent of the net 1936 production; Quebec, 24.7 per cent; Prairie Provinces, 16.6; British Columbia and Yukon, 8.1; Maritime Provinces, 6.2. Of the male working population at the 1931 census, about 34 per cent were engaged in agriculture, 11 per cent in manufacturing, 7.6 per cent in transportation, and 6.2 per cent in building and construction. The average number of applicants for work registered by the employment exchanges in 1937 was 88,516 (90,133 in 1936).

Agriculture. The gross value of agricultural production in 1937 was estimated at \$1,051,698,000 compared with \$1,079,571,000 in 1936, \$766,794,000 in 1932, and \$1,631,081,000 in 1929. The value of the gross output in 1937 by chief items was: Field crops, \$553,823,000; dairy products, \$228,403,000; farm animals, \$140,989,000; poultry and eggs, \$51,766,000; fruits and vegetables, \$41,900,000; tobacco, \$17,056,000; fur farming, \$7,642,000; wool, \$2,972,000; clover and grass seed, \$2,298,000; honey and wax, \$2,272,000; maple products, \$2,245,000. The current value of farm capital in 1937 was \$4,722,583,000, of which land and buildings accounted for \$3,634,981,000; implements and machinery, \$478,454,000; live stock, \$609,148,000. About 163,500,000 acres were occupied as farms. Yields of the principal field crops in 1935, 1936, and 1937, with preliminary returns for 1938, are shown in the table in next column.

The gross farm value of production of the 1938 field crops was estimated at \$528,860,000 (preliminary) including: Wheat, \$205,351,000; oats, \$89,600,000; barley, \$28,373,000; rye, \$3,094,000; peas, \$2,113,000; beans, \$1,725,000; buckwheat, \$4,171,000; mixed grains, \$15,126,000; flaxseed, \$1,581,000; corn for husking, \$3,614,000; potatoes, \$27,079,000; turnips, etc., \$12,133,000; hay and clover, \$95,993,000; alfalfa, \$16,036,000; fodder corn, \$12,-

CANADIAN CROP YIELDS, 1935-38
[Units in thousands of bushels, except as indicated]

	1935	1936	1937	1938 *
Wheat	281,935	219,218	182,410	350,010
Oats	394,348	271,778	268,442	371,382
Barley	83,975	71,922	83,124	102,242
Rye	9,606	4,281	5,771	10,988
Buckwheat	7,949	8,596	7,745	7,079
Mixed grains	39,535	33,639	36,129	39,161
Potatoes	38,670 ^b	39,034 ^b	42,547 ^b	35,938 ^b
Hay and clover ..	14,060 ^c	13,803 ^c	13,030 ^c	13,798 ^c

* Estimates. ^b 1,000 cwt. ^c 1,000 tons.

422,000; grain hay, \$7,315,000; sugar beets, \$3,124,000.

Manufacturing. In 1936 Canada had 24,202 industrial establishments representing a capital of \$3,271,263,531. They had 594,359 employees, paid salaries and wages of \$612,071,434, purchased materials valued at \$1,624,213,996, and reported a gross production value of \$3,002,403,814, of which \$1,289,592,672 was added in the process of production. Manufacturing is concentrated largely in the provinces of Ontario and Quebec. The net value of production by industrial groups in 1936 was: Wood and paper, \$261,020,034; vegetable products, \$254,135,013; iron and steel, \$211,572,641; textiles, \$162,677,272; non-ferrous metals, \$132,423,707; animal products, \$109,823,848; chemicals, \$69,854,217; non-metallic minerals, \$68,707,776; miscellaneous manufactures, \$19,378,164.

The gross value of the iron and steel output in 1937 was \$623,359,000 (\$453,385,000 in 1936). The capacity of hydro-electric turbine installations increased from 3,191,852 h.p. in 1923 to 8,112,751 h.p. on Jan. 1, 1938, while the total potential horse power available in the Dominion was estimated at 43,700,000 h.p. The output of central electric stations in 1937 amounted to 27,574,926,000 kilowatt-hours, or 8.6 per cent above the 1936 record. A total of 207,000 motor vehicles were manufactured in 1937 (162,159 in 1936). Production of newsprint in 1937 was 3,645,300 tons (3,179,900 in 1936).

Mineral Production. The value of mineral production in 1937 was \$457,359,092, of which metals accounted for \$334,165,243, non-metallic fuels for \$65,828,879, other non-metallics for \$22,495,271, clay products for \$4,516,859, and other structural materials for \$30,352,840. The quantity and value of the chief minerals produced in 1937 was: Gold, 4,096,213 fine oz., valued at \$84,676,235 at standard rate (estimated exchange equalization on gold produced, \$58,650,258); copper, 530,028,615 lb., \$68,917,219; nickel, 224,905,046 lb., \$59,507,176; coal, 15,835,954 tons, \$48,752,048; lead, 411,999,484 lb., \$21,053,173; zinc, 370,337,589 lb., \$18,153,949; asbestos, 410,026 tons, \$14,505,791; natural gas, 32,380,991 M cu. ft., \$11,674,802; sand and gravel, 27,001,301 tons, \$10,492,696; cement, 6,168,971 bbl., \$9,095,867; silver, 22,977,751 fine oz., \$10,312,644; platinum, 139,377 fine oz., \$6,752,816; petroleum, crude, 2,943,750 bbl., \$5,399,353.

Forests. Of Canada's total area of 3,466,556 square miles, forests cover 1,223,522 square miles, including 769,463 square miles of accessible and productive forest area. The total stand of timber was estimated in 1936 at 273,656 M cu. ft. In the same year the total cut was equivalent to 2,702,766 M cu. ft., valued at \$134,804,228. The value of output of the lumber industry in 1936 was \$80,343,000 (\$65,905,000 in 1935). There were 3638 lumber mills with 28,760 employees receiving salaries and wages of \$21,357,000 and using materials costing \$43,598,000. The production of sawn lumber was 3,412,151,000 ft. board measure valued at \$61,965,-

000. Pulpwood production was 289,000 cords, valued at \$2,118,000; railway ties, 5,191,000, valued at \$2,590,000.

Fisheries. The value of production of commercial fisheries in 1937 was \$38,976,294 (preliminary figure), compared with \$39,165,055 for 1936. The total quantity of fish of all kinds, including shell fish, caught and landed by Canadian fishermen during 1937 was 10,918,048 cwt., and the value at the point of landing was \$23,194,642 (11,088,289 cwt., valued at \$22,083,550 in 1936). The principal kinds of fish caught, in order of value, were: Salmon, \$12,370,219; lobster, \$4,633,429; cod, \$3,140,230; herring, \$2,556,883; whitefish, \$1,887,889; halibut, \$1,598,190; sardines, \$1,526,505; haddock, \$1,296,313; pickerel, \$1,043,532; trout, \$1,031,740. The number of persons employed in the fisheries in 1937 was 83,850, of whom 69,967 were men employed on fishing boats.

Fur Production. Canada's raw fur production for the year ended in June, 1937, was valued at \$16,666,000, the highest figure since 1928-29. Furs from fur farms represented about 40 per cent of the total value, the remainder coming from animals taken by trappers. Included in the total were 204,388 silver fox pelts (produced mainly on fur farms), valued at \$5,986,000; muskrat, \$2,249,000; mink, \$2,240,000; ermine, \$816,879; red fox, \$716,152; beaver, \$698,939; marten, \$642,307; lynx, \$605,491; patch or cross fox, \$516,182; coyote or prairie wolf, \$458,489; squirrel, \$386,743; fisher, \$271,482; white fox, \$271,288; otter, \$227,776. Ontario, Quebec, and Alberta in the order named are the leading fur-producing provinces. In 1936 Canada had 8141 fur farms stocked with animals valued at \$9,837,813.

Tourist Trade. Expenditures of foreign tourists in Canada during 1937 were estimated at \$294,682,000, of which tourists from the United States spent \$294,682,000, while expenditures of Canadian tourists in foreign countries were \$124,422,000 (\$102,087,000 in the United States). In 1936 total expenditures of foreign tourists in Canada were \$251,299,000 (\$238,353,000 by visitors from the United States) and expenditures by Canadian tourists abroad were \$110,400,000 (\$89,064,000 in the United States).

Foreign Trade. Canadian foreign trade by recent fiscal years ending March 31 is shown in the accompanying table.

CANADIAN IMPORTS AND EXPORTS
[In thousands of Canadian dollars]

Years ended March 31	Total exports	Total imports	Excess:
			Imports (—) Exports (+)
1929-30	1,144,938	1,248,274	—103,336
1932-33	534,978	406,384	+128,594
1933-34	672,265	433,799	+238,467
1934-35	764,285	522,431	+241,854
1935-36	862,472	562,719	+299,753
1936-37	1,074,244	671,876	+402,369
1937-38 ^a	1,084,821	799,070	+285,751

^a Preliminary figures.

The value of the 14 chief commodities imported in 1937-38 was: Machinery, except farm, \$48,367,372; crude petroleum, \$47,634,720; coal, \$38,907,709; iron plates and sheets, \$31,487,270; automobile parts, \$29,725,252; farm implements and machinery, \$19,245,768; raw cotton, \$17,444,618; sugar for refining, \$17,340,403; fresh fruits, \$16,546,947; vegetable oils, \$15,828,491; automobiles, \$15,644,461; electric apparatus, \$15,550,125; books and printed matter, \$14,959,310; crude rubber, \$14,729,016. The principal 1937-38 exports by value

were: Newsprint paper, \$120,007,550; wheat, \$116,273,709; gold bullion, non-monetary, \$86,203,736; nickel, \$61,918,600; copper bars, rods, etc., \$45,674,426; planks and boards, \$43,662,909; meats, \$41,362,775; wood pulp, \$39,960,178; fish, \$26,283,313; automobiles, \$25,299,363; wheat flour, \$23,221,366; aluminum in bars, \$20,748,973; whiskey, \$18,828,293; zinc, \$16,059,164; lead, \$14,115,946; raw furs, \$13,998,235.

The United States supplied 61 per cent of Canada's 1937-38 imports by value (58.6 per cent in 1936-37) and took 39.5 per cent of the exports (41 in 1936-37). The United Kingdom supplied 18.1 per cent of the imports (19.3 per cent in 1936-37) and took 38.3 per cent of the exports (38.4 in 1936-37). The value of imports from leading sources of supply in 1937-38 was: United States, \$487,307,000; United Kingdom, \$145,000,000; British Straits Settlements, \$15,586,000; Australia, \$12,171,000; Germany, \$11,397,000; British India, \$9,405,000; British South Africa, \$8,394,000; Belgium, \$7,462,000; New Zealand, \$7,397,000; France, \$6,489,000. The distribution of Canadian exports by chief markets in 1937-38 was: United States, \$423,131,000; United Kingdom, \$409,412,000; Australia, \$32,422,000; Japan, \$26,640,000; British South Africa, \$16,169,000; New Zealand, \$16,031,000; Belgium, \$14,564,000; Netherlands, \$13,269,000; Germany, \$12,254,000; Newfoundland, \$9,389,000.

Finance. The accompanying table shows the total Dominion budget receipts, ordinary expenditures, and total expenditures for the period 1934-35 to 1938-39.

DOMINION FINANCES: 1934-35 TO 1938-39
[Thousands of Canadian dollars]

Years ended March 31	Total revenues	Ordinary expendi- tures	Total expendi- tures	Surplus (+) or deficit (—)
1934-35	\$361,973	\$359,701	\$478,106	—\$116,133
1935-36	372,596	372,539	532,585	—159,990
1936-37	454,154	387,112	532,005	—77,851
1937-38 ^a	516,692	410,954	530,467	—13,775
1938-39 ^b	501,700	.....	524,600	—22,900

^a Preliminary. ^b Estimates.

The total public debt of the Dominion on Mar. 31, 1938, was \$3,536,300,000 (funded debt, \$3,252,578,000), compared with a total on Mar. 31, 1937, of \$3,542,521,126 (funded, \$3,337,358,832). Deducting assets, the net debt on Mar. 31, 1938, was \$3,097,727,000 (\$3,083,952,202 on Mar. 31, 1937).

Shipping. In the fiscal year ended Mar. 31, 1937, a total of 25,348 sea-going vessels of 31,145,065 register tons entered Canadian ports with 11,142,357 tons of cargo and 26,136 vessels of 31,802,946 register tons cleared with 15,791,269 tons of cargo. In the coastwise trade, 73,033 vessels of 45,973,830 register tons arrived at Canadian ports and 72,739 vessels of 45,447,342 register tons departed. The tonnage of all vessels cleared from the leading ports in 1936-37 was: Vancouver, 11,824,810; Montreal, 8,961,002; Victoria, 6,793,818; Halifax, 4,252,636; Quebec, 4,186,314; Port Arthur, 3,546,336; Toronto, 3,364,880.

Railways, etc. The mileage of steam railways in operation on Jan. 1, 1937, was 42,552, giving Canada fourth place among the countries of the world in railway mileage. There are two main railway systems—the privately owned Canadian Pacific Railway, with 17,223 miles of single track, and the government-owned Canadian National Railway, with 21,736 miles. In the calendar year 1936, the steam railways carried 20,497,616 pas-

sengers and 75,846,566 tons of freight. Gross earnings totaled \$334,855,579 and operating expenses were \$283,399,255. In 1937 the gross earnings of the Canadian Pacific Railway were \$145,085,558; operating expenses, including taxes, were \$121,343,311; and net earnings were \$23,742,247.

Canada in 1936 had 410,448 miles of highways, of which 9832 miles were surfaced, 88,229 miles were gravel and stone, and 311,098 miles were earth roads. Automobiles numbered 1,234,071 in 1937. Civil aviation statistics for 1937 were: Aircraft hours flown, 126,550; aircraft mileage, 10,626,630; passengers and crew carried, 160,517; freight and express, 26,205,766 lb.; mail carried, 1,411,213 lb.

Government. Executive power is exercised in the King's name by the Governor-General of Canada, acting through a responsible ministry. Legislative power rests in a parliament of two houses—a Senate of 96 members appointed for life by the Governor-General on advice of the Cabinet and a House of Commons of 245 members elected for five years (unless the government is sooner dissolved) by popular male and female suffrage. The nine provinces enjoy a large measure of local autonomy, there being a separate parliament and administration for each. A lieutenant-governor appointed by the Governor-General-in-Council heads each provincial executive. Governor-General in 1938, John Buchan (Lord Tweedsmuir of Elsfield), assumed office, Nov. 2, 1935.

The election of Oct. 14, 1935, resulted in a victory for the Liberal party and a Liberal cabinet was appointed Oct. 23, 1935. The standing of the parties in the House of Commons on Jan. 27, 1938, was: Liberals, 178; Conservatives, 38; Social Credit, 17; Co-operative Commonwealth Federation, 7; Reconstruction party, 1; other groups, 2; vacancies, 2.

The members of the cabinet, in 1938, according to precedence of the Ministers, were: Prime Minister, President of the Privy Council, and Secretary of State for External Affairs, William Lyon Mackenzie King; Minister without Portfolio, Raoul Dandurand; Minister of Mines, Immigration and Colonization, Interior, and Superintendent General of Indian Affairs, Thomas Alexander Crerar; Minister of Justice and Attorney-General, Ernest Lapointe; Public Works, Pierre Joseph Arthur Cardin; Finance, Charles Avery Dunning; Postmaster General, John Campbell Elliott; Trade and Commerce, William Daum Euler; Secretary of State, Fernand Rinfret; National Defense, Ian Alistair Mackenzie; Pensions and National Health, Charles Gavan Power; National Revenue, James Lorimer Ilsley; Fisheries, Joseph Enoil Michaud; Labor, Norman McLeod Rogers; Transport, Clarence Decatur Howe; Agriculture, James Garfield Gardiner.

HISTORY

Efforts at Constitutional Reform. The constitutional issue raised by the invalidation of the former Bennett Government's "new deal" social and economic legislation in 1936 and 1937 (see 1937 YEAR BOOK, pp. 124 f.) assumed increasing gravity during 1938. The Canadian Supreme Court and the Judicial Committee of the British Privy Council had denied the Dominion government power to deal effectively with nation-wide social and economic problems. But the need for governmental intervention was increasing as a result of the trend toward large-scale production, monopolies, centralized control of industry and finance,

unionization and collective bargaining, unequal distribution of income, and unemployment.

The necessity for constitutional reform in order to promote and preserve national unity was recognized by all political parties. In August, 1937, Prime Minister Mackenzie King appointed a Royal Commission on Dominion-Provincial Relations to explore the problem and make recommendations. Its investigations during 1937 and 1938 served to emphasize the fact that the economic depression had intensified sectional rivalries and dissensions among the provinces to a point where they seriously threatened national unity.

The Dominion government's effort to extend its powers at the expense of provincial autonomy was bitterly opposed by the dominant political groups in Ontario and Quebec but was supported by most of the maritime and prairie provinces. In Quebec, French Canadian nationalism and the Roman Catholic Church had always staunchly defended the autonomous powers conferred on the provinces by the British North America Act. Moreover, the dominant industrial and financial interests in Ontario and Quebec felt that their position was jeopardized by the Dominion Government's desire to deal with national problems on a national scale. They strongly opposed the allocation of taxes raised in their provinces by the Dominion Government to the more needy prairie and maritime provinces. The outlying provinces, on the other hand, asserted that Federal tariff, transportation, and banking policies had promoted the centralization of industry and finance in Ontario and Quebec at their expense. They held it only just that part of the taxes raised in Ontario and Quebec should be distributed for unemployment relief and for education, health, and social services in the other provinces.

The crucial nature of sectional economic and political differences was repeatedly emphasized by developments of the year. The Dominion Government late in 1937 attempted to secure the consent of all nine provinces to a constitutional amendment authorizing the Federal Parliament to establish a nation-wide unemployment insurance system. Alberta and New Brunswick joined Quebec and Ontario in refusing to do so. Premier Aberhart, Social Credit leader of Alberta, withheld all co-operation with the Federal government after the latter refused to sanction the establishment of a separate economic and financial set-up in his province (see ALBERTA under *History*). Premier Duplessis of Quebec flatly refused to recognize the authority of the Royal Commission—popularly known as the Rowell Commission after its chairman, Chief Justice Newton W. Rowell of Ontario. On August 11, Premier Mitchell Hepburn of Ontario ended all co-operation between his government and the Rowell Commission. These developments led Prime Minister Mackenzie King to announce a general election for 1939 on the issues of national unity and constitutional reform.

Economic Issues. Behind the constitutional crisis and the confused political situation was the clash of sectional and class interests over the tariff, the railways, and the banking system. The farming, fishing, and raw material producing industries, concentrated mainly in the maritime and prairie provinces, continued to agitate for even lower tariffs than those fixed by Mackenzie King's Liberal Government. The manufacturing and union labor elements, strong in Quebec and Ontario, demanded higher tariffs to encourage manufacturing and high wages.

There was a somewhat similar line-up of eco-

nomic interests on the issue of merging the Canadian National Railways with the Canadian Pacific and eliminating surplus trackage. This solution was favored by the Canadian Pacific system, which estimated the annual savings at \$75,000,000, and was supported by the industrial and financial interests of Quebec and Ontario, resentful of the heavy cost of the government-owned Canadian National system. It was opposed by the outlying provinces and producers of raw materials and foodstuffs, who feared the consequences of a privately owned railway monopoly and adverse economic effects from a reduction in trackage.

Similarly, agricultural interests in the prairie provinces insisted that the Bank of Canada issue new money for public works and slum clearance through reduction in the gold backing of the national currency while the industrial and financial interests vigorously opposed this proposal. Apparently as a political move designed to meet criticism of the government's monetary policy by radicals and Left-wing Liberals, the Mackenzie King Government secured the passage of legislation, approved July 1, completely nationalizing the Bank of Canada and reducing its capital from \$10,100,000 to \$5,000,000.

Other economic issues that became the source of political controversy were the export of power from Ontario and Quebec to the United States, desired by the two provincial governments but opposed by Prime Minister King on the ground that it might disturb Canadian-American relations; the Dominion Government's guarantee of an 80-cent minimum price for the 1938 wheat crop; the low-cost and low-rental housing program adopted by Parliament in June, authorizing the Federal Government and the mortgage companies to advance up to 90 per cent of the loan value of new homes; the Great Lakes-St. Lawrence seaways and power project, revived by the United States Government in a new draft treaty submitted in May, 1938, but opposed by the provincial governments of Ontario and Quebec; and the special \$100,000,000 public works program adopted early in 1938 as an additional unemployment relief measure.

Political Developments. Meanwhile extensive political realignments were taking place in anticipation of the 1939 elections. The economic and political conflicts affecting all phases of Canadian life were reflected in both of the major political parties. Prime Minister Mackenzie King's cabinet itself was divided on the tariff, relief, budget, and other issues.

The Liberal electoral sweep of preceding years was continued in the Saskatchewan elections of June 8, 1938. The Liberals of that province, led by Premier W. J. Patterson, captured 36 out of 52 contested seats, against 10 seats won by the Co-operative Commonwealth Federation, 2 by Social Credit candidates, and 4 by other scattered groups. The Conservatives captured not a single place. But the conflict within the Dominion Liberal party that began in 1937 between Prime Minister Mackenzie King on the one hand and Premiers Hepburn of Ontario and Duplessis of Quebec on the other developed in intensity.

The Hepburn-Duplessis alliance opposed the Dominion Government on such issues as the St. Lawrence waterway, the export of electric power to the United States, constitutional reform, and social legislation. It also fought the unionization of the mining and manufacturing industries of the two provinces and attacked the Prime Minister for his refusal to join actively in suppressing the C.I.O.

invasion, which got under way in 1937 (see 1937 YEAR BOOK, p. 126). With the support of conservative and extreme nationalist elements, Hepburn was believed to be in a position to challenge Mackenzie King's leadership of the Liberal party in 1939.

Dr. Robert James Manion of Fort William, Ont., Minister of Railways in Prime Minister R. B. Bennett's last Cabinet, was elected Mr. Bennett's successor as leader of the Conservative party at its national convention in Ottawa in July. He was the second Roman Catholic to lead the party since confederation. Policies approved by the convention included the exclusion of Oriental immigration, further immigration from the United Kingdom and France when economic conditions warranted it, a national unemployment insurance and retirement system, continued tariff protection for all Canadian industries, reduced taxation on the mining industry, and co-operation with other members of the British Commonwealth of Nations on defense matters. A minority led by W. D. Herridge, brother-in-law of Mr. Bennett and former Minister to Washington, sought unsuccessfully to win the party to a program of radical reform. Their secession from the Conservative ranks was expected.

Among the other parties, the Co-operative Commonwealth Federation, a Socialist farmer-labor party, showed signs of growing popularity. It held seven seats in the Dominion Parliament and 20 in Western legislatures. The Social Credit movement, led by Premier Aberhart of Alberta, appeared to be on the decline following the failure of its vigorous effort to capture the Saskatchewan Legislature in the June elections and a series of other set-backs (see ALBERTA under *History*).

Early in July scattered Fascist groups throughout Canada were merged into a new party called the National Unity Party, led by Adrien Arcand, a Montreal editor and business associate of Premier Duplessis of Quebec. The party program called for the overthrow of democracy, state control of sources of wealth and propaganda, and repression of Freemasons, Communists, and Jews. Its leaders proclaimed loyalty to the King and country. They announced that they would enter candidates in the next general election. Meanwhile the Duplessis government in Quebec was showing strongly pro-Fascist tendencies (see QUEBEC under *History*). There were a number of clashes between Fascist and anti-Fascist groups during the year and it was charged that the Fascists in Quebec were arming.

Canada in the Empire. The Liberal Government during 1938 pursued the negative and uncertain policy with respect to Empire and foreign relations that appeared to be dictated by the Dominion's acute sectional, racial, and religious differences and by its geographical isolation. Even in the face of the mounting war clouds in Europe, it refused to acknowledge commitments to the British Commonwealth of Nations or to the League of Nations while also refusing to proclaim its unconditional neutrality and isolation.

Prime Minister Mackenzie King told the House of Commons at Ottawa on May 24 that his government's foreign policy consisted of minding its own business to the extent permitted by its obligations as a member of the British Commonwealth and League of Nations. He declared the sanctions articles of the League Covenant had ceased to have effect so far as Canada was concerned, and that as a member of the British Commonwealth Canada had no commitment either to go to war or to stay neutral. That decision, he said, would have to be

made by the Dominion Parliament which was not bound by policies adopted in London. Yet in a legal sense the Statute of Westminster did not grant the Dominion the right to declare its neutrality in a British war and consequently it would automatically become a belligerent from the viewpoint of British and international law. The government hesitated to clear up this legal impediment to its declared policy for fear that any hint of dissension within the British Commonwealth might weaken the British position in Europe and the Far East.

Developments during the year indicated that Canada would have difficulty in avoiding involvement in any prolonged or serious British conflict. The existing economic, political, and sentimental ties with the mother country were reinforced by large British purchases of Canadian wheat and munitions. In March the British Government placed orders for the manufacture of machine guns and airplanes in Canada. Soon afterward it suggested that it be permitted to establish military flying schools in Canada for the training of the numerous Canadian recruits to the Royal Air Force, theretofore trained in Great Britain.

The Mackenzie King Government replied that "in Canadian territory there could be no military establishments except those owned, maintained and controlled by the Canadian Government." This stand was bitterly attacked by former Prime Minister Richard B. Bennett, Conservative party leader, in the House of Commons at Ottawa on July 1 and by ex-Prime Minister Arthur Meighen, Conservative leader in the Senate, a few days later. They both emphasized the necessity for Canada to help Britain in developing the means for protecting not only Great Britain but the entire British Commonwealth. The issue was amicably settled through an agreement under which the Canadian Government agreed to provide facilities in Canada for the training of Royal Air Force recruits. These facilities were to belong to the Canadian Air Force, controlled by the Canadian Minister of National Defense. Once the recruits completed the training requirements of the R.A.F. they were to be transferred to Great Britain.

Late in July a British Air Mission arrived in Canada and on September 2 it announced at Ottawa that arrangements had been completed with leading Canadian manufacturers, backed by prominent financial organizations, for the long-range purchase of air bombers for the British Government. The airplane manufacturers were to expand the existing capacity of their plants and two new factories were to be established at Montreal and Toronto. Later, arrangements for the manufacture of other types of military planes were completed.

The crucial test of Canada's relationship with Great Britain came with the development of the Czecho-Slovak crisis in Europe in September. With Britain on the brink of war with Germany, pro-British organizations throughout Canada demanded that the government make known whether or not it intended to enter the conflict on Britain's side if hostilities commenced. Prime Minister Mackenzie King replied on September 17 that his government did "not consider, in the light of all the circumstances known to us, that public controversy as to action in hypothetical contingencies would serve the interests of peace or commonwealth unity." He announced that Parliament would be convened immediately to decide Canada's course if peace efforts failed. This policy was maintained until the crisis passed. While there seemed little doubt but what Parliament would have voted for military support

of the British cause, it was equally plain that such a policy was not favored by the French-Canadians. Some French-Canadian spokesmen insisted that they would resist any attempt at national conscription by armed force.

Meanwhile the threatening international situation led Canada to increase military and naval appropriations from \$17,000,000 in 1936-37 to \$36,000,000 in 1937-38 and \$34,000,000 in 1938-39. Plans were adopted for new air bases at Aliford Bay, Queen Charlotte Islands, Patricia Bay, and Prince Rupert on the Pacific, and at Dartmouth, Sydney, Truro, and Yarmouth on the Atlantic.

Relations with United States. Canada's relations with her southern neighbor were cemented by new commercial and political ties. A new Canadian-American reciprocal trade treaty was signed in Washington on November 17 at the same time as the Anglo-American trade pact, which vitally affected Canada's trade with both Britain and the United States. The Canadian-American treaty greatly extended the benefits enjoyed by both countries under the 1936 treaty. Canada removed a special 3 per cent import tax on articles otherwise free or dutiable, which comprised 67 per cent of the total imports from the United States, and granted new concessions on many American manufactures, including automobiles. The United States in turn reduced or bound its duties on many Canadian agricultural, livestock, and fishery products. Canada sacrificed the whole of the British preference on Canadian wheat as well as one-third of the preference on Canadian apples and pears to facilitate the Anglo-American agreement. The Canadian-American treaty entered into effect Jan. 1, 1939, for three years, after which it might be terminated on six months' notice by either party.

On May 31, 1938, Secretary of State Hull submitted to the Canadian Government a new draft treaty for the development of navigation and power facilities of the Great Lakes-St. Lawrence waterway. A previous treaty signed by the two governments in 1932 had failed of ratification in the U.S. Senate. Under the new Hull proposals, the United States would proceed immediately with development of the International Rapids section of the waterway, paying the entire initial cost estimated at \$225,000,000. Canada would be allowed until 1949 to begin construction of its hydroelectric plants, while those in the United States would be constructed immediately. An international commission would be established to supervise construction along the St. Lawrence and the power and scenic developments at Niagara Falls. The proposed 27-foot channel around the International Rapids would permit ocean-going vessels to proceed inland as far as Duluth.

On March 21 the United States had rejected a Canadian request, inspired by Premier Hepburn of Ontario, for a separate treaty authorizing the diversion of water in the Albany River valley for purposes of power production. Premier Hepburn hoped thus to increase the export of Ontario's surplus electric power to the United States. The United States opposed any increase in power imports from Canada because curtailment of the supply, especially in case of war, might impair many national defense industries. Secretary Hull therefore stated that the Albany River development "should be dealt with as part of a general settlement of the problem of the entire Great Lakes-St. Lawrence basin."

Premier Hepburn, however, opposed the waterways project on the ground of expense, damage to Canadian railways, the creation of excess electric

power, and invasion of provincial rights. On September 22 he refused Prime Minister Mackenzie King's invitation to co-operate in the technical study of the St. Lawrence project as it affected power development in Ontario. His fight against the project was supported by Premier Duplessis of Quebec, who was anxious to protect Montreal's position as the chief port on the St. Lawrence. Consequently the future of the project depended to a large degree upon the outcome of the 1939 elections.

President Roosevelt, making his third visit to Canada on August 18, made two important speeches bearing upon Canadian-American relations. At Kingston, Ont., where he received an LL.D. degree from Queen's University, he declared: "The Dominion of Canada is part of the sisterhood of the British Empire. I give to you assurance that the people of the United States will not stand idly by if domination of Canadian soil is threatened by any other empire." This was taken to mean that the United States, by protecting Canadian ports and islands from invasion during a war involving Great Britain, would thereby make it possible for Britain to receive vital supplies of Canadian raw materials, foodstuffs, and munitions.

In his second speech, dedicating the Thousand Islands Bridge across the St. Lawrence River, the President urged the Canadian people to join in the St. Lawrence waterway and power project. He declared the waterway would make every city on the Great Lakes an ocean port and increase rather than decrease railway traffic. He also urged public ownership and operation of the river's navigation and power resources.

Canada and the United States also found their interests linked in opposing the inroads of Japanese fishermen upon the salmon fisheries of British Columbia and Alaska. Agitation for the complete exclusion of Japanese also developed in British Columbia, whose representatives complained that large numbers of Japanese were being smuggled into the province. At the insistence of the Mackenzie King Government, the Dominion Parliament defeated two bills prohibiting Japanese immigration. However, the Dominion government named a committee to investigate the friction caused by the presence of some 22,205 Japanese in British Columbia.

See the separate articles on the provinces and territories.

CANADA, THE UNITED CHURCH OF. The designation applied to the single body formed by the union in 1925 of the Congregational, Methodist, and Presbyterian churches in Canada; the Methodist churches of Newfoundland and Bermuda are also included. Foreign mission work is carried on in Japan, Korea, China, India, Trinidad, and Angola (West Central Africa). In 1937 there were in Canada, Newfoundland, and Bermuda 7423 preaching places (including home missions) in 2833 pastoral charges, 698,738 communicant members, and 1,729,248 persons under pastoral care. A total amount of \$11,500,000 was raised for all purposes. At the Eighth General Council held in Toronto, Ont., in September, 1938, the Rev. John W. Woodside, M.A., D.D., was chosen moderator for the ensuing biennium. Rev. Gordon A. Sisco, M.A., D.D., is general secretary. Headquarters are at 421 Wesley Building, Toronto, Ont.

CANARY ISLANDS. A group of islands off the northwest coast of Africa, forming two provinces of Spain. (1) Las Palmas (comprising the islands of Gran Canaria, Lanzarote, Fuerteventura,

and the islets of Alegranza, Roque del Este, Roque del Oeste, Graciosa, Montaña, Clara, and Lobos), area, 1279 square miles; population (1935), 270,033; capital, Las Palmas (83,553 inhabitants) on Gran Canaria. (2) Santa Cruz de Tenerife (comprising the islands of Tenerife, Palma, Gomera, and Hierro), area, 1528 square miles; population (1935), 329,679; capital, Santa Cruz de Tenerife (66,429 inhabitants). In 1937 there were 653 miles of roads.

CANONIZATIONS. See ROMAN CATHOLIC CHURCH.

CANTON ISLAND. A coral atoll (2° 49' S. and 171° 43' W.) in the Phoenix group of the Pacific, midway between Fiji and Hawaii. The atoll, almost an exact circle of 29 miles in circumference, has a land mass of from 50 to 600 yards wide which surrounds a circular lagoon of 9 miles in diameter. Canton was claimed by both the United States and Great Britain. It has great value as a base for seaplanes in the development of transpacific airlines. Great Britain, by an Order-in-Council of Mar. 18, 1937, incorporated the Phoenix group (including Canton) in the Gilbert and Ellice Islands colony. On Mar. 3, 1938, President Roosevelt signed an executive order which laid formal claim to Canton and Enderbury islands of the Phoenix group. During August, 1938, it was announced in Washington that Great Britain and the United States had agreed to leave in abeyance for a protracted period of time the question of title, concerning themselves only with that of use. They agreed to set up a regime assuring equality of facilities to their respective nations in the field of international aviation and communications (Anglo-U.S.A. Pact, Aug. 10, 1938).

CAPEK, kă'pěk', KAREL. A Czech author, died at Prague, Czechoslovakia, Dec. 25, 1938. Born at Malé Syatonicovice, Bohemia, Jan. 9, 1890, he was educated at Caroline University, Prague, the University of Berlin, and the Sorbonne, completing his studies in 1915. With his brother Joseph he wrote many short stories, which were later published under the title of *Radiant Depths*. He became associated with the newspaper *Lidové Noviny* in 1917, and after the World War became a producer for the Municipal Theater, Prague. Subsequently he established his own theater, the Vinohradsky, where the first performance of Shelly's *Cenci* was given.

Although a writer of essays and fiction, Capek was chiefly known as a dramatist, particularly for his satiric melodrama, *R.U.R.* (*Rossum's Universal Robots*), which was written in 1920 and produced in New York in 1922. It was this play that gave the word "robot" to the English language. Another of his well-known dramatic works was *The World We Live In* (1921), written with his brother. This, an arraignment of human life, became known as the "Insect Play" because the characters were all insects. His most recent play was *The Mother* (1938).

Among Capek's works may be noted *Anthology of French Poetry*; *The Robber*, a comedy (1918); *The Macropulos Affair*, a comedy (1922); *English Letters* (1925); *About the Nearest Things* (1926); *Money and Other Stories* (1929); *Talks with Masaryk* (i, 1929, ii, 1930); *Letters from Spain* (1930); *Sketches from Holland* (1932); *About the Common Things* (1932); *Intimate Things* (1935); *An Ordinary Life*, a novel (1936); *War with the Newts*, a novel (1936); *Power and Glory*, a play (1937); *The First Gang*, a novel (1937); *White*

Malady, a play (1937); *Masaryk on Thought and Life* (1938).

CAPE OF GOOD HOPE. See SOUTH AFRICA, UNION OF.

CAPE VERDE (vûrd) **ISLANDS.** A dependency of Portugal, 320 miles west of Cape Verde, French West Africa. The islands comprise the Barlevento (windward) group (São Vicente, Santo Antão, São Nicolau, Santa Luzia, Sal, Boavista, Branco, and Raso) and the Sotavento (leeward) group (Santiago, Maio, Fogo, Brava, Rei, and Rombo). Total area, 1557 square miles; population (1936 estimate), 163,000, of whom about 5992 were Europeans. Praia (capital) had 6000 inhabitants in 1934.

The main products are sisal, castor oil, coffee, maize, mustard, brandy, oranges, and hides. The production of maize in 1935 was 11,000 metric tons. In 1935 coffee exports totaled 59 metric tons. In 1935 imports were valued at 51,012,221 escudos (special commerce); exports, 3,107,932 escudos (special commerce). A total of 3911 ships (3,695,742 tons) entered, and 3885 ships (3,693,092 tons) cleared the ports. The estimated revenue for 1937 totaled 17,311,180 escudos; expenditure, 17,098,689 escudos; on Dec. 31, 1937, the public debt totaled 17,137,225 escudos (escudo averaged \$0.0448 for 1937). The government of the dependency is administered by a governor.

CARDOZO, kâr-dô'zô, BENJAMIN NATHAN. An American jurist and Justice of the Supreme Court of the United States, died at Port Chester, N. Y., July 9, 1938. Born in New York City, May 24, 1870, he was educated at Columbia University (A.B., 1889; A.M., 1890) and, instead of attending law school, read himself into the law. Admitted to the bar in 1891, he did not enter general practice, but specialized in the preparation of cases for appeal.

In 1913 a Fusion movement in New York politics brought him the nomination for justice of the Supreme Court of the State of New York. The judiciary committee of the Bar Association said that he was one "who has furnished unmistakable evidence of fitness and qualification for the highest order of judicial service." He was elected to serve until 1928, but on Feb. 2, 1914, shortly after he had taken office, he was appointed by Governor Glynn to serve as a temporary judge of the Court of Appeals. This appointment was made permanent by Governor Whitman on Jan. 14, 1917, and in the elections of that year he was elected to a full term, with the endorsement of both the Democratic and Republican parties. In 1927 he was elected chief justice of that Court.

While serving in the New York Courts, Cardozo was appointed by the American Law Institute to a committee to restate and simplify the law (1923) and in 1925 he was named chairman of a committee on plan and scope appointed to aid a commission authorized by the State Legislature to investigate defects in the law. His recommendation of a permanent agency to function between the courts and Legislature saw fruition in the creation of the Judicial Council of New York in 1934. In 1927 President Coolidge offered him one of the American memberships in the International Permanent Court of Arbitration at The Hague, but he declined it.

On Feb. 15, 1932, President Hoover appointed Judge Cardozo an associate justice of the Supreme Court of the United States to succeed Oliver Wendell Holmes who had retired, and he took his seat there on March 14. He joined with Justices Brandeis and Stone in forming the so-called "liberal

minority" of the court, which later was joined on occasion by Chief Justice Hughes and Justice Roberts to form the majority. He became one of the most consistent supporters of New Deal legislation and in the early days of the Administration was often associated with dissenting opinions, but upon the complexion of the Court being changed, he found himself in the majority. He concurred in the unanimous opinion that the National Industrial Recovery Act was unconstitutional in May, 1935, and in a separate opinion was vigorous in his condemnation of the usurpation of Congressional power by the executive. By 1937, legislation, which had been advocated by the minority only a year or two before, was upheld by the Court, and Cardozo, Brandeis, and Stone were definitely responsible for the broadening of the interpretations of the Court, Cardozo being attributed with the broadening of the welfare clauses. At the close of the Court term in May, 1937, he had opposed the Administration's measures but five times, and supported them 22 times, included in which were the Wagner Act and the Social Security Act, for which latter he was entrusted with the writing of the majority opinion, which was believed would take a historical place among the major decisions of the Court. He served diligently until he became ill on Dec. 13, 1937, which led to his decision to retire at the convening of Court in October, 1938.

His vast knowledge of the law, his sincerity, and his broad human understanding made him one of the great liberal judges of all time, and in his clarity of thought and lucidity of expression he was frequently compared to his predecessor. His contribution to constitutional interpretation in the U.S. Supreme Court was great, but his contribution to the common law while Chief Justice of the N. Y. Court of Appeals was considered by legal authorities as being of greater and more lasting value. It was Cardozo's belief that the law should have a threefold purpose; to be (1) evolutionary and historical; (2) pragmatic and realistic; and (3) sociological and humanitarian.

He was an active vice-president of the American Law Institute from its founding; a trustee of Columbia University; and a leading figure in Jewish movements, being a trustee of the Hebrew University in Palestine and a member of the American Jewish Committee, from which activities he retired when appointed to the Supreme Court. In 1931 the Roosevelt Memorial Association awarded him the Roosevelt Medal for "distinguished services," and Harvard University conferred upon him the Ames Medal for distinguished contributions to jurisprudence.

Justice Cardozo was the author of *Jurisdiction of New York Court of Appeals* (1909), which became a handbook for practising lawyers; *The Nature of the Judicial Process* (1921) and *The Growth of the Law* (1924), lectures delivered before the Yale Law School; *The Paradoxes of Legal Science* (1928), the Carpenter lectures delivered at Columbia University, 1927-28; and *Law and Literature and Other Essays* (1931), which included the essay, "What Medicine Can Do for Law," delivered before the New York Academy of Medicine.

CARINTHIA. See AUSTRIA.

CARLETON COLLEGE. A coeducational college of liberal arts in Northfield, Minn., founded in 1866. The enrollment for the autumn of 1938 was 879. There were 83 faculty members. The endowment amounted to \$3,518,443, and the total income for the year was \$580,699. The library contained

121,649 volumes and 31,953 pamphlets. President, Donald John Cowling, Ph.D., D.D.

CARNEGIE CORPORATION OF NEW YORK. Established by Andrew Carnegie in 1911, this corporation was formed for the advancement and diffusion of knowledge and understanding among the people of the United States, Canada, and the British colonies. Its total endowment is approximately \$135,000,000, of which \$10,000,000 is applicable elsewhere than in the United States. The annual report of the president, Frederick P. Keppel, showed that during the fiscal year 1937-38 the sum of \$3,830,135 was appropriated.

The trustees of the corporation as of Dec. 1, 1938, were: Thomas S. Arbutnot, Nicholas Murray Butler, Samuel Harden Church, Henry James, Walter A. Jessup, Nicholas Kelley, Frederick P. Keppel, Russell Leffingwell, John C. Merriam, Margaret Carnegie Miller, Frederick Osborn, Arthur W. Page, and Elihu Root, Jr. Officers of administration were: Frederick P. Keppel, president; Robert M. Lester, secretary; and Robertson D. Ward, treasurer. Office: 522 Fifth Avenue, New York City.

CARNEGIE FOUNDATION FOR THE ADVANCEMENT OF TEACHING, THE. A foundation established in 1905 by Andrew Carnegie, who placed an endowment of \$10,000,000 in trust for the purpose of encouraging higher education in the United States, Canada, and Newfoundland. Following its incorporation by Congress in 1906, its resources were increased by a further gift of \$5,000,000 from Mr. Carnegie in 1908 and by appropriations of \$1,250,000 in 1913 and \$12,000,000 in 1918 from the Carnegie Corporation of New York. On June 30, 1938, its endowments and accumulated reserves amounted to \$27,947,419.

The foundation publishes extensive annual reports, which deal with many phases of the educational process. In 1938 it was engaged upon various studies concerning higher education in the United States, professional education, the relations between secondary and higher education in Pennsylvania, and graduate instruction. Dr. Walter A. Jessup is president, Dr. Henry Smith Pritchett, president emeritus, and Howard J. Savage, secretary and treasurer. Headquarters are at 522 Fifth Avenue, New York City.

CARNEGIE INSTITUTE OF TECHNOLOGY. A nonsectarian institution for technical education at Schenley Park, Pittsburgh, Pa., founded in 1900. The enrollment for the autumn of 1938 was 5445, including 2331 registered in the regular day courses and 3114 in the evening courses. For the summer session 660 students were enrolled. The faculty numbered 390. The endowment amounted to \$17,349,538, and the annual income was \$1,834,816 (not including student fees). The institute is adjacent to the Carnegie Library of Pittsburgh, which has 450,600 volumes. President, Robert Ernest Doherty, B.S., M.S., M.A., LL.D.

CARNEGIE INSTITUTION OF WASHINGTON. An organization founded in 1902 by Andrew Carnegie "to encourage in the broadest and most liberal manner investigation, research, and discovery, and the application of knowledge to the improvement of mankind." The Institution attempts to advance fundamental research in fields not normally covered by the activities of other agencies, and to concentrate its attention upon specific problems, with the idea of shifting attack from time to time to meet the more pressing needs of research as they develop with increase of knowledge.

Income on investments for the year 1938 amount-

ed approximately to \$1,500,000, and was required almost entirely for support and maintenance of major projects undertaken by the Institution. Results of its work were made known through technical and scientific journals, its yearbook, and a series of scientific monographs and news releases. To date the Institution has issued over 700 monographic publications.

W. Cameron Forbes is Chairman of the Board of Trustees of the Institution, and Vannevar Bush becomes President on Jan. 1, 1939. Other Trustees are: Thomas Barbour, James F. Bell, Robert Woods Bliss, Frederic A. Delano, Homer L. Ferguson, Walter S. Gifford, Herbert C. Hoover, Walter A. Jessup, Frank B. Jewett, Charles A. Lindbergh, Alfred L. Loomis, Roswell Miller, Henry S. Morgan, Stewart Paton, John J. Pershing, Elihu Root, Jr., Henry R. Shepley, William Benson Storey, Richard P. Strong, Charles P. Taft, James W. Wadsworth, Frederic C. Walcott, and Lewis H. Weed. Headquarters: Sixteenth and P Streets, N.W., Washington, D. C.

CAROLINE ISLANDS. See JAPANESE PACIFIC ISLANDS.

CARPATHO-UKRAINE. See CZECHO-SLOVAKIA under *History*.

CASE SCHOOL OF APPLIED SCIENCE. An engineering college in Cleveland, Ohio, founded in 1880. In the autumn of 1938 the enrollment was 1500. The 1938 summer session registration was 158. The faculty numbered 112. The endowment amounted to \$4,146,258, while the net income for the year was \$509,694. The library contained 32,865 volumes. President, William Elgin Wickenden, D.Eng., D.Sc., LL.D.

CASTELROSSO (CASTELLRIZO) ISLAND. See AEGEAN ISLANDS, ITALIAN.

CASUALTY INSURANCE. See INSURANCE.

CATALONIA. A region in northeastern Spain, consisting of the provinces of Barcelona, Gerona, Lérida, and Tarragona. Chief city, Barcelona. See SPAIN under *History*.

CATHOLIC ASSOCIATION FOR PEACE. See PEACE.

CATHOLIC UNIVERSITY OF AMERICA, THE. A national pontifical institution of higher education, located in Washington, D. C., and founded in 1863 by the Roman Catholic hierarchy of the United States with the approval of the Holy See. The enrollment for the autumn of 1938 was 1987, of which 530 were in the Graduate School, 43 in Canon Law, 108 in Law, 337 in Arts and Sciences, 249 in Engineering and Architecture, 133 in the School of Philosophy, 62 in Social Work, 153 in the School of Nursing, 170 in the School of Sacred Theology, and 88 in the School of Social Science, and 52 in the National Catholic School of Social Service. The summer school enrollment for 1937 was 1815. The faculties number 275 teachers, with 51 additions in 1938. In the library there are 350,000 volumes. Chancellor, the Most Reverend Michael J. Curley, S.T.D., Archbishop of Baltimore; Rector, Rt. Rev. Monsignor Joseph M. Corrigan, S.T.D.

CATTLE. See DAIRYING.

CAYMEN ISLANDS. See JAMAICA.

CELEBES. See NETHERLANDS INDIES.

CELEBRATIONS. Numerous celebrations, expositions, exhibitions, and trade fairs were held throughout the world during the year. The more important included the 150th anniversary of the founding of Australia, celebrated from January through April in Sydney, the premier city, and New

South Wales, the mother state; the British Industries Fair, opened February 21; and the Empire Exhibition at Glasgow opened by King George and Queen Elizabeth on May 3. The principal building of the last-named was the Palace of Engineering, which contained exhibits provided by shipbuilding and other heavy industries. To the Palace of Art, Marshall Field loaned his Raeburn portrait of Captain David Burrell and Edward S. Harkness his Raeburn portrait of the Drummond children. The estimated cost of the Exposition was £10,000,000 and it closed October 29. See ARCHITECTURE.

The tercentennial of the settlement of the first Swedish colonists was celebrated in Delaware, (q.v.) June 27-30. See LUTHERAN CHURCH.

Work on the San Francisco (Golden Gate International) Exposition and the World's Fair, New York, both to open in 1939, progressed rapidly. Plans were announced for a Swiss National Exposition, Zurich, in May, 1939, a World's Fair in Tokyo, Japan, in 1940, and a World's Fair in Rome, Italy, in 1942.

Other fairs and expositions were the Leipzig Trade Fair spring, opened March 6; the Crafts & Industries Exhibition, Oslo, opened May 12 and continued throughout the summer; 37th annual Prague Trade Fair, September 2-11; the Canadian National Exposition, August 26-September 10; 26th annual East Prussian Fair, opened August 21; the Vienna Autumn Trade Fair, opened September 11; Turkey's 8th International Fair at Smyrna (Izmir), August 20-September 20; the Texas State Fair, October 8-23; and a national fair at Guatemala City, Guatemala, November 20-27.

Although reported to be reopening for the year 1938, the Paris Exposition of 1937 remained closed.

CELTIC. See PHILOLOGY, MODERN.

CEMENT. Total cement production in the United States, according to the U.S. Bureau of Mines, for 1938, amounted to 105,548,000 bbl., compared with 116,478,000 in 1937. Shipments were 106,524,000 bbl. compared to 114,010,000 in 1937. Production and shipments for 1938 decreased 9.1 per cent and 6.4 per cent from 1937 figures. Exports for 1938 amounted to 431,749 lb. valued at \$802,648; imports were 644,909,156 lb. valued at \$1,398,173.

In the following table of the relation of production to capacity, the total output of finished cement is compared with the estimated capacity of 160 plants at the close of December, 1937, and 161 plants at the close of December, 1938.

RATIO (%) OF PRODUCTION TO CAPACITY

	December	
	1937	1938
The month	32.2	36.9
12 months ended	45.3	41.0

The Portland Cement Association reported that in 11 months of 1938, awards were made of 50,946,-539 sq. yd. of concrete pavement for roads, streets, and alleys.

CENTRAL AMERICA. See BRITISH HONDURAS, COSTA RICA, GUATEMALA, HONDURAS, NICARAGUA, PANAMA, SALVADOR, EL.

CENTRAL AUSTRALIA. Formerly a separate territory of Australia; now included in the Northern Territory of Australia (q.v.).

CEYLON, sê-lôn'. A British crown colony near the southern extremity of India. Area, 25,332 square miles; population (Jan. 1, 1937, estimate), 5,678,000 compared with 5,312,548 (1931 census). The chief cities (with 1936 estimated populations)

are: Colombo, the capital, 310,400; Jaffna, 47,700; Moratuwa, 34,900; Galle, 38,000; Kandy, 40,100. In 1936, 192,060 births, 123,039 deaths, and 26,779 marriages (exclusive of Moslem marriages) were registered. The primary and secondary schools had 717,287 pupils in attendance; the Ceylon University College had 541 students enrolled (1936-37).

Production and Trade. The staple products of the island are agricultural, the areas, in acres, of the various crops in 1937 being rice (850,000), other grain (105,000), tea (559,000), coconuts (1,100,000), rubber (605,000), cinnamon (26,000), cacao (34,000), citronella (33,000), and tobacco (14,000). Livestock in Ceylon in 1937 included 1,604,000 horned cattle, 61,000 sheep, 220,000 goats, 37,000 pigs, and 1300 horses. Work in gold, silver, brass, ivory, and tortoiseshell are important industries in addition to weaving, pottery, metal and lacquer work, and basket and mat making. Factories for the manufacture of cigarettes, matches, and soap have been established. The manufacture of salt is a government monopoly. There were 81 plumbago mines working at the end of 1936. Pearl fishing was carried on periodically in the north-west of the island. Hundreds of small quarries exist in which are found sapphires, rubies, moonstones, and cat's-eyes. In 1937 imports were valued at Rs243,135,826; exports, Rs332,116,923 (rupee averaged \$0.3733 for 1937). Great Britain was Ceylon's best customer, supplying Rs54,086,866 of the imports and taking Rs143,364,379 of the exports.

Communications. In 1937 there were 951 miles of railway open to traffic (834 miles of 5-ft. 6-in. gauge, the remainder of 2-ft. 6-in. gauge). Shipping entered and cleared the ports during 1936 totaled 2883 vessels, excluding warships, transports, coast sailing vessels, and those only coaling or oiling. The construction of two piers, with modern up-to-date facilities, in the harbor of Colombo at an estimated cost of £1,000,000, was approved during the latter part of 1938. On Feb. 28, 1938, the new air service connecting Colombo with the Empire air route from Southampton to Karachi was inaugurated by the opening of the air-drome at Ratmalana, Colombo.

Finance. The revised estimate of revenue for the fiscal year 1937-38 was Rs113,474,350, and the estimated expenditure, including the loss on the railways, was Rs114,474,350. For the fiscal year 1938-39 revenue was estimated at Rs117,426,650 and expenditure at Rs128,952,900, which includes Rs5,471,160 of loan-fund expenditure. On Sept. 30, 1937, the net total public debt of Ceylon amounted to Rs134,625,200.

Government. The government is administered by a governor, assisted by a state council of 61 members (50 elected on a territorial basis, 8 nominated unofficial, and 3 officers of state). This state council is divided into 7 executive committees in charge of various subjects, and the chairmen of these committees are ministers for the subject concerned. A government agent is at the head of each one of the 9 provinces into which the island is divided for administrative purposes. Governor, Sir Andrew Caldecott (assumed office, Oct. 16, 1937).

History. Sir Andrew Caldecott, the governor, in correspondence (published on Dec. 21, 1938) with Malcolm MacDonald, the British colonial secretary, advocated the abolition of the existing executive committee system in favor of something approaching a cabinet system of government. The colonial secretary authorized the state council to debate the governor's proposals and said that "on

the result of that debate and the expressions of public opinion which may result will depend my consideration of what measures, if any, should be taken for the amendment of the constitution."

Maldivé Archipelago. A chain of some 2000 coral islets (about 200 inhabited), 400 miles southwest of Ceylon, of which they are a dependency. Area (land), 115 square miles; population (1931), over 79,000 Moslems. Capital, Malé. The main products are coconuts, millet, dried fish, cowrie and tortoise shell, and edible nuts. The modified constitution provides for an elected Sultan, a people's assembly of 33 members (28 elected and 5 nominated), and a cabinet of 4 ministers. Sultan, Hasan Nuruddin Iskander II (elected, Mar. 12, 1935; assumed Sword of State, July 21, 1938).

CHACO DISPUTE, SETTLEMENT OF. The 86-year-old boundary dispute between Bolivia and Paraguay that resulted in the sanguinary Chaco War of 1932-35 was settled by a Treaty of Peace, Friendship, and Boundaries signed at the Chaco Peace Conference in Buenos Aires on July 21, 1938.

The treaty was ratified on August 10 by the Constitutional Assembly of Bolivia and by a plebiscite in Paraguay. It went into effect with the formal exchange of ratifications at Buenos Aires on August 29. The text of the principal articles of the treaty follows:

I. Peace between the Republics of Paraguay and Bolivia (Bolivia and Paraguay) is re-established.

II. The dividing line in the Chaco between Bolivia and Paraguay (Paraguay and Bolivia) will be that determined by the Presidents of the Republics of Argentina, Chile, United States of America, United States of Brazil, Peru, and Uruguay in their capacity as arbitrators in equity, who acting *ex aequo et bono* will give their arbitral award in accordance with this and the following clauses:

A. The arbitral award will fix the northern dividing line in the Chaco in the zone comprised between the line of the Peace Conference presented May 27, 1938, and the line of the Paraguayan counter-proposal presented to the consideration of the Peace Conference June 24, 1938, from the meridian of Fort 27 of November, i.e. approximately meridian 61 degrees 55 minutes west of Greenwich, to the eastern limit of the zone, excluding the littoral on the Paraguay River south of the mouth of the River Otquis or Negro.

B. The arbitral award will likewise fix the eastern dividing line in the Chaco between the Pilcomayo River and the intersection of the meridian of Fort 27 of November, i.e. approximately 61 degrees 55 minutes west of Greenwich, with the line of the award in the north referred to in the previous paragraph.

C. The said line will not go on the Pilcomayo River more to the east than Pozo Honda, nor to the west further than any point on the line which, starting from D'Orbigny, was fixed by the Neutral Military Commission as intermediary between the maximum positions reached by the belligerent armies at the suspension of fire on June 14, 1935.

III. The arbitrators will pronounce, having heard the parties and according to their loyal knowledge and understanding, taking into consideration the experience accumulated by the Peace Conference and the advice of the military advisers to that organization.

The six Presidents of the republics mentioned in Article II have the faculty of giving the award directly or by means of plenipotentiary delegates.

IV. The arbitral award will be given by the arbitrators within a maximum of two months counting from the ratification of the present treaty, obtained in the way and form stipulated in Article XI.

V. The award being given and the parties notified, these will immediately name a mixed commission composed of five members, two named by each party, and the fifth designated by common agreement of the six mediatory governments in order to apply on the ground and set the bournes of the dividing line given by the arbitral award.

VI. Withing 30 days after the award, the Governments of Bolivia and Paraguay (Paraguay and Bolivia) will proceed to accredit their respective diplomatic representatives in Asunción and La Paz (La Paz and Asunción) and within 90 days will fulfill the award in its principal aspects, under the vigilance of the Peace Conference, to whom the parties recognize the faculty of resolving definitely the practical questions which may arise in this connection.

VII. The Republic of Paraguay guarantees the amplest free transit through its territory and especially

through the zone of Puerto Casado, of merchandise arriving from abroad destined to Bolivia and of the products which issue from Bolivia to be embarked for abroad through the said zone of Puerto Casado; with the right for Bolivia to install customs agencies and construct depots and stores in the zone of the said port.

The regulations of this article will be the object of a later commercial convention between both republics.

VIII. The arbitral award having been executed through the application and setting of bournes of the dividing line, the Governments of Bolivia and Paraguay (Paraguay and Bolivia) will negotiate directly, government to government, the other economic and commercial conventions they deem proper to develop their reciprocal interests.

IX. The Republics of Bolivia and Paraguay (Paraguay and Bolivia) reciprocally renounce all action and claim deriving from the responsibilities of the war.

X. The Republics of Bolivia and Paraguay (Paraguay and Bolivia), renewing the non-aggression pact stipulated in the Protocol of June 12, 1935, solemnly obligate themselves not to make war on each other nor to use force, directly or indirectly, as a means of solution of any present or future difference.

If in any event these were not resolved by direct diplomatic negotiations, they obligate themselves to have recourse to the conciliatory and arbitral procedures offered by international law, and especially the American conventions and pacts.

The Arbitral Award. In accordance with Article III the Presidents of the mediating powers delegated their functions as arbitrators to their chief plenipotentiaries at the Chaco Peace Conference. The latter immediately convened as an arbitral board. Both parties presented their claims before the arbitrators in the form of oral arguments and briefs supported by extensive documentation. Meanwhile the advisory military commission to the Peace Conference was making an aerial photographic survey and inspection of the zone of arbitration. Following presentation of the commission's report the arbitrators traced a frontier line within the limits fixed by the peace treaty, taking into account also "the antecedents accumulated by the Peace Conference as well as the needs of the parties with regard to their mutual security and geographic and economic necessities." The text of their unanimous award, issued on Oct. 10, 1938, follows:

The dividing line in the Chaco between the republics of Bolivia and Paraguay is the following:

In the northern zone will go from the intersection of meridian 61 degrees 56 minutes 57 seconds west of Greenwich and parallel 20 degrees zero five minutes 01 seconds latitude south (27 of November or Gabino Mendoza) to continue in a straight line to the highest point of Cerro Capitan Ustares (Usquares); thence in a line to intersection of the Ravelo-Ingavi road with the southern limit of the Canada del Palmar de las Islas; from this point also in a straight line to the intersection of the meridian of Fort Paredes with the parallel of Fort Ravelo; thence in a straight line to the highest point of Cerro Chovoreca; thence it will descend in a line to Cerrito Jara; thence also in a straight line to the intersection of parallel 19 degrees 49 minutes 40 seconds latitude south with the Rio Negro or Otquis and following the *thalweg* of the said river will end at the mouth of the same in the Paraguay River at 20 degrees 09 minutes 58 seconds latitude south and 58 degrees 10 minutes 12.9 seconds west of Greenwich.

In the western zone the line will go from the intersection of meridian 61 degrees 56 minutes 57 seconds west of Greenwich and parallel 20 degrees zero 5 minutes 01 seconds latitude south (27 of November or Gabino Mendoza) and will descend in a straight line in a south south westerly direction to the place called Villazon, 15 kilo meters southwest of Irindague (Yrendagüe); thence in a straight line southward to intercept the road from Estrella to Capirenda (Capt. Carreras Saguier) at a point 11 kilometers west of Estrella; thence in a straight line to end in the *thalweg* of the Pilcomayo River at 62 degrees 31 minutes 19 seconds longitude west of Greenwich.

Course of Negotiations. The Chaco Peace Conference, at which the two parties to the dispute and Argentina, Brazil, Chile, Peru, Uruguay, and the United States were represented, had been in almost continuous session since July 1, 1935 (see 1935, 1936, and 1937 YEAR BOOKS for its negotiations). The beginning of 1938 found the Confer

ence still in the impasse caused by the refusal of the Paraguayan army to relax its grip on the vital highway from Santa Cruz to Yacuiba, Argentina, constituting eastern Bolivia's principal commercial outlet. With the expiration of President Justo's term as chief executive of Argentina on Feb. 20, 1938, the Chaco Conference named him its honorary president in the hope that his prestige would help to end the deadlock in the peace negotiations. In April the Conference sent delegations to La Paz and Asunción in an effort to persuade the two governments to accept a new peace formula. Both governments rejected the proposals in the middle of April and General Justo ended his connection with the proceedings.

Meanwhile Dr. José María Cantilo had succeeded Dr. Carlos Saavedra Lamas as Foreign Minister of Argentina. After discussing the Chaco situation with representatives of the other mediating governments at Rio de Janeiro and Santiago, Dr. Cantilo assumed the Presidency of the Chaco Peace Conference on April 22 and launched a vigorous new effort to reach a settlement. The Conference delegations sent to La Paz and Asunción had sounded out the two governments as to the maximum concessions and minimum demands they were prepared to make. Paraguay demanded practically all of the territory occupied by her troops during the Chaco War, which would exclude Bolivia from the Paraguay River. Bolivia suggested a boundary drawn from Fort Linares on the Pilcomayo northward to Fort Ingavi in the central Chaco and from there southwestward to Puerto Leda on the Paraguay.

Renewing negotiations on the basis of these proposals, the Conference on May 16 invited the Bolivian and Paraguayan Foreign Ministers to come to Buenos Aires. They accepted, and on May 27 the Conference submitted to them a new peace formula. This proposed that the boundary be drawn from Puerto Esmeralda on the Pilcomayo River northward to Fort 27 of November, then northeastward to Cerro Cristian on the 60th meridian between Forts Ravelo and Ingavi, and eastward to the Paraguay River at a point north of the 20th parallel, giving Bolivia a long-sought river outlet at Puerto Caballo.

Bolivia accepted the formula but Paraguay balked at giving Bolivia a port on the Paraguay River. On June 24 Paraguay submitted a counter-proposal by which the frontier line would begin at Cururenda on the Pilcomayo, run just west of the Bolivian villages of Capirenda and Carandaiti, then north to Los Maticos on the Parapeti River, and eastward through Ravelo to Fort San Juan near the Brazilian frontier. Bolivia then threatened to withdraw from the Peace Conference rather than accept total exclusion from the Paraguay River. Meanwhile Paraguay on June 21 had notified the League of Nations of its withdrawal from the Permanent Court of International Justice at The Hague. This step was designed to prevent the Chaco dispute from being placed before the World Court by the Chaco Peace Conference, as was required under the Pact of Truce of June 12, 1935, in case mediation failed.

These events aroused fears of a renewal of the Chaco conflict. Both Bolivia and Paraguay had increased their armies beyond the limit of 5000 men fixed in the Pact of Truce. Minor clashes occurred between Bolivian and Paraguayan patrols. Large troop movements were reported on both sides of the temporary frontier fixed by the neutral military commission after the cessation of fighting in 1935.

Foreign purchases of munitions were made by both countries.

At this critical junction, Gen. José Félix Estigarribia, commander-in-chief of Paraguay's victorious armies in the Chaco War and newly appointed Minister to Washington, left his post and hastened to Buenos Aires by airplane. He arrived early in July just after Bolivia rejected a Conference proposal that the frontier be fixed by arbitration within the zone delimited by Paraguay's counter-proposal and the Conference's formula of May 27. With the Conference in a mood to end its mediation, General Estigarribia threw his powerful influence on the side of a compromise settlement. Against the opposition of Geronimo Zubizarreta, head of the Paraguayan delegation to the Peace Conference, Estigarribia induced his government to abandon its intransigent stand. Zubizarreta resigned in protest against this policy. The negotiations thereafter made rapid headway.

On July 9 a draft peace treaty was initiated by the Bolivian and Paraguayan Foreign Ministers at Buenos Aires. Both governments notified the Peace Conference on July 17 that they approved the draft and after the Conference had ironed out minor reservations by Paraguay the formal signing of the treaty followed on July 21. This compromise settlement assured Paraguay's possession of the greater part of the Chaco Boreal, but gave Bolivia undisputed ownership of the oil zone west of the Chaco proper and of the Santa Cruz-Yacuiba highway. A narrow zone of territory some 30 to 80 miles wide was submitted to arbitration. Bolivia's demand for a deep-water port on the Paraguay was met in part by making Puerto Casado in the Paraguayan Chaco a free port for Bolivian commerce.

Moreover, the arbitral award confirmed Bolivia's claim to the narrow strip of river bank between the mouth of the Rio Negro and the Brazilian boundary, including Puerto Caballo. The latter port was of limited usefulness, however, being inaccessible during the dry season to vessels having a draught of more than 6 feet. In general, the arbitral board rejected Paraguay's boundary claims with reference to the western and northeastern sections of the arbitral zone while granting her claims in the northwest. The western frontier followed closely the line proposed by the Peace Conference on May 27. The northern boundary followed substantially the line occupied by Paraguayan troops at the close of the Chaco fighting with the exception of the transfer of the enclave north of the Rio Negro to Bolivia. Paraguay's title was confirmed to 91,120 square miles of territory in the Chaco Boreal, or about three times as much as she actually held at the beginning of the Chaco War in 1932. The zone submitted to arbitration comprised 16,023 square miles, of which Bolivia received 14,671 square miles.

A mixed commission, consisting of two Bolivians, two Paraguayans, and an Argentine named by the mediating powers, was constituted on October 28 to survey and mark the boundary line, a task expected to take two years. In further fulfillment of the peace treaty, the Bolivian and Paraguayan Governments on November 26 resumed diplomatic relations. Dr. Fabián Vaca Chávez, former Bolivian Foreign Minister, was named Minister to Asunción, and Dr. Justo Pastor Benítez, Paraguayan Foreign Minister during the first part of the Chaco War, was sent to La Paz. They undertook negotiations for the treaty of commerce and navigation envisaged in the peace treaty.

See BOLIVIA and PARAGUAY under *History*.

CHAD. See FRENCH EQUATORIAL AFRICA.

CHADBOURNE, THOMAS L. (INCOLN). An American lawyer, died in New York, June 15, 1938. Born in Houghton, Mich., in 1871 he studied at the University of Michigan, and in 1892 was admitted to the bar and began the practice of law in Milwaukee, Wis., but in 1895 removed to Chicago, subsequently coming to New York where he entered the field of corporation law.

A Democrat in politics, Mr. Chadbourne first came into prominence in 1913 when he raised a \$2,000,000 campaign fund to elect John Purroy Mitchell mayor of New York. Also, he was active in the presidential campaigns of Woodrow Wilson and John W. Davis. During the World War he served as a dollar-a-year man on the War Trade Board, and in 1919 President Wilson appointed him a representative of the public at the National Industrial Conference. In 1922 he directed negotiations for the merger of the Midvale Steel & Ordnance Co., the Republic Iron & Steel Co., and the Inland Steel Co., into the \$251,000,000 North American Steel Co., which failed because of the complaint of the Federal Trade Commission that it was unfair to competition.

Mr. Chadbourne was probably best known as the author of the so-called Chadbourne Plan for the world control of sugar, which had for its purpose a reduction of production to bring prices to the producer to a more profitable basis. This plan was adopted by Czecho-Slovakia, Germany, Poland, Belgium, The Netherlands, Cuba, Java, and Peru at the International Sugar Conference held at Brussels in 1931. It was to have been in effect until Sept. 1, 1935, but shortly before that date delegates from the countries adhering to the agreement voted to abandon it at its expiration.

Considered a "radical capitalist," he had served as president of the American Association for Labor Legislation (1919-26), and was an early champion of such protective labor measures as old-age pensions and workmen's compensation laws.

CHALIAPINE, shal-ya'pên, FEODOR IVANOVICH. A Russian singer, died in Paris, Apr. 12, 1938. Born in Kazan, Russia, Feb. 1, 1873, he attended the local schools and after apprenticeship in several trades, was a clerk in various government bureaus. His first musical knowledge was received as a boy in the choir of the Archbishop of Kazan, and when older he sang whenever possible with traveling light-opera companies. About 1890 he joined a Little-Russian traveling company and when the troupe was stranded earned his living by singing in the streets and in cafés. It was in Tiflis (1892) that the singer Usatov heard him and offered to tutor him.

Chaliapine's first operatic engagement was with the Tiflis State Theater where he made his debut in Glinka's *A Life for the Tsar*. In 1894 he left Tiflis for Moscow where he was engaged by the impresario Lentovsky to sing the role of Dr. Miracle in *Tales of Hoffman* and afterward to appear at the Arcadia in St. Petersburg. In the following year he sang at the Panaevsky and Mariensky Theaters, St. Petersburg, his roles being Mephistopheles in *Faust*, Russlan in *Russlan and Ludmilla* and the miller in *Russalka*.

In 1896 Chaliapine joined the private opera company of S. I. Mamontov, where he obtained his first real opportunity. He sang the part of Prince Vladimir in *Rognieda*, Susanin in *A Life for the Tsar*, Mephistopheles in *Faust*, and originated the role of Ivan the Terrible in the première of Rimski-

Korsakov's *Maid of Pskov* (*Pskovitianka*). In the following year he studied the part of Holofernes in *Judith*. In 1898 he made his greatest success in the title role of Rimski-Korsakov's revision of Mussorgsky's *Boris Godunov*. Subsequently he appeared in *Khovanstschina*, *A May Night*, *The Tsar's Bride*, and Rimski-Korsakov's *Sadko*, and the more he played these roles the more he realized that an operatic artist must not only sing but must act too. Thereafter he appeared in Rimski-Korsakov's *Mozart and Salieri*, playing the latter role.

He returned to the Imperial Theaters in 1899, signing a three-year contract, and thereafter was seen in the parts that made him famous. He went to Paris in 1900 and sang at private soirees and in 1901 was invited to join the Milan Opera Co., to sing the title role in Boito's *Mephistopheles* for the season. Returning to Russia he divided his time between the Mariensky Theater in St. Petersburg and the Balshie in Moscow. Subsequently he sang at Monte Carlo.

During 1907-08, Chaliapine appeared with the Metropolitan Opera Co., New York, making his debut in Boito's *Mephistopheles* on Nov. 20, 1907. Also, he sang in *Faust*, *The Barber of Seville*, and *Don Giovanni*. His unorthodox interpretation did not arouse unusual enthusiasm, probably because he had no opportunity of singing his famous Russian roles. Subsequently he sang in Paris, Milan, Monte Carlo, and South America.

His English debut was made in London during the Beecham Russian Opera Season (1913-14). With the outbreak of the War in Europe he returned to Russia where he was the head of the Mariensky Theater until 1921. His first appearance outside of Russia was at a concert in Albert Hall, London, in that year. Then he was invited to join the Metropolitan Opera Co., New York, to take Caruso's place as leading singer in the company. This time he was successful and received great acclaim for his interpretation and singing, especially the roles of Boris in *Boris Godunov* and as Mephistopheles in *Faust*. Lawrence Gilman said of his Boris, "There is little to say about it except that it is in probability the greatest performance the lyric stage has ever known." And Olin Downes wrote, "An imperishable creation that will long remain as the supreme model for interpreters of this part."

During 1922-23, Chaliapine toured England and the Continent and then returned to the United States, where he sang for many years with the New York and Chicago opera companies. In 1922 he returned to Russia where he enjoyed wide popularity, but in 1927 he quarreled with the Soviet Government and was deprived of his title, "Artist of the People," and his estates, which had been given to him by the Government, were confiscated. At that time he left his native country never to return, becoming a French citizen and making his permanent home in Paris. On Mar. 20, 1929, the singer made his farewell appearance with the Metropolitan Opera Company in New York as Mephistopheles in *Faust*, but frequently returned to America in concert, where he popularized "The Song of the Volga Boatmen" and "The Song of the Flea." His last appearance on this stage was on Mar. 3, 1935. In the following year he made a concert tour of the Far East and a scheduled appearance in November, 1937, was canceled because of his ill health.

The greatest singing actor of the past four decades, Chaliapine was that rarity of grand opera, a singer who could act, an actor who could sing. A basso cantato, his voice was capable of innumerable shades of color and meaning. Other of his fa-

mous roles were Philip II in *Don Carlo*; Don Quixote in Massenet's *Don Quixote*, which was written for him in 1910; Eremka in Serov's *Power of Evil*; Dositheus in *Kovantschina*.

In 1934 the singer played the title role in a French motion picture production of *Don Quixote*, achieving quite a success. He was the author of *Fedor Ivanovitch's Autobiography: Pages from My Life* (1927) and *Man and Mask* (1932).

CHAMBER MUSIC. See **MUSIC**.

CHAMBER OF COMMERCE OF THE UNITED STATES. A national federation of trade associations and local or regional commercial organizations, established in 1912 primarily as a vehicle for the expression of national business opinions on important economic questions. The membership in 1937 consisted of more than 1600 chambers of commerce and trade associations covering the entire United States.

The Chamber maintains 12 service departments, covering main divisions of business activity: Agriculture; Construction; Commercial Organization; Manufacture; Domestic Distribution; Finance; Foreign Commerce, Insurance; Natural Resources Production; Trade Association; Transportation and Communication; Research. It publishes a monthly magazine, the *Nation's Business*, and a semi-monthly publication, *The Washington Review*, which deals with the relations between government and business.

One of the major activities of the Chamber in 1938 was to give force and direction to the countrywide campaigns of local business organizations to bring about a better public understanding of the services and functions of business. The campaign's slogan, "What Helps Business Helps You," has become a national by-word.

In addition to the campaign, the Chamber continued to center its attention upon problems involved in the governmental regulation of trade and industry. Its spokesmen appeared before a number of Congressional Committees to present a practical viewpoint on pending legislation. Attention was given to the increasing burden of taxes—Federal, state, and local—and constructive recommendations were made for cutting down the costs of government.

During the year the Chamber sponsored two important conferences—one to stimulate private construction and the other to develop a rational program to rehabilitate the railroads. The findings of both conferences, coming from practical-minded business, aroused widespread public interest and support.

George H. Davis of Kansas City, serving a second term, is president of the Chamber. The Chairman of its Executive Committee and active resident officer is John W. O'Leary of Chicago. Vice-Presidents are: W. Gibson Carey, Jr., New York City; Fred H. Clausen, Horicon, Wis.; Joseph W. Evans, Houston, Tex.; Clem D. Johnston, Roanoke, Va.; James S. Kemper, Chicago; W. C. Mullendore, Los Angeles.

CHANDERNAGOR. See **FRENCH INDIA**.

CHANGKUFENG, SOVIET-JAPANESE CLASH AT. See **MANCHOUKUO** under *History*.

CHANNEL ISLANDS. See **GREAT BRITAIN**.

CHARLESTON. See **SOUTH CAROLINA**.

CHAUTAUQUA INSTITUTION. An educational movement established on Chautauqua Lake, Chautauqua, N. Y., in 1874 by Lewis Miller and Bishop John H. Vincent, both prominent in the Methodist Episcopal Church. Originally for Sunday school teachers, it developed into an institution

affording during July and August each year a correlated lecture series, summer school conducted by New York University, operas, and plays. Its summer music festival features a symphony orchestra, concerts, and recitals. Annual attendance is 50,000, the schools enrolling 1600. Present officers are: George E. Vincent, honorary president; Arthur E. Bestor, president; Charles E. Pierce, secretary; and Gerald M. Lynch, treasurer.

CHECHEN-INGUSH AUTONOMOUS SOVIET SOCIALIST REPUBLIC. See **RUSSIAN SOVIET FEDERATED SOCIALIST REPUBLIC**.

CHEESE. See **DAIRYING**.

CHEMISTRY. New nuclear particles; successful culmination of a half-decade of intensive research in concentrating isotopes for biological research; methylene radicals; assimilation of ammonium compounds by cattle; enzyme patterns on oil drops; continued attack on the energy levels within the nucleus; new lines of low temperature work; electron-beam measurements; effect of European politics on pure research; all these appeared in the spotlight of the 1938 chemical arena.

Archaeology. The Soviet Union is performing good work in preserving and restoring documents of antiquity. Explorer Kozlov brought 2000 Chinese scrolls from Mongolia which were opened by static electricity. Birchbark inscriptions from the Volga German republic were fixed in plastic and read by infra-red light. In place of microfilm for records they use thin sheets of platinum bound in books with glass covers.

Evidences that Mexico used a cloth composed of yucca strands crossed by cotton threads 2000 years ago contradicts the belief that cotton came from Central and South America.

Astronomy. A new blow was dealt to the theory of life on Mars when P. Millman showed that the spectrum of the canals on Mars did not contain chlorophyll green lines. A. Shenstone discovered a new continuous spectrum of helium. Struve and Elvey reported fluorescent clouds of hydrogen and oxygen enveloping portions of the milky way.

The upper atmosphere continues to be the subject of interesting speculation. Adel and Lampland demonstrated by infra-red spectroscopy the presence of nitrogen pentoxide 10 to 25 miles above the earth. Regener of Stuttgart found a high carbon dioxide content 18 miles above the surface of the earth—only five parts per 100,000 less than at the surface. Vertical air convections are held responsible for this anomaly. Laboratory duplication of processes in the upper atmosphere was carried out by Groth and Suess. Water was split into H and OH by light of wave length 1300 Angstroms. Carbon dioxide yielded CO and O. A mixture of water and carbon dioxide gave glyoxal and formaldehyde, as in photosynthesis. From this they concluded that in the beginning of the earth there was water and carbon dioxide, and from these our atmospheric oxygen has been formed photochemically. That there is plenty of far ultra-violet light to do this is shown by the excited nitrogen lines at 600 Angstroms, in the night sky.

An interesting calculation by W. Harkins shows that the stars could have been built entirely from hydrogen, reaching their present ratio of elements in about one hundred billion years. A. Haas, Viennese physicist at Notre Dame, postulated that in the beginning the universe had only three kinds of particles: protons, electrons, and neutrons.

Arizona's famed meteor still lies buried, according to T. Lundberg, who plotted the magnetic variations for a mile around the Crater, and found

anomalies which could be explained only by assuming large masses of magnetic materials. These rich iron deposits may be exploited.

Cosmic Rays and Nuclear Fragments. For cosmic rays and cyclotron studies see *Physics*.

Linked closely with problems of cosmic radiation is the search for those still-elusive particles, the neutrino and the mesotron. Anderson has suggested "mesotron" to replace the variety of names, heavy electron, X-particles, yukon, and barytron. Wilson and Compton obtained evidence of mesotrons in Chicago's underground freight system where, under 50 feet of rock, neutrinos could not penetrate. Street and Stevenson are investigating these mesotrons in a double cloud chamber. In the first chamber, energy and charge of the particle are measured; in the second chamber, a collision with a metal plate occurs. The particle appears to lose its energy in an orderly fashion down to some critical value of several hundred million volts, and then explodes into fragments, losing all of its remaining energy in one lightning holocaust. Thus a particle which has easily smashed through several inches of lead plate may succumb to a sheet of lead only a third of an inch thick. A photograph of such a particle coming to rest appears in *Science News Letter* for July 23, 1938, p. 51. On July 30 Schein and Wilson of Chicago flew to an altitude of 25,000 feet, carrying four Geiger-Mueller counters. They found that mesotrons were produced possibly by the impact of photons on the 2.2 cm. thick lead plates in their counters. In agreement with this was their observation that the proportion of mesotrons was less as the atmosphere became rare. They postulated an altitude of maximum mesotron formation. Blackett of Manchester and Rossi, Italian physicist at Copenhagen, explained that the mesotron is radioactive and has a half life of two millionths of a second. That is why mesotrons appear to penetrate solids more readily than air. The mesotron apparently breaks down into an electron and a neutrino, with the original heavy mass of the mesotron appearing in its offspring as great kinetic energy.

Crane and Halpern presented what they considered the first experimental evidence of the neutrino. By a special technique they were able to show recoil motion after a collision between an electron and a nucleus. Momentum was not conserved, which they claim necessitates the presence of a third body, the neutrino, in the collision.

And now still another particle, the neutretto, has been announced by Compton, *Science News Letter*, Dec. 3, 1938, p. 357. High altitude research by F. Shonka has identified this neutral particle, with mass and properties similar to the mesotron.

Isotopes. The discovery of deuterium by Urey in 1932 and the successful preparation of heavy water on a commercial scale has intensified attempts to concentrate isotopes of other common elements, particularly hydrogen, oxygen, carbon, nitrogen, and sulphur because of their potentialities in biological research. As a result, the year 1938 saw considerable success in the preparation of these isotopes. The original method of electrolysis for the preparation of heavy water still prevails. The concentration of methane containing C^{18} by multiple distillations at two millimeters' pressure was reported by Capron of Belgium who prepared 50 per cent C^{18} in C^{12} . Urey at Columbia has made a thorough investigation of concentration of isotopes by interchange between gas and liquid, described in *THE NEW INTERNATIONAL YEAR BOOK FOR 1937*, p. 134. During the fall of 1938 Urey obtained

8 grams of ammonium chloride containing 70 per cent N^{15} and large quantities of the salt containing lower concentrations of this heavy isotope. On Dec. 5, 1938, he reported successful concentration of C^{18} in HCN gas by interchange with a solution of NaCN. He has also prepared O^{18} and S^{34} in large quantities. And finally he succeeded in partially separating potassium isotopes by chemical exchange with the permutit zeolites. Clusius and Dickel at Munich separated isotopes by passing a gas mixture between concentric tubes, the inner one of which is hotter. Thermal diffusion and convection concentrated the heavier isotope at the bottom of the apparatus. For example, an apparatus 2.3 meters long with a temperature gradient of 600° concentrated, in one step, ordinary hydrogen chloride in which chlorine has an atomic weight of 35.457 to a heavier hydrogen chloride in which chlorine had an atomic weight of 35.56. A mixture of 40 per cent CO_2 and 60 per cent H_2 delivered pure CO_2 at the bottom of the same apparatus. The costs of these heavy isotopes per gram-atom are, today, deuterium \$10, commercial; N^{15} \$180 and S^{34} \$40 for materials used. History will look back to 1938 as the year in which most of these isotopes were first produced in abundance, while research with them in biological chemistry, as well as in many fields of pure chemistry, is still to come. Barbour of Yale reported that white mice die in a week if heavy water is substituted for all of their drinking water. With water containing 20 per cent heavy water their life processes went faster, not slower, as has previously been assumed. Catalepsy was induced in a monkey by application of heavy water to the outside of the brain. La Mer and Maron reported the first case of a change in color upon deuterizing a hydrogen compound.

A new rare isotope of tungsten 180 and a very rare isotope of osmium 184 were discovered. It was proved impossible to detect the isotopes 197 and 203 of mercury. H. Jensen concluded that elements with weights 43 and 61 should not exist. Every element has at least one odd isotope excepting mass numbers 37, 97, 139, and 145.

Nier at Harvard found the relative abundance of lead isotopes, 204, 206, 207, and 208 to vary as much as 15 per cent due to contamination with lead from radioactive sources. Despite this the atomic weight is nearly constant, since those specimens which contain more 206 also contain more 207 and 208. Isotopes 203, 205, 209, and 210 were not found, showing they must be in much lesser abundance than was at one time supposed.

Kinetics. Frecke and Sneed, studying the blackening resulting from the action of ammonium hydroxide on mercurous chloride, a reaction familiar in every elementary analytical chemistry course, is best represented by the equation $2Hg_2Cl_2 + 4NH_4OH = (Hg + Hg_2O + NH_2HgCl) + 3NH_4Cl + 3H_2O$. They actually identified the Hg_2O .

Gurney and Mott applied the quantum theory of solid photo-conductivity to the production of the photographic image. Electrons liberated from halogen ions by the action of light are later captured by metallic silver. These centers then attract mobile silver ions. Other familiar photographic effects were similarly interpreted.

A report of the important general discussion of reactions in solids held at the University of Bristol, England, on April 11-13, appears in *Nature* for May, 1938, pp. 839-40.

Pearson, Purcell, and Saigh described the direct production of the methylene radical. Produced

when ketene is exposed to 2580–3130 Angstroms of light, the methylene has a long life; produced by thermal decomposition of diazomethane, it has a life as short as that of an alkyl radical. The methylene was detected by its reaction with selenium and tellurium. They considered the methylene to be a highly reactive molecule with the carbon in the bivalent state, and not a free radical like methyl.

Kuhn and Birkhofer, from experiments on the catalytic reduction of glucosides derived from secondary bases, have concluded that bases or salts must be formed before mutarotation can occur. It is therefore the cations, not the glucoside itself, which undergo transformation. This brings their views into harmony with those expressed by Lowry.

Medical Miscellany. J. Lawrence, experimenting with mice, found that bones, liver, and spleen in which leukemia cells tend to concentrate, exchange a much higher percentage of radioactive phosphorus than do normal cells. Radioactive iron produced in E. Lawrence's cyclotron was used in tests on anemia. Dogs absorbed the iron into the blood cells via the blood plasma in three days. Non-anemic dogs did not.

A report of the Mellon Institute and the Air Hygiene Foundation showed that sulphur dioxide vapors are relatively slight in air pollution. Average parts per million were St. Louis, 0.128; Pittsburgh, 0.057; Detroit, 0.028; Philadelphia, 0.027; and Washington, D.C., 0.009.

An interesting series of experiments may revolutionize livestock rations. At the University of Wisconsin calves gained 65 pounds on a low-protein diet, 125 pounds on a milk-protein diet, and 105–110 pounds on a diet of low-protein to which ammonium bicarbonate or urea were added. The nutritive value of these seemingly indigestible nitrogen compounds shows that nitrogeous fertilizers of pasture grasses or silage from alfalfa and molasses, which breaks down into ammonium compounds, may be as beneficial as the higher-priced protein rations.

For the first time in medical history the spectroscopy was accepted in testing for a medical product, Vitamin B₁₂, by the American Medical Association.

W. Rose of Illinois listed 10 amino acids essential to growth, and 12 which are non-essential. Cystine, long thought vital, is non-essential.

A. Brewer told of the amazing role of potassium in life and inanimate nature. The radioactivity of K⁴⁰ may control heartbeat, and the germination of seeds, and mutations. Today it is 75 times more likely to cause these changes than are cosmic rays; and in the carboniferous age when K⁴⁰ was still more abundant, it was 375 times more likely. K⁴⁰ is the parent of 99 per cent of the calcium, and 95 per cent of the argon in the world today.

Microscope. Electron-beam microscopes, focused through magnetic, not glass, lenses have improved. Siemens and Halske describe one which realizes a magnification of 30,000 times; and the image is so sharp that it can be further enlarged five-fold by optical means. This is made possible because the wave lengths of electron beams are of the order of 10⁻⁹ millimeters. At the Richmond meeting of the American Association for the Advancement of Science on Dec. 30, 1938, Zworykin demonstrated models of two RCA instruments. The Johnson thermionic wire microscope, using electrons from a hot metal source, magnifies 20,000 times. The Mueller cold emission point microscope procures its electrons by applying a large potential and magnifies a million-fold. With the aid of this supermicroscope viruses, colloid particles,

and giant molecules become visible. The atoms in a crystal of tungsten appear on a fluorescent screen as points of light, and against them can be observed shimmering points due to bombarding air molecules.

Molecular Films. Langmuir and Wrinch continued their defense of the cyclol structure of proteins and constructed a cyclol model for insulin on this basis.

Langmuir and Schaefer presented some interesting experiments with enzymes. An enzyme touched to an oil drop on water immediately spread out upon the surface. Force-area curves were reproducible for any given enzyme, strictly reversible, and showed no hysteresis. Under pressure the drop became a two-dimensional solid, with a pattern characteristic for each enzyme. Thus pepsin was star-shaped. Upon denaturation of the enzyme the pattern disappeared. Langmuir interpreted this to indicate the rigidity of the enzyme molecule itself.

Germer and Storks, observing a monomolecular layer of barium stearate by electron diffraction, found that the hydrocarbon chains although closely packed and practically normal to the surface were, nevertheless, arranged irregularly. With two layers, however, the irregularity disappeared and the molecules fall into characteristic units.

New Substances. E. Wiberg described an interesting inorganic cyclo-hexane, Ba₆N₆H₆. The N and B atoms alternate around a benzene-like ring. At room temperature this compound is a water-clear, colorless, mobile liquid with an aromatic odor. Like benzene it dissolves fats and pitch, but is much more reactive than benzene, taking up, for example, three molecules of Cl₂, Br₂, OH₂ or, OR. L. McCulloch of Westinghouse produced a crystalline boric oxide with high resistance to heat or shock. Rare earth elements were discovered in hickory leaves by spectroscopic analysis at the U.S. Bureau of Standards. O. Hahn prepared a transuranium element, probably eka-iridium, atomic number 95.

Phosphors without the usual metallic activators were prepared by W. Byler. Calcium phosphate with organic tartrates gave fluorescence comparable with the fluorescence of the teeth. Basic and acid phosphate mixtures increased 5-fold in fluorescent intensity upon proper heat treatments.

Vitamin E, alpha tocopherol, the essence of fertility, was synthesized by Lee Smith and collaborators at the University of Minnesota, associated with Merck and Company. P. Karrer in Switzerland has also produced it. Nobelist Windaus of Göttingen discovered anti-ricketic vitamin D₃, more effective than D₂.

Hucke and Liegel described the preparation of a free-radical containing quadrivalent nitrogen.

Nuclear Energy Levels, see PHYSICS.

Energy levels in the nucleus are the concern of that same group of scientists who a quarter-century ago sketched the energy levels in the planetary electrons. The problem is being attacked from several angles.

(1) Dee and Bothe are studying resonance effects, where collisions are more effective if the incident particle has a certain range of energy. Thus beryllium gives resonance effects at 350 and 670 kilovolts, while fluorine is most efficient at levels corresponding to 330, 470, 590, 670, 860, and 820 kv. The energy range for resonance is broader the shorter the lifetime of the element. (2) Bothe is also comparing the intensity of emission of rays from the same intermediate nucleus. (3) When an excited nucleus returns to stability, different mag-

nitudes of energy are released. Thus oxygen is found to have excited nuclear states at 0.83, 2.95, 3.77, and 4.49 million volts, which agrees with levels previously indicated by bombardment of neon by neutrons. (4) Pool and Campbell bombarded Ag^{106} with fast neutrons; the resulting radioactivity indicated nuclear energy levels. (5) S. Devons studied the scattering of alpha particles by helium, carbon, nitrogen, oxygen, and fluorine, and found resonance peaks corresponding to excited nuclear states. (6) Ellis, Moon, and Wynn-Williams modulated the input to a source of deuterons. This modulated the velocity of the ejected neutrons and in turn their effectiveness as bombarding particles. A simplification of this technique was merely to move the target farther from the neutron source. Maxima in the yield of the target were observed at certain distances from the source, revealing resonance levels in bismuth at 1 and 10 volts, and in lead at 11 volts.

Physical Properties. Low-temperature research is no longer concerned solely with superconductivity. (1) With *non-magnetic insulators* problems involve specific heat, thermal conductivity, etc., and agree well with theories of Debye, Born, and Peierls. With the exception of the anomalous behavior of He-II, this branch of low temperature work is concise, and technical measurements alone remain to be done. (2) With *magnetic insulators*, attention is being directed toward the Debye-Giauque effect, that is, cooling certain paramagnetic substances by demagnetizing them adiabatically. A possible lower limit to temperatures obtained in this way is 0.001°K or less. (3) *Metals* show superconductivity, but no satisfactory theory has accounted for it. F. London's recent theory shows promise. Giauque and co-workers have perfected a resistance thermometer of amorphous carbon for use below 1° Kelvin.

Huffman and Fox have determined the heats of combustion of some compounds important in carbohydrate metabolism, namely, fumaric acid, malic acid, succinic acid, a-d glucose, b-d glucose, and a-d glucose hydrate. Some thermal properties of sulphur dioxide have been accurately measured by Giauque and Stevenson.

Taylor and Coryell have made delicate measurements of the paramagnetic susceptibilities of iron in haemoglobin, making it possible to determine haemoglobin concentrations with high precision.

Thixotropy, the property of tremendously increased viscosity produced by shaking, seems to be universal. Correns and Winkler showed that a multitude of substances are thixotropic if microscopic or sub-microscopic particles of them are dissolved in the proper solvent.

Electron diffraction measurements in gaseous fluorine by L. Brockway showed the internuclear distance to be 1.45 Angstroms, which is 14 per cent greater than the value to be expected for a normal covalent single bond.

Structure of Inorganic Compounds. Infra-red spectrum of nickel carbonyl indicated that the molecule has a tetragonal structure as proposed by Pauling in 1931, although the square configuration indicated in 1934 by Raman spectrum is not completely excluded.

Divalent europium behaves like an alkaline earth metal, intermediate in properties between strontium and barium, according to experiments on the preparation and crystal structure of the sulphide and fluoride by Beck and Nowacki.

By solubility measurements Garrett and Hirschler confirm that red and yellow mercuric oxide are

allotropic forms. Particle size is $1\text{--}10\mu$ for the yellow, and $10\text{--}30\mu$ for the red variety.

R. Jacobs re-investigated the modifications of black phosphorus at high pressures in Bridgman's laboratory.

Evidence has been advanced for a structure of $\text{H}^+(\text{H}_2\text{B} = \text{BH}_2)\text{H}^+$ for boron hydride. Wiberg prepared a supposed diammoniate $\text{B}_2\text{H}_4 \cdot 2\text{NH}_3$, which Schlesinger and Burg regard as a mono-ammonium salt with the skeleton B-N-B. They formed a new salt with this same skeleton, formula $\text{B}_2\text{H}_7\text{N}$.

Pearce and Dawson observed that adding solutions of various chlorides to cobalt chloride widened the blue band usually ascribed to CoCl_4^{--} , or to different degrees of hydration of the cobalt ion. They found the extent of widening was dependent directly on the ionic charge and inversely on the ionic volume of the added cation. From this they concluded that the chloride ions exert an electrostatic attraction which distorts the electronic system of the cobalt to give the blue coloration.

Structure of Organic Compounds. Beach and Stevenson, by electron diffraction studies, demonstrated that the C-C-C angle in tertiary butyl halides is never distorted more than four degrees from the tetrahedral angle. Interatomic distances were calculated for C-C, C-Cl, and C-Br. From X-ray diffraction patterns H. Morss showed that the carbon atoms of a molecular chain in stretched rubber are not coplanar. Last year, E. S. Wallis discovered isocholesterol, an isomer of cholesterol. This year Wallis and Ford showed that the abnormal ethers of cholesterol, heretofore referred to as cis-cholesterol ethers, are really ethers of iso-cholesterol. Also they have substantiated their formula for iso-cholesterol. Staudinger, from a study of the effect of chemical reactions on the degree of polymerisation of starch, advanced fresh evidence in support of the *macro-molecular* constitution of starch, as opposed to the concept of starch as a *molecular aggregate* of glucopyranose residues united by alphasugulosidic links.

Recent advances in the organic chemistry of the metals is given in *Nature, Supplement* for Oct. 15, 1938, p. 709. This is a report of papers presented at the Cambridge meeting of the British Association for the Advancement of Science.

Awards and Medals. The first Isaac Adler \$2000 award at Harvard University was presented to W. M. Stanley of the Rockefeller Institute for his isolation of a crystallizable factor, which developed a new approach to the study of viruses. The prize is to be awarded tri-annually for medical research. The American Association for the Advancement of Science at its January, 1938, meeting awarded Philip White of the Rockefeller Institute its \$1000 annual prize for his outstanding paper "Root-pressure, an Unappreciated Force in Sap Movement." The American Chemical Society \$1000 Award in Pure Chemistry was presented at the Milwaukee Meeting in September to Paul Doughty Bartlett of Harvard University, for his studies in organic re-arrangements. The Eli Lilly \$1000 Award in Biological Chemistry was presented on April 18 to Abraham White of Yale for his isolation of a crystalline protein of high lactogenic activity from the anterior pituitary gland. To J. Syverton, 31 years of age, went a \$1000 Eli Lilly prize and gold medal for his outstanding contributions on filterable viruses. Charles Kraus, president of the American Chemical Society for 1939, received a Franklin Institute Award for his researches in liquid ammonia, metal reactions,

and electrolytic solutions. The first Garvan Medal was presented to Emma Perry Carr for her studies of the structure of organic molecules by means of absorption in the far ultra-violet. R. R. Williams, chemical director of the Bell Telephone Laboratories, was given the Willard Gibbs Medal for 1938 in recognition of his work on the isolation and study of the beriberi vitamin B_1 , which led to its commercial manufacture, as "thiamin," by Merck and Company. C. E. Coates of Louisiana State University received the Herty Medal for 1938 for his research in sugar chemistry.

Enrico Fermi, 36-year-old nuclear physicist and mathematician, was awarded the Nobel Prize in Physics for 1938. No award was made in chemistry this year.

At the Milwaukee meeting of the American Chemical Society in September 5-9, Marston T. Bogert was presented with the Priestley Medal. The National Academy of Sciences awarded Willis R. Whitney of the General Electric Company the Public Welfare Medal. On May 13, G. N. Lewis of the University of California received the fifth Theodore William Richards Medal.

The Royal Society made the following awards in 1938: The Copley Medal to Niels Bohr in recognition of his distinguished work on quantum theory and atomic structure; the Rumford Medal to R. W. Wood for distinguished work and discoveries in physical optics; the Davey Medal to G. Barger for researches on alkaloids and other natural products; and the Hughes Medal to J. D. Cockroft and E. T. Walton for their discovery that nuclei could be disintegrated by artificially produced bombarding particles. Sir J. J. Thomson was recipient of the Kelvin Medal on May 3.

For 1939 the Nichols Medal will be awarded on March 10 to Joel H. Hildebrand for his study of thermodynamic and kinetic properties of liquid and solid solutions. On January 6, W. S. Landis will receive the 1939 Perkin Medal for his work on nitrogen fixation, electric smelting, and heavy chemicals.

Political Repercussion on Pure Research. The attitude of the German scientist toward non-Aryan reprisals is formulated by Professor Stark, President of the Physikalischen-Technischen Reichanstalt in Berlin in an invitation article published in *Nature* on Apr. 30, 1938, vol. 141, p. 770. The article is entitled "The Pragmatic and the Dogmatic Spirit in Physics." This year, following the Austrian *anschluss*, the following chemists were dismissed from the University of Vienna: Wolfgang Muller, Fritz Feigl, micro-analyst, Professor Fuerth, physiological chemist, M. Mark, physical chemist, Stephan Meyer, director of the Radium Institute of the Academy of Sciences, and Professor Pauli, colloid chemist. Emil Abel and Otto Redlich, physical chemists, were dismissed from the Technical High School of Vienna. In Czecho-Slovakia the academic research which has been associated with Prague and its ancient university will be impeded for a long time to come, simply because governmental support of research will have to cease. The radium institute developed by the Czecho-Slovak Ministry of Health has been lost. In China only six of the 30 universities have functioned. Nanking University has been destroyed, and the government laboratories there are closed. Scientific meetings have been canceled. The Chinese Chemical Society has suspended publication for a year.

Necrology. Among the many chemists who died

during 1938 were: J. Abel (q.v.) of Johns Hopkins Medical School; R. Bird of Virginia; William Bone of London; W. Cameron, English spectroscopist; Sir Arthur Downes, photo-bacteriologist; J. Katz, colloid chemist; E. Kohler of Harvard; V. Kohlschutter of Switzerland; J. March of Oxford; J. Mellor, English author; Nicola Parravona of Italy; R. Renshaw of New York University; H. Rumage, English spectroscopist; A. Sherman, expert on quantum mechanics; J. Sterba-Bohm of Prague; W. Taggart of Pennsylvania; A. Tutton, English crystallographer; Georges Urbain of Paris; D. Wallace of the University of Pennsylvania. See also NECROLOGY.

Bibliography. Baker and Howell, *Preparation of Reports*; Bersin, *Kurzes Lehrbuch der Enzymologie*; Bronsted, *Physical Chemistry*; Chamot and Mason, *Handbook of Chemical Microscopy*; Clark, *Fine Structure of Matter*; Crowther, *About Petroleum*; DuNouy, *Surface Equilibria of Biological and Organic Colloids*; Emeleus, *Modern Aspects of Inorganic Chemistry*; Freudenberg, *Stereochemie*; Friedman, *Sterols and Related Compounds (1937)*; Hedvoll, *Reaktionsfahigkeit in Fester Stoffe*; Hevesy and Paneth, *Manual of Radioactivity*; Kreuse and von Gross, *Chemie der Metall-organische Verbindungen*; Latimer, *Oxidation Potentials*; LeFevre, *Dipole Moments*; Lewis and von Elbe, *Combustion, Flames, etc.*; Lloyd and Shore, *Chemistry of the Proteins*; Massey, *Negative Ions*; McCulloch, *Gas Analysis*; Morell, *Poisons, Potions and Profits*; Needham and Green, *Perspectives in Biochemistry*; Niederl, *Micromethods of Quantitative Organic Elementary Analysis*; Northrup, *Chemistry of Proteolytic Enzymes and Bacteriophages*; Oparin, *Origin of Life*; Oesper, *Newer Methods of Volumetric Analysis*; Pauling, *Nature of the Chemical Bond*; Philippi, *Nature of Proteins*; Remy, *Lehrbuch der Anorganischen Chemie*; Rojansky, *Introduction to Quantum Mechanics*; Rollefson, *Photochemistry and the Mechanism of Chemical Reactions*; Ruzicka and Stepp, *Ergebnisse der Vitamin und Hormon Forschung*; Sabotka, *Chemistry of the Steroids*; Schmidt, *The Chemistry of the Aminoacids and Proteins*; Smits, *Theorie der Komplexitat und der Allotropie*; Soule, *Library Guide for Chemists*; Tolman, *Statistical Mechanics*, 2d ed.; Twyman, *Spectrochemical Abstracts for 1933-1938 and Spectrochemical Analysis in 1938*; William and Spies, *Vitamin B₁*; Wilson, *Microchemical Methods*.

CHEMISTRY, INDUSTRIAL. In many countries the advance of science no longer sets the pace for civilization. On the contrary, the year 1938 saw further governmental activity in attaining national self-sufficiency through chemical industry. But private enterprise this year was inhibited by war and political unrest.

Brazil is leading all other South American countries in rapid expansion. Its manganese ore deposits are inexhaustible, and it is the chief source of zirconium. Its iron ores are the most extensive in the world; there is also copper and silver. Chief drawback is expensive transportation. Growing industries are the manufacture of rubber goods; artificial silk, which increased from 900 tons in 1932 to 2800 tons in 1937; tung oil, encouraged by the Sino-Japanese war; timbo, for the insecticide rotenone, which has swelled from a \$4730 business in 1934 to \$200,000 in 1937; development of aluminum and phosphate fertilizer from phosphorus bauxite; and products from corn, one of Brazil's greatest crops. These native industries will be pro-

moted by a research council SAPIA, formed in 1938.

On February 25 an important treaty was signed with Bolivia for the study of Bolivian petroleum fields. There are no oil fields in Brazil, although coal, shale oil, boghead coal, and water-power are abundant. Only 72,000 tons of native coal were used in 1937; 1,700,000 tons were imported. To develop the national industry a law has now made it obligatory to mix 20 per cent national coal with imported coal. Petroleum has been declared a public utility, to cut down the annual million-ton import of petroleum; and the substitution of local shale oil, alcohol, and producer gas is being encouraged. The movement toward local petroleum refining, encouraged by high tariffs, is toward erection of complete refineries rather than simple distillation units.

Chilean nitrate production for 1936-37 was 206,000 tons; world consumption 2,675,000 tons; utilized for fertilizer 2,344,000 tons. Shipments to the U.S.A. increased 28 per cent, and equaled shipments to Europe.

China. For the first part of 1938 industrial conditions in south and west China were undisturbed. The August, 1937, hostilities in the Peiping area effected little destruction of industrial plants, most of which have now been taken over by Japanese interests. Serious destruction has been reported in Tsingtao around Shanghai, also, and in Wusih, often spoken of as the Pittsburgh of China. Shipment of manufactured goods and raw materials was seriously hampered by blockade and by use of the railroad to transport food. Shipments of tung oil by railway via Hong Kong, source of 90 per cent of the world's supply, has continued during hostilities. Japanese perilla oil trade is replacing chinawood oil exports from China, a trade greater than tea and silk. China's tungsten monopoly is being displaced by U.S.A. molybdenum. A wild tungsten boom resulted in the publication of the British White Paper on rearmament in February, 1937. Outbreak of the Sino-Japanese war skyrocketed tungsten prices to only a little below silver.

The Japanese government had hoped that the occupation of China would give them much coal and salt. However, captured collieries were flooded and damaged so as to be unworkable. Production in the famous North China salt fields has dropped to 40 per cent from 1937, increasing Japan's dependence on African territories, a matter of grave concern to synthetic fiber and alkali producers. A great number of "national policy" corporations have been sponsored by the Japanese Army command in China. Japanese pharmaceutical firms have formed jointly a New China Pharmaceutical Company in North and Central China, another blow to German and British interests in China.

Czecho-Slovakia, in the beginning of 1938, saw iron, steel, and coal output surpassing the 1929 mark for the first time; the consumption of fertilizer up; and the ceramic industry one-third higher than in 1937. By the end of the year, however, the Ore Mountains, mineral wealth of Northwest Bohemia, were no longer available to the metallurgical establishments of Pilsen and Prague, and the pitchblende mines of St. Joachimsthal and several plants and research stations of the Aussig Chemical Concern were lost.

Great Britain. Activity in chemical industry was distinctly less in 1938 than in 1937, due to political and economic uncertainty.

New products were: Sodium alginate to replace imported vegetable gums; sodium lactate, a hydro-

scopic liquid as a substitute for glycerol in aging textiles; native fuller's earth replacing imported clays for water softening; methyl cyclohexanol, a substitute for olive oil in textile industries; nicotinic acid; distyrene, the only polystyrene manufactured in Great Britain; sulfanilamide; supersan, a germicide six times more effective than carbolic acid; silverware protected from tarnishing by coating electrolytically or thermally with beryllium oxide or aluminium oxide.

New industrial plants were erected by Courtaulds, for casein wool, the raw material coming from Argentina and New Zealand; by Magnesium Elektron, for the manufacture of magnesium from domestic dolomites instead of from imported magnesite from Austria and Greece; by Combined Optical Industries, for transparent plastics; by the British Oxygen Company in South Wales, a plant manufacturing 20,000 tons of calcium carbide in 1938, equal to one-third of last year's imports; and by Modern Fuels, for the production of benzene and other coal-tar products at Seaham Harbour.

New research laboratories of the Imperial Chemical Industries were in operation by 1938 at Blackley on dyestuffs, at Witton on metals, at Hyde on leather and cloth, and at Slough near London on paint and lacquer.

The eight-pence per gallon tax preference for domestic motor fuels has been extended for 12 years in an effort to stimulate research. A million tons of coal will be treated annually by the Coalite process at the new plant at Wern Tarw, Brigend, South Wales. The main product is smokeless fuel, while gasoline is only secondary.

In **Germany** synthesis of fatty acids by the oxidation of hydrocarbons is of paramount interest. A million tons of fats and oils are imported annually, a quarter of which are utilized in the soap industry. The experimental plant at Witten erected in 1936 produced 20,000 tons of fatty acids from gasoline by-product paraffins in 1937. A second, similar plant is under construction. The synthesis is accomplished in two steps. (1) Paraffins are oxidized over catalysts with a fine distribution of air at 100°C. and a timely interruption of reaction. (2) The unoxidized paraffins are separated from the neutral oxidation products; crude soaps are thus obtained and treated with acid and the resulting crude fatty acids purified by distillation.

Blast furnace construction of the Herman Goering Werke reported last year is to be started shortly. A city of 150,000 inhabitants is rising. Messerschmidt of Gorlitz announced a new method for obtaining alumina and a potash-phosphate fertilizer from potash clays. Steel coated with aluminum is replacing seven tons of copper in each of 350 new German locomotives. Inasmuch as steel is five times less efficient than copper in conducting heat, this is a good example of the extremes to which a country will go in a program of self-sufficiency. Manganese, heretofore discarded as road-ballast slag, is to be recovered by the Iron Research Institute in quantities which may obviate importation.

Textile news includes Vistra HT, a wool-like fiber with a corkscrew surface; Aceta fiber, which because of an air center has a specific weight of only one; and a fish-wool made from 50 per cent fish albumin and 50 per cent cellulose, coagulated so that the thread has a core of cellulose and a sheath of albumin.

K. Dietrich has found that certain strains of yeast will produce crude protein from nitrogenous mineral salts plus carbon compounds such as

ethyl alcohol, glycerin, and lactic acid. Does this envisage meat from air, coal, and water? Beck obtained a 99 per cent yield of nitric acid from liquid nitrogen peroxide, oxygen, and water at 50 atmospheres pressure.

By the end of 1938, Germany was removing 44,000 tons of sulphur annually from coke-oven gas. An increased sale of purified gas will probably bring production of sulphur above 100,000 tons next year. Huge quantities of calcium carbide are being produced by 20,000 kilowatt electric furnaces. There will be a 50 per cent increase in the recovery of phenol from coke-oven waste water; value, 2,230,000 RM. Buna L is replacing natural caoutchouc on an extensive scale. Domestic cultivation of soybean is being encouraged in southern Germany. Cellulose from brown coal wastes was proposed by Professor Beyschlag, and since a million tons of cellulose could be produced annually by this process, it is being examined carefully.

A report of the success in gassification of coal by oxygen under pressure in a plant erected at Zittau in 1936 is given in the *Journal of Industrial and Engineering Chemistry, News Edition*, for Oct. 10, 1938, p. 535.

India, a land not blessed with mineral wealth, nevertheless has a bright future ahead. A National Planning Commission is to be formed to protect native industries. These include the soap industry, which produced 70,000 tons from 1000 factories, and anticipates further expansion when the caustic soda factories are completed in Bengal and Madras; production of paper from bamboo, although the country is a poor paper consumer and the process gives only a 50 per cent yield versus 90 per cent from mechanical grinding of wood; textile starch from maize; acetic acid and activated carbon from bagasse and molasses; alumina and sulphur trioxide from heating native gypsum-bauxite ores, sponsored by joint action of British and Canadian companies; glass at Mysore, possibly utilizing native orthoclase feldspars in place of soda ash; and governmental regulation of imported drugs and medicines to protect Chemical, Industrial, and Pharmaceutical Laboratories, Ltd., established in 1937. At present there is relative over-production of coal, jute, sugar, and cement. Biggest 1938 project is the Alkali and Chemical Corporation plant for soda ash at Kheura, Punjab, and caustic soda and chlorine near Calcutta.

Italian chemical industry has solved serious and difficult problems. Production rose in 1938 from 99.6 to 137.8.

The Italian sulphur sales in the fiscal year 1936-37 were 10,000 tons above 1935-36, surpassing all sales for the past twenty years. Only 26.5 per cent was retained for national consumption. Electric ovens have been substituted to replace a yearly consumption of 3,000,000 tons of coal. On June 23, 1938, operations began on Tuscan lignites for the production of fertilizers. The new industrial zone at Bolzano will produce 15,000 liters of absolute alcohol daily, 2000 tons of magnesium, and 2300 tons of magnesium alloy per year.

Synthetic fiber production for 1937 was 120,000,000 kilograms, compared with world production of 740,000,000 kilograms. This places Italy first among European producers. Ninety per cent of the country's fiber is manufactured by a federation of Italian companies. Native raw materials are constantly being sought, including hemp (1,200,000 quintals), flax (50,000 quintals), and cotton (43,300 quintals). Other fibers are ramie, now imported from China; gelsofil from mulberry bark;

and animal protein mixed with cellulose. Domestic wool and natural silk production are insignificant. Lanital from casein consumed over 3000 tons of casein this year. The lanital wool substitute has the composition: C, 53 per cent, H, 7 per cent, O, 23 per cent, N, 15.5 per cent, and S, 0.7 per cent. This compares closely with the analysis of natural wool: C, 48.25 per cent, H, 7.57 per cent, O, 23.66 per cent, N, 15.86 per cent, and S, 3.66 per cent. The process has been licensed in many European countries and in Canada.

The program of economic independence foresees a national production of 4,000,000 tons of Arsa coal and pitchy lignites for 1940, and of more than 3,000,000 tons of other lignites and peat, satisfying 40 per cent of Italy's needs. Another important program under way is the utilization of the coal in the Sardinian basin, where installations with a capacity of 10,000 tons per day are being made. The establishment of the petroleum industry at Trieste has made a noteworthy contribution to the commercial balance of the nation. ANIC plants are to go into production soon to meet half the 2,500,000-ton annual requirements of liquid fuel. The large Aquila mineral oil refinery during the first year of its operation, 1937, produced 350,000 tons of products. A review of the Italian coal and fuel industry for 1936-37 appears in the *Journal of Industrial and Engineering Chemistry*, vol. 16, p. 112, 1938.

The expansion boom in **Japanese** industries passed its peak in May, 1938; and a period of comparative stagnation must be expected. Investors fear increased governmental regimentation under the National Mobilization Law. Japanese chemical plants not producing goods of military importance are feeling the pinch of wartime conditions. There is drastic rationing of raw materials, curtailing production of superphosphates from imported phosphates, calcium cyanide, rubber and tanning goods, cement and building materials, and chemical plant equipment using imported metals. Japanese dyestuff exports have been halved, both because China was formerly the chief consumer, and the diverting of dyestuff plants to munitions. The textile industry has suffered. In the first three months of 1938 rayon production was cut 10 per cent; and scarcity of staple fiber pulp lead to a government curtailment of 35 per cent in carbon disulphide production this fall. Erection of new plants was prohibited. Formalin shortage threatened the plastics industry.

Increased production was recorded in the munitions industries. Caustic soda and chlorine production still increased, salt coming from British and Italian East Africa. Sulphuric acid for fiber and fertilizer industries in 1937 was 4,200,000 tons of 50° Baume, double that of the years 1930-34. Nitric acid capacity for 1938 is expected to be 150,000 tons, double previous years. The Oriental High Pressure Company doubled its ammonium sulphate production. With a capacity of 800,000 metric tons, it is the largest producer in the East. Magnesium output doubled to 11,000 tons, annually. Formosan sugar companies expect to produce 14,000,000 gallons of absolute alcohol from molasses in 1938-39, encouraged by the Alcohol Monopoly law. A plant is to produce 30,000 metric tons of newsprint from sugar bagasse.

A number of processes and products, new for Japanese industry, are rumored. Among them are tetralin for reclaiming waste rubber; synthetic fiber from soybean oil by a method developed by Ryogei Inouye, inspired by the German fish-oil-cellulose fibers; activated carbon; photographic

gelatin; Bristics, a tubular viscose filled with stiffening material, a substitute for Chinese pig bristles; a neoprene-like substitute for rubber, one of Japan's greatest expenditures; butanol and acetone from potato fermentation; hydrogenated fish oils converted into glycerates as a quick-drying oil; glass spinnerets replacing platinum in the rayon industry; artificial wool by the Italian casein process; and rotary kilns for pig-iron production, used successfully in Barcelona. The government has supported a project of 20,000,000 yen to produce salt, caustic soda, potassium bromide, gold, and chlorides from the electrolysis of sea water.

Manchurian industries are furnishing coal-tar products, caustic soda. At Hachinohe phosphate rock from Manchuria is to be converted into aluminum sulphate, and reduced by ammonia at 1200°C. to aluminum oxide. This is subsequently treated by the usual electrolytic method. Annual production will be 5100 tons of aluminum, 25,800 tons of ammonium sulphate, and 20,000 tons of fertilizer containing 20 per cent phosphoric acid and 16 per cent of ammonium sulphate.

For a table of business promotion in Japan for 1931-37 see News Edition, *Journal of Industrial and Engineering Chemistry*, vol. 16, p. 303, 1938.

Palestine exports in 1938 doubled over any previous year, reflecting the unbroken growth of the country's business. There are 157 chemical plants and 168 active chemists in Palestine. Palestine Potash Ltd. realized full capacity operations of its southern works early in 1937, but is not attempting to produce magnesium from Dead Sea salts. A petroleum refinery to handle 2,000,000 tons of crude oil will be erected between Haifa and Akko; and plans are completed for a three-year construction program. Crude oil exports in 1937 were 2,057,226 tons via Tripoli, and 1,900,651 tons via Haifa. Formerly the crude oil went mainly to France; now Great Britain takes the larger part of it. A review of the possibilities of industrial development in Haifa have been described by Menchiakovsky in the journal *Palestine and the Near East*.

Sweden reported an experimental factory to produce salt from frozen sea-water. Wall slabs are being made by treating molten blast-furnace slag with steam and lime at 160°C. for 10 hours. Large deposits of ore containing 60 per cent iron and 10 per cent titanium were reported in **Finland**. An international symposium on the chemistry of cements was held in Stockholm on July 6-8.

In the **United States** one quarter of all industry is chemical. Production records were established by paint exports, \$21,500,000 in 1937, highest in seven years; tung crop, 10,000 tons, giving 2000 tons of oil equal to 5 per cent of the U.S. paint requirement, and cutting into the \$20,000,000 tung oil business transacted with China in 1937; bromine in 1937 up 30 per cent over 1936; 40 per cent of the world's borax and boric acid, and substantial amounts of soda ash and salt cake from the strong brines in Searles Lake; 40 per cent of American potash needs in 1937 from Trona; and 15,000 tons of manganese from the Philippine Islands shipped to Japan in 1938, compared with initial production of 225 tons in 1936. Synthetic acetic acid first produced in 1928 now furnishes 70 per cent of the acid used for cellulose acetate. U.S. Steel completed a decade of research under John Johnson, spending \$8,400,000 to achieve closer control of large-scale processes. On December 15 it opened its \$45,000,000 Irvin Works near Pittsburgh, the most ambitious industrial construction job since the depression.

The Federal Food, Drug, and Cosmetic Act, to

further protect the consumer, became a law on June 25, 1938.

The Geological Survey discovered the first platinum ore of any size in the United States, in copper ores 21 miles northwest of Durango, Colorado. A gold rush at Cimarron, 29 miles north of Tonopah, Nevada, followed the discovery of ore worth \$2000 a ton.

Activities of the Mellon Institute for 1937-38 resulted in barium oxide from barium sulphate, Hommelaya non-chipping vitreous enamel, EBP slow-burning fuse powders, non-smoldering safety fuses, Garspar silica for ceramics, and Fluxtite silicate block with good corrosion resistance.

At the fourth Chemurgic Conference, held this year at Omaha on April 25-27, the Forest Products Laboratory at Madison, Wisconsin, reported walnut-shell flour furnishing outlet for more than 10,000 tons of waste material, and conversion of lignin into wood alcohol, lacquer solvent, and plastics by hydrogenation. Lignin, waste product of the paper and rayon industries, comprises about 25 per cent of the stems of trees.

Agriculture. Soilless farming on barren Wake Island has, this year, provided half a dozen crops for trans-Pacific Clipper passengers. The U.S. Department of Agriculture announced a rapid dehydrating process for vegetables. By treatment with a gas of fat-dissolving vapor such as sulphur dioxide or chloroform, cells are destroyed and the evaporation of water facilitated. The Department also discovered that treatment of dormant lettuce seed with thiourea induced germination.

Fuels. European countries continued to produce synthetic motor fuel. In Germany 54 per cent of the fuel consumed in 1938 was synthetic. The corresponding figure for all of Europe was 25 per cent. Some substitutes for natural gasolines were: (1) The direct hydrogenation of coal at 300 atmospheres and 500°C. over catalysts in England produces 1,300,000 barrels a year. With a reasonable allowance for amortization and interest, a plant can manufacture 150,000 tons of gasoline a year, octane rating, for 18 cents per gallon. (2) The hydrogenation of carbon monoxide is a process discovered by Fischer and Tropsch some fifteen years ago. The original process passed water gas, freed from sulphur, over an alkali-iron catalyst at 450°C. and 150 atmospheres. The product, known as Synthol, could be cracked to form hydrocarbons called Synthene. Recently it has been found that the oxygen content of the product can be eliminated by operating with hydrogenation catalysts at low temperature and pressure. This is meeting with especial favor in Germany, which will shortly have an annual capacity of 17,000,000 barrels from this and the preceding method. France is producing 110,000 barrels a year. The Fischer-Tropsch process, although 3 cents per gallon more, has several advantages over the direct hydrogenation of coal. The catalytic process is carried out at atmospheric pressure and the relatively low temperature of 200°C. The units are small, and may be scattered over the country-side for operation by relatively untrained technicians, a war-time advantage, whereas the direct hydrogenation is an elaborate, high-pressure, rigidly controlled plant process. The German product, called Kogasin oil, is a mixture of motor fuel, kerosene, Diesel oil, and paraffin wax. Germany will be capable of producing 530,000 tons yearly, by this method, and France 13,000 tons, when plants now under construction have been completed. The significance of the Fischer-Tropsch process to the United States of America is that some day it may

convert the methane now lost into the air from our natural wells into gasoline. Meanwhile, natural crudes distilled, cracked, and polymerized to yield high octane rating will undoubtedly supply North America for many years to come, at a cost much lower than the synthetic product. (3) Benzene from coal, octane rating 90, has been encouraged because of its potentialities in time of war for the manufacture of explosives. (4) For the same reason governments have subsidized or made mandatory the admixture of alcohol from beet sugar to gasoline. During 1938, however, due to shortage of foodstuffs, most laws compelling the use of alcohol in motor fuel were rescinded so that a sharp decline in power alcohol consumption occurred. (5) Compressed methane has been substituted in 1938 for over 150,000 tons of gasoline in Germany, and 100,000 tons elsewhere, chiefly in Italy. There are 25,000 cars using these compressed gases in Germany today, and filling stations are scattered everywhere. The cost of providing the necessary mixing valves from gas cylinder to gasoline intake of an ordinary gasoline engine is about \$200. (6) The *reductum ad absurdum* in gasoline substitute is the wood-burner. Chiefly in France, 200,000 tons of wood replaced 33,000 tons of imported gasoline. France's yearly wood crop would satisfy only 10 per cent of its gasoline needs. Nine thousand vehicles on the Continent have attachments for converting wood into producer gas, which is then burned in the ordinary gasoline engine. (7) Oil shales occur in Great Britain, Estonia, Finland, France, Latvia, Sweden, Spain, and Czechoslovakia. However, the total production in 1937 from shale was only 26,000 metric tons in England and 12,800 in all other countries. (8) Ammonia, hydrogen, and acetylene have also been tried, but with little success.

Insecticides. Rotenone has been discovered in roots of devil's shoestring, a pea plant growing along the Atlantic seaboard of the United States.

Isobutyl undecylenamide, a fly-spray substitute for pyrethrum, is being produced by DuPont from alcohol and vegetable oil. One-half of one per cent in refined base oil plus about one-fifth the pyrethrum normally used, furnishes a fly-spray of toxicity equal to preparations containing only pyrethrum. Kenya, in East Africa, is now growing pyrethrum and threatening the Japanese monopoly which controls 95 per cent of the material.

Methyl bromide is more toxic than hydrogen cyanide for larvae, moths, and granary pests. Benzol checks blue mold in Virginia tobacco.

Metallurgy. Ebner has extracted magnesium from sea-water. Starting with magnesium chloride, chlorine is removed by hydrogen at the relatively low temperature of 1200°C. Italian bauxite, hitherto useless because of high iron content, has been rendered usable for wartimes by Fink and de Marchi of Columbia University. The ore is heated with sulphur. Chlorination of the sulphide at 920°C. removes 94 per cent iron, 66 per cent sulphur, but only 7 per cent aluminum. This method probably will not compete with peacetime treatment of ordinary red bauxite, however. A. Newall, in London, produced lead and sulphur by the electrolysis of galena in molten lead chloride. Power and Davies of London added soap and carbon disulphide to silver plating baths, which deposited sub-microscopically fine-grained silver which requires no further polishing.

Indium electroplated on surface bearings in motor cars is more satisfactory than Babbitt metal. Liddiard of the British Non-Ferrous Metals Research Association described interesting alloys formed by melting powders under pressure. For example,

tungsten with a small quantity of copper and nickel gave an alloy with a density of 16.5 for protection in radiotherapy. Copper with tin or graphite gave a self-lubricating alloy.

Petroleum Products. Oil became a raw material for cyclic hydrocarbons and glycerol in 1938, an event of considerable importance.

Gustav Egloff at the Richmond meeting of the A.A.A.S. in December, reported the cyclization of chain compounds by catalytic processes similar to that already patented by Moldavski and Kamusher. H. S. Taylor at Princeton has also been producing toluene from heptane. The Universal Oil Products Co. has commenced plant production of toluene from heptene.

Glycerol is used in the industrial world by the tobacco, paint, plastics, rayon, and cellophane industries, the latter two industries alone consuming more than 10,000 tons of glycerol each year. It has been produced chiefly by fermentation of blackstrap molasses. But recently a method involving the chlorination of propylene from cracked petroleum has foreshadowed an important industry of the future. Allyl chloride is formed and may then be transformed into glycerol via (a) 1, 2, 3-trichloropropane, or (b) dichlorohydrin, or (c) allyl alcohol and glycerol monochlorohydrin. One oil-refining company has already installed equipment and indicates that production cost will be under six cents per pound.

Photochemical. Luminescence under ultra-violet light has found many industrial applications. For example, the shells of fresh eggs fluoresce red; of old eggs, blue. Invisible spots of insoluble calcium soap on laundered goods emit a blue fluorescence under ultra-violet light. Also, laundry can be stamped with invisible ink, and the number identified by its fluorescence under ultra-violet light. Uses of X-rays to "candle" fruits for juice content has become standard practice.

Lamps using ultra-violet light and fluorescent chemical-coated walls to produce pastel shades of light are now on the market. The General Electric Company is producing 13 miles of these "Lumiline" lights for the New York World's Fair. A lamp consuming 15 watts appears brighter than a 40-watt filament bulb, and has a much longer life. Westinghouse manufactures a tiny 1000-watt mercury arc light one-fifth as bright as the sun for photographic work, searchlights, and therapy. A thermal microscope permitting photographing crystal changes at temperatures as high as 3632°F. was described by F. J. Tone.

Plastics. In a posthumous patent to the DuPont Company, Ellsworth describes a moisture-proof, water-insensitive, transparent wrapping film consisting of partially etherified cellulose. It may revolutionize the wax coatings of dairy products. E. Hauser prepared strong transparent wrappings similar to cellophane from bentonite clay jellies. In Germany, Bekk and Strunk have introduced a thermoplastic printers' type of greater durability than metal type. Moulding powders from tannin waste shows considerable promise, according to Sir Gilbert Morgan. Transparent splints, and dental instruments of methyl methacrylate, which bends light around into the patient's mouth, were exhibited.

Rubber. Most important event in this field in 1938 was the transfer of the Thiokol plant from Trenton, N. J., to the Dow Chemical Company at Midland, Michigan. The latter had previously supplied the Thiokol Corporation with most of the raw materials. Ten thousand tons of Dow Thiokol will

reach the market each year, while the Thiokol Corporation will continue to maintain its research and sales development activities in Trenton. The three basic steps in the manufacture of thiokol are (1) the manufacture of polysulphide, (2) reaction of this with ethylene dichloride to form synthetic rubber latex, and (3) coagulation of the latex to form rubber crumbs.

"Cordura," a DuPont heat-resistant cord for tire fabrics, has gone far to increase truck-tire mileage.

Textiles. Based on a posthumous patent of Wallace Carothers, DuPont Company is prepared to produce by 1940 a remarkable new fiber, at an \$8,000,000 plant now under construction at Seaford, Delaware. Castor oil is converted into soap and then to sebacic acid. This acid is then reacted with cadaverine, a product of the decay of lysine in blood protein of the human corpse. The industrial source of cadaverine is coal-tar. Completely synthetic, the new fiber is a polyamide with protein-like structure, as in natural silk. It can be drawn to one-seventh the diameter of silk; its tensile strength is at least as good as silk; it is elastic, and it is insensitive to moisture. High twist Nylon will be ideal for knitted wear, including stockings. Coarser fibers will be used for toothbrushes, which indeed have already appeared as "Exton"; for mohair substitutes; for dental floss, etc. Thus the United States takes a step forward in its freedom from foreign silk.

The Department of Agriculture is making a fiber which differs from Italian lanital in that it can utilize more grades of raw casein, and has a lower sulphur content than real wool. The process may consume a billion pounds of casein annually. Cost of the fiber is fifty cents per pound, approximately the same as rayon.

Awards and Medals. The Bessemer Gold Medal for 1938 of the Iron and Steel Institute was awarded to C. H. Desch.

The Chemistry Industry Medal was presented to J. V. Dorr on November 4, in recognition of his inventions which have made possible low-cost production on a large scale. The 1939 John Fritz Gold Medal, highest engineering honor, was awarded to Frank Jewett of the Bell Telephone Laboratories in recognition of his vision and leadership in industrial research and development in communication. He also received, on May 5, the Washington Award for 1938.

The Institute of Metals Medal for outstanding services to non-ferrous metallurgy was awarded to William Bragg.

The Longstreth Medal of the Franklin Institute was presented to C. W. Balke for his work on the production and commercial utilization of columbium and tantalum. The Messel Medal was presented to L. H. Baekeland at Ottawa, Canada, on June 20. H. C. Christensen was given the Remington Honor Medal on November 30 for his contributions to pharmacy. The Schoelkopf Medal was awarded in May to Sterling Temple, chemical director of the Rensselaer and Hasslacher Chemical Department, for his direction of work in chlorine chemistry.

Awards at the Verein Deutsche Chemiker at its fifty-first convention in Bayreuth on June 7-11 went to K. Adler who received the Emil Fischer Commemorative Medal for diene synthesis; to E. Zintl, the Liebig Commemorative Medal for work on intermetallic compounds; and to Elizabeth Dane, the Duisberg Prize for stearin research.

Necrology. Among the many industrial chemists who died during the year were: H. Ahlquist, consulting engineer; W. Barclay, English metal-

lurgist; H. Brown, alkali expert; C. Carpenter, English gas engineer; J. Compton, carbide and carbon engineer; E. Dehnel, of the Luennwerke, Germany; C. Édouard Guillaume (q.v.), Nobel prizeman of invar fame; R. Hawn, Monsanto phosphorus manager; C. Herty (q.v.), inventor of Georgia pine newspaper; A. Hirsch, expert in pyrophoric alloys; L. Lilienfeld, Italian brain surgeon and cellulose chemist; H. Hooker, chemical manufacturer; A. Hutchinson, president 1937-38 of the Iron and Steel Institute; G. Mackay, of the American Cyanamid Company; Sir Robert Mond, of the International Nickel Board; Charles Munroe (q.v.), last surviving charter member of the American Chemical Society, inventor of smokeless powder; G. Raynor, of the Carborundum Company; C. Reese, of the Vanadium Corporation of America; C. Schluederberg of Sperry Corporation; Professor Schwalbe, German cellulose chemist of "copper number" fame; J. B. Senders, French co-worker of Sabatier (Sept. 26, 1937); R. Thiessen, of the Bureau of Mines; W. Tichnor, of Commercial Solvents; T. Tullock, exploiter of the Dead Sea mineral wealth; R. Vondracek, Czecho-Slovakian fuel expert; E. Wilson, of the Rumford Chemical Works; Fritz Wust, of Germany; and F. Zeisberg, president of the Institute of Chemical Engineers, authority on nitrogen and high-pressure gas technique. See also NECROLOGY.

Bibliography. Davies, *The Principles of Cane Sugar Manufacture*; Dunstan, *The Science of Petroleum*; Edwards, *Aluminum Paint and Powder*; Ellis and Swaney, *Soilless Growth of Plants*; Gardner, *Physical and Chemical Examination of Paints*; Gilman, *Treatise of Organic Chemistry*; Groggins, *Unit Processes in Organic Synthesis*, 2d ed.; Harrison, *Spectroscopy in Science and Industry*; Jordan, *Technology of Solvents*; Keys, *Thermodynamic Properties of Steam*; Krumbhaar, *Chemistry of Synthetic Surface Coatings* (1937); Industrial Health Research Board, *Toxicity of Industrial Organic Solvents*; Robinson and Gilliland, *Elements of Fractional Distillation*; Rolfe, *Steel for the User*; Smith, *Plant Viruses*; Tongue, *Practical Manual of Chemical Engineering*; Tyler, *Chemical Engineering Economics*.

CHESS. See SPORTS.

CHICAGO. See ILLINOIS; RAPID TRANSIT.

CHICAGO, THE UNIVERSITY OF. An institution of higher education and research in Chicago, Ill., founded in 1890. The university is privately endowed, co-educational, and non-sectarian, although not less than three-fifths of its 35 trustees must be members of Christian churches, and of this three-fifths, a majority must be members of Baptist churches. On Oct. 1, 1938, the members of the faculty, exclusive of assistants and of teachers in the laboratory schools, numbered 841. In all departments and in all grades of service the university employed approximately 4500 persons.

During the summer quarter, 1938, there were 4432 students enrolled, of whom 2144 were men and 2288 were women. In the autumn quarter, 1938, there were 7842 students enrolled in the university; 4572 were men and 3270 were women. Of this number 3944 men and 2302 women were enrolled in the Divisions and Professional Schools and 628 men and 968 women were enrolled in the University College (downtown division offering evening and Saturday courses). Of the total enrollment for the autumn quarter, 1938, 1837 men and 1024 women were classified as graduate students; 2039 men and 1198 women were classified as undergraduate students; 68 men and 80 women

were classified as students-at-large. The total enrollment for the academic year 1937-38 was 11,867. The Home Study, or correspondence department, had an average enrollment of 3797, which is exclusive of the totals given above. During the academic year the university granted 1850 degrees. Of that total 409 were Master's degrees and 160 were Doctorates of Philosophy.

The total funds held by the university as of June 30, 1938, amounted to \$125,691,629, an increase of \$4,053,280 over the same figure for the same date in 1937. These funds were divided as follows: Endowment, \$70,429,492; plant, \$44,291,619; other funds, \$10,970,518. The total income of the several divisions of the budget was \$8,215,016, an increase over income of the previous fiscal year of \$557,657. This total of budget income does not include income of auxiliary enterprise such as residence halls, commons, bookstore, and student social facilities. Including such activities, the total current income for 1937-38 was \$10,722,976. The total amount of gifts paid in was \$6,655,650.

The University of Chicago Press published 75 books during the academic year, 1937-38, in addition to 32 paper-bound books and pamphlets, the annual proceedings of 6 professional societies, 3 maps, and 16 scholarly journals. Six new educational sound films have also been issued this year, two in the biological sciences, three in chemistry, and one in physics. These films were produced by Erpi Classroom Films, Inc., under the scientific direction of University of Chicago faculty members.

The International Encyclopedia of Unified Science, Otto Neurath, editor, was inaugurated. Now being published are the first 20 monographs which will constitute Volumes I and II of the *Encyclopedia, Foundations of the Unity of Science*. Publication of Part V of *The Dictionary of American English* from "Chubby Eel" to "Corn Patch" completed Volume I.

Among the larger individual gifts of the year were one of \$50,000 from the International Education Board for continuation of excavation of Megiddo by the Oriental Institute; \$75,000 from Mrs. Marion R. Stern, for educational purposes; \$50,000 from the Carnegie Corporation for the Graduate Library School; \$35,000 from the Alfred P. Sloan Foundation for experimental work in broadcasting of economic information; and a conditional grant of \$1,500,000 from the Rockefeller Foundation to endow research in biological science. The university must supply \$500,000 in matching funds before June 30, 1941; in the interim the Foundation is providing \$180,000 annually for such research.

The new building for public administration groups (see *YEAR BOOK*, 1937) was completed and occupied. Grinding of the new 82-inch mirror for the MacDonald Observatory of the University of Texas, staffed by Chicago, was completed, and installation is scheduled for the spring of 1939. Prof. Arthur H. Compton announced tentative conclusions indicating that cosmic rays do not originate outside the earth's galaxy. Awards of \$1000 for excellence in teaching of undergraduates, endowed by an anonymous alumnus, were awarded for the first time to William T. Hutchinson, associate professor of American history; Joseph J. Schwab, instructor in biological sciences in the College, and Reginald J. Stephenson, instructor in physics.

Additions to the faculty numbered 76, including Dr. Eduard Beneš, former president of Czechoslovakia, as visiting professor under the Charles R. Walgreen Foundation; Morris R. Cohen as

professor of philosophy; Lord Bertrand Russell as visiting professor of philosophy, autumn, 1938, and winter, 1939; Ralph W. Tyler as head of the department of education; Dr. James Franck, co-winner of the Nobel prize in physics, 1926, as professor of physical chemistry; Lindsay Rogers as visiting professor under the Walgreen Foundation, spring, 1939.

The libraries added approximately 37,000 bound volumes, for a total of 1,232,745. The Harriet Monroe Library of Modern Poetry, of 2350 volumes selected by Miss Monroe while editor of *Poetry*, *A Magazine of Verse*, together with her correspondence, was formally dedicated. President, Robert M. Hutchins, LL.D.

CHILD LABOR. Trends in Child Labor.

Over a period of a number of years, the Children's Bureau, as a result of the receipt of comparable statistics from a number of states and cities, which were based upon the issuance of working permits to children, was able to indicate a series of significant trends in the employment of children. These figures showed the following: (1) That fluctuations in child labor corresponded to the general pattern of business activity as indicated by the index of employment in manufacturing. Thus, during the first six months of 1929 there was an increase in the number of work permits issued when the index of employment in manufacturing industries also rose. Beginning with the last six months of 1929, child labor declined steadily just as the index of factory employment declined. This decline continued during the period of the NRA. In this case, despite a general upturn in factory employment, the determining factor here was the barring of child labor under the codes. When code restrictions were removed in June, 1935, child labor immediately started to rise and fall with the index of factory employment. (2) During the period of the NRA, when there was a marked decrease in the employment of children under 16 years, there was an increase in the employment of 16- and 17-year-olds. (3) As soon as the NRA was declared unconstitutional, child labor once more moved upward. Thus, the number of work permits for 14- and 15-year-olds increased 150 per cent during the first five months of 1936 compared with the first five months of 1935. (4) There was a decided shift in the occupations children entered. While all permits did not give occupational data, on the basis of partial returns, nevertheless it was possible to indicate that less than 20 per cent of the 14- and 15-year-olds securing work permits in 1936 entered manufacturing, as compared with 50 per cent in 1929.

Mr. Homer Folks, Chairman of the National Child Labor Committee, was able, therefore, to summarize the situation in 1938 as follows: (1) There was a rapid and alarming increase in industrial child labor following the invalidation of the NRA. (2) There was a gradual occupational shift of working children from manufacturing occupations (which were susceptible to state regulations) to those in the personal-service field (which were less easily controlled under existing state legislation). (3) There was no indication that the number of children engaged in industrialized agriculture had decreased materially. There was a possible exception in the case of the sugar-beet fields, where employment standards for children of contract laborers were included in the requirements set for benefit payments as authorized under the Jones Sugar Act of 1937. (4) There was no indication that the employment of children in street

trades had diminished. (5) On the basis of figures and trends, Mr. Folks was prepared to estimate that the total number of children under 16 gainfully employed in 1938 was approximately 850,000. In addition, there were over a million boys and girls 16 and 17 years gainfully employed, that is to say, nearly one in every three of this age group. Mr. Folks pointed out that, particularly in the 16- and 17-year groups, the persons here should not necessarily be considered child laborers and therefore barred from employment. There were, however, many boys and girls under 18 engaged in occupations which were especially hazardous as well as many who worked under sweatshop conditions of hours and wages. He said, therefore:

When we consider these facts and their full implication, we recognize that, despite the notable progress already made, the long fight to end child labor still has an uphill road ahead. There can be no question but that child labor is still a grave problem in this country. It seems likely to require more, not less, protective legislation in the future.

Although significant advances in state legislation were made in recent years aiming at the prevention of the industrial employment of children under 16 years of age, there were still 38 states permitting children of 14 or 15 years to leave school for work. In this connection, the *Monthly Labor Review* declared:

Experience under the national minimum-age standards of the NRA codes showed that industry could easily replace these young people with older workers. More and more the general public is coming to the view that it is socially wasteful to allow children of 14 and 15 years to cut short their school training to take up jobs that in general are poorly paid and of little training value, and more and more forward-looking employers are coming to see the advantages of employing boys and girls of 16 and over rather than those of 14 and 15 years.

Progress continued to take place in the States themselves. During the legislative period September, 1937–September, 1938, notable advances took place in *North Carolina* and *South Carolina*, both of which adopted a minimum age of 16 for factory employment at any time and for all work during school hours. In *North Carolina* a minimum age of 14 years was set for work outside school hours in non-factory employment. A 40-hour week for children was established, improved night work prohibitions were adopted, and the employment of minors under 18 years of age in hazardous occupations was prohibited. The *South Carolina* law established a 16-year minimum age for factory or mining employment at any time and for any employment during school hours. The prohibition of night work for minors under 16, which had formerly applied only to work in factories, was applied to all other occupations except agriculture and domestic service. *Wisconsin* strengthened its child-labor law, adopting for minors of both sexes under 18 a maximum 40-hour week and for minors under 16, who were prohibited employment during school hours, a 24-hour week. In *Vermont* a minimum age of 14 was extended to cover work in any gainful occupation during school hours and a 9-hour day and 50-hour week was set up for minors aged 16 and 17. *Pennsylvania* and *South Carolina* raised the age limit for compulsory school attendance to 16 and 17 years respectively, while *Oklahoma* and *Wisconsin* made attendance of children of school age for the entire term compulsory throughout the year. Legislation affecting the control of industrial homework was passed in *Connecticut*, *Illinois*, *Massachusetts*, *Pennsylvania*, and *Texas*. The States of *Missouri*, *New York*, and *Vermont* passed legislation prohibiting the sale of child-made goods.

It should be further noted that *Wisconsin*, in amending its child-labor law, became the first State to adopt the maximum 40-hour week for minors of both sexes up to 18 in all gainful occupation except agriculture and domestic service. *South Carolina* further amended its statutes to prohibit the work of minors under 18 between the hours of 10 p.m. and 6 a.m. *New York* extended the application of the 8-hour day, 44-hour week, and 6-day week to minors under 16 in beauty parlors. Also, during the year minimum wage laws were passed by two States, *Kentucky* and *Louisiana*. The *Kentucky* law applied to women and minors of both sexes and the *Louisiana* law applied to women and girls. This made a total of 25 States having minimum wage legislation on their statute books.

Fair Labor Standards Act of 1938. The Fair Labor Standards Act of 1938, which went into effect on Oct. 24, 1938, had both a direct and indirect effect upon child labor. Directly, it gave the Children's Bureau control over the employment of children engaged in gainful activity, entering into interstate commerce, during the years 14 through 17, as will be indicated in greater detail below. Indirectly, by providing for the raising of standards of living for underpaid and overworked labor, through its minimum-wage and maximum-hour provisions, the law provided for a more adequate economic basis for the rearing of children.

Under the new law, the enforcement of the child-labor provisions was placed in the charge of the Children's Bureau. The law excluded all children under 16 years of age from employment in those occupations covered by the Act, that is, all work in establishments producing goods for interstate commerce. A proviso was laid down in the case of the employment of children 14 and 15 years of age at work other than in manufacturing or mining, which, at the discretion of the Chief of the Children's Bureau, could be excluded from the prohibition if such work did not interfere with the schooling, health, or well-being of the children. In addition, the law excluded children 16 and 17 years of age from occupations in such establishments as might be found by the Chief of the Children's Bureau to be hazardous or detrimental to health or well-being. Child actors in motion pictures or theatrical productions and children employed in agriculture during periods when they were not likely to be required to attend school, were exempted from these provisions.

Pursuant to this authority, the Chief of the Children's Bureau issued a series of regulations. Regulation No. 1, relating to certificates of age, provided that an employer might protect himself against unwittingly employing minors by obtaining a certificate of age for each minor 16 or 17 years of age so employed. If the employment was in an occupation declared to be particularly hazardous for minors 16 and under 18 years of age, certificates of employment for minors 18 or 19 years of age were to be obtained. Regulation No. 5 was particularly important in view of the fact that it had application to hazardous employment. The regulation called for the establishment of various preliminary steps to be taken before issuance of any order declaring an occupation to be hazardous and therefore affecting the labor of children 16 and 17 years of age. The Chief of the Children's Bureau indicated that orders barring children from hazardous occupations would be made only after careful study and investigation, and after a hearing was held and opportunity given for representatives of both workers and employers to be heard.

By the close of the year no occupations had been declared hazardous nor hearings scheduled.

On November 1, Administrator Elmer F. Andrews of the Wage and Hour Administration announced that newspapers came under the provisions of the Fair Labor Standards Act. Also, on November 12, as a result of hearings held under Dr. William M. Leiserson, the application of the telegraph companies for wage exemptions for messengers was denied. The report also stressed as distinctly hazardous the nature of messenger service and the fact that between 1931 and 1938 no progress had been made in reducing the number of accidents serious enough to involve loss of time. Said Dr. Leiserson in his report:

Considering the responsibilities of the messengers for their own self-support or for the support of dependents, their expenses for shoes and bicycles, their occupational hazards, the bench time, and the temporary nature of their employment, they are not fairly remunerated for the services they render to the companies when they receive less than 25 cents per hour; and the wages they do get are not sufficient to maintain the minimum standard necessary for health, efficiency, and general well-being.

The telegraph companies' policy of maintaining a high rate of labor turnover, of hiring annually practically three times their normal messenger force, does not increase opportunities for employment; and the record is not persuasive that their proposal to lay off messengers, if it should become a necessity, will curtail opportunities for employment.

It was important to stress the fact, as did the National Child Labor Committee, that the Fair Labor Standards Act did not entirely eliminate child labor. Indeed, estimates put the number of children whose employment would not be affected by the law at 500,000. Said the Committee's annual report for 1938:

These are children working in intrastate industries, chiefly mercantile and personal-service occupations such as stores, garages, repair shops, laundries, hotels, and restaurants, and also many thousands of those employed in agriculture, the report declared. Agricultural child laborers do not include children working at home on chores or other irregular work, but only children "gainfully occupied," according to the census usage of the term.

CHILD PSYCHOLOGY. See **PSYCHOLOGY**.

CHILDREN'S BUREAU. See **CHILD LABOR**.

CHILD WELFARE. The Social Security Act. The Social Security Act, which was passed in 1935, in its third year of operation, was meeting with signal successes, notably in its maternal and child-welfare services. Since the Social Security Act applied to Alaska, the District of Columbia, and Hawaii, as well as to the 48 States, the largest number of plans in operation under any one type of service was 51. In August, 1938, in the three services administered by the Children's Bureau, there were 51 maternal and child-health plans in operation, 50 plans for services for crippled children, and 50 plans for child-welfare services. As a result of the law, Federal grants-in-aid were made to states adopting approved plans for the establishment of maternal and child-welfare services. In the three categories for which the law made provision, Federal funds for the fiscal year 1938-39 were made available as follows: (1) For maternal and child-health services, \$5,227,000; (2) for services for crippled children, \$4,501,000; (3) for child-welfare services, \$2,521,000.

The Social Security Act further provided that the Federal government make matching grants-in-aid for the care of dependent children. For the month of September, 1938, which was typical, the Federal government paid out to states operating approved programs a total of \$8,000,000, which provided for the care of 626,400 dependent children in 253,900 families. This may be compared with the \$6,000,000 expended in the month of Sep-

tember, 1937, which went to provide for the care of 480,561 dependent children in 193,696 families. In September, 1938, average payments came to \$31.72 per family for the month. Average payments ranged from \$10.81 in Arkansas to \$57.49 in Massachusetts. Average payments larger than the average for the country as a whole were made in four New England States, New York, Pennsylvania, the District of Columbia, Maryland, Michigan, Ohio, Wisconsin, Florida, Minnesota, North Dakota, Arizona, California, Oregon, and Hawaii.

Government Programs in Aid of Youth.

The relief and work programs of the U.S. Government gave special consideration to young people. Unemployed young persons were engaged on work programs by the Civilian Conservation Corps and by the National Youth Administration. The NYA provided part-time employment for high school, college, and graduate students so that they could continue their education. Special facilities for the counseling and placement of young persons were also developed by the U.S. Employment Service in co-operation with the NYA. The Federal Committee on Apprenticeship Training promoted the establishment of apprenticeship standards.

The CCC was established by Congress in March, 1933, and has been extended by successive acts to June, 1940. This is a non-military organization, which has provided employment and vocational training on useful public works in connection with the conservation and development of natural resources. Enrollment was voluntary and was limited to unmarried men from 17 to 23 years of age inclusive, the enrollment being for a term of six months and could be renewed up to two years. Approximately 2,000,000 young men had been enrolled at the end of 1937. Enrollees were required to work 40 hours a week, their basic cash allowance being \$30 per month. At each camp an educational program was established under the direction of an educational advisor appointed by the U.S. Office of Education. As the enrollees were engaged entirely on public conservation projects, they did not compete with workers in private industry.

Under the NYA, part-time employment was provided to students in clerical, library, museum, and laboratory research activities. High school students could earn a maximum of \$6 a month; college undergraduates and graduate students from \$20-\$40 a month. Hours ranged from a maximum of 20 hours per week for high school students to 30 or 40 hours per week for college students. In the academic year 1936-37, \$28,000,000 was spent for student aid and approximately 440,000 students participated in the program.

The NYA also initiated part-time employment projects for out-of-school youth between 18 and 25 years of age who were members of needy families. The hours of work were limited to 8 a day, 40 a week, and 70 a month, and the hourly wage rates of these projects were based on those prevailing in the community.

Birth and Mortality Statistics. The latest figures made available by the Bureau of the Census indicated that in the United States in 1936, 2,144,790 infants were born alive in that year, making a birth rate of 16.7 per 1000. This was lower than that of any other year except 1933 when the birth rate was 16.5 per 1000. Had the 1915 rate of 25.1 per 1000 prevailed in 1936, there would have been more than 1,000,000 additional births during the year.

Provisional statistics for 1937 showed that 2,201,-

609 live births were registered in 1937, making a provisional birth rate of 17.0 per 1000 population. During 1936, the latest year for which final statistics were available, 73,735 stillbirths were registered in the United States, making a rate of 34 per 1000 live births, a rate somewhat lower than that of 1934 and 1935 (36 per 1000 live births). The number of infants who died in 1936 before completing the first year of life was 122,535, making an infant mortality rate of 57 per 1000 live births. The provisional statistics on infant mortality for 1937 showed that 110,760 infant deaths were registered in 1937 and that 2775 fewer infants died in 1937 than in 1936. The provisional rate for 1937, therefore, was 54 per 1000 live births, the lowest on record. In 1936, 12,182 women died from conditions directly due to pregnancy and child health, making a maternal mortality rate of 57 per 10,000 live births. Not only was this the lowest ever recorded in the United States, but it was the seventh consecutive year in which the maternal mortality rate slightly decreased. Nevertheless, the maternal mortality rate of the United States continued exceedingly high as compared with the rates of most foreign countries. Of the 24 countries for which information was available, only 4 had higher maternal mortality rates than the United States. These four were Chile, Lithuania, North Ireland, and Australia. The European countries with the lowest rates were Poland, Norway (28 per 10,000 live births 1935), Netherlands and Italy (30, 1936 provisional rate), Irish Free State (32 in 1937), and Sweden (33 in 1934). The number and percentage distribution of live births, stillbirths, and maternal deaths by age of mother are shown in the accompanying table.

DISTRIBUTION OF LIVE BIRTHS, STILLBIRTHS, AND MATERNAL DEATHS,
BY AGE OF MOTHER; UNITED STATES

Age of mother	Live births (1936)		Stillbirths (1935)		Maternal deaths (1936)	
	Number	Per cent	Number	Per cent	Number	Per cent
Total	2,144,790	100	77,119	100	12,182	100
Under 15 years	2,938	(*)	211	(*)	35	(*)
15 to 19 years	269,223	13	10,272	13	1,397	11
20 to 24 years	667,019	31	19,786	26	2,556	21
25 to 29 years	565,830	26	16,676	22	2,743	23
30 to 34 years	353,834	16	12,728	17	2,388	20
35 to 39 years	206,034	10	9,979	13	1,954	16
40 years and over	75,285	4	4,993	6	1,097	9
Not reported	4,627	(*)	2,474	3	12	(*)

* Less than 1 per cent.

The Status of Birth Control. According to Margaret Sanger, the pioneer in the birth-control movement in the United States, writing in the *New Republic* of Apr. 20, 1938, birth control was finally legal in the United States. The right to provide contraceptive information and services under medical direction was recognized under the Federal law as a result of a court decision of the year; and it was also legal under State laws in all but three States—Connecticut, Mississippi, and Massachusetts. The Federal decision arose out of a suit involving the importation of Japanese appliances by Dr. Hannah M. Stone, Medical Director of the Birth Control Clinical Research Bureau in New York. The government, through the Bureau of Customs, had seized the package containing such appliances to prevent conception which the government alleged had been imported contrary to the Tariff Act of 1930. On Nov. 30, 1936, the U.S. Circuit Court of Appeals for the Second Circuit rendered a decision that the Federal obscenity laws did not apply to the legitimate activities of physi-

cians and that physicians might prescribe contraceptives in the interests of the health and general well-being of their patients. The matter was closed when the Attorney-General of the United States announced that the government would rest its case and not carry it to the U.S. Supreme Court. Medical sanction followed legal recognition when in June, 1937, the American Medical Association approved birth control as a necessary part of medical practice and education, urging the necessity for informing physicians of their legal rights in relation to the use of contraceptives.

While from a national standpoint, birth control was finally free, Miss Sanger pointed out that there was need for clarification of State statutes in a few States where the literal wording of the law might still be invoked. There remained still three States in which the legal use of contraceptives was still ambiguous. In one, Connecticut, the use of contraceptives was forbidden. Mississippi made no exceptions in its statutes which banned even oral information. In Massachusetts also no exceptions were made, but the State law was being challenged through the establishment of birth-control clinics and the appeal to the higher courts where interference with clinics took place. Miss Sanger also pointed out that 10 States had limited laws, but physicians were exempt and drugstore sales of contraceptives were permitted. These were Colorado, Indiana, Ohio, Delaware, Iowa, Montana, Wisconsin, Wyoming, Oregon, and Idaho. In the three States of New York, Nevada, and Minnesota, physicians were permitted to prescribe contraceptives but druggists were not mentioned. The six States of Arizona, California, Louisiana, Maine, Michigan, and Washington had statutes aimed at

indiscriminate advertising and distribution of material. The State of New Jersey allowed the dissemination of information for a "just cause."

Juvenile Delinquency. In 1937 there was a reversal in the downward trend to juvenile delinquency coming before the courts that reported to the Children's Bureau. In the area served by 28 courts reporting to the Bureau each year since 1929, the number of delinquency cases in 1937 was 11 per cent greater than in 1936 (30,364 as compared with 27,849). In 1937, of the total delinquency cases disposed of, the boys made up 25,868 and the girls 4496. The table on p. 148 shows the age distribution of boys and girls in the cases dealt with at the 27 courts recording this information.

Legislation. During the year 1937, according to the compilation made by the Children's Bureau in August, 1938, 46 States, Alaska, Hawaii, and Puerto Rico passed laws affecting children and young people. The legislation indicated a decided trend toward greater protection for the adopted child and the child born out of wedlock, when laws

AGE OF BOYS AND GIRLS WHEN REFERRED TO COURT IN DELINQUENCY CASES DISPOSED OF BY 27 COURTS IN 1937

Age	Delinquency cases disposed of			Per cent distribution		
	Total	Boys	Girls	Total	Boys	Girls
Total cases	30,364	25,868	4,496	....	....	....
Age reported	30,303	25,812	4,491	100.0	100.0	100.0
Under 10 years ...	1,208	1,107	101	4.0	4.3	2.3
10 years, under 12.	3,065	2,864	201	10.1	11.1	4.5
12 years, under 14.	6,878	6,077	801	22.7	23.5	17.8
14 years, under 16.	13,396	11,171	2,225	44.2	43.3	49.5
16 years, under 18.	5,641	4,507	1,134	18.6	17.5	25.3
18 years and over.	115	86	29	0.4	0.3	0.6
Age not reported ..	61	56	5	....	....	....

relating to birth records were enacted for 13 States and the District of Columbia, and laws regulating adoptions and change of name were enacted for 7 States and the District of Columbia. In contrast to the liberalization of birth-certificate requirements, the year saw a tightening of requirements for marriage. The minimum marriage age for one or both parties was raised in the District of Columbia, Hawaii, and the States of Florida, Rhode Island, and Tennessee. A waiting period between application for a marriage license and its issuance was required in the District of Columbia and in Illinois, Maryland, Tennessee, and West Virginia. New York required a waiting period between the issuance of the license and the solemnization of marriage. Measures relating to health certificates were enacted in Puerto Rico, Illinois, Michigan, New Hampshire, Oregon, and Wisconsin. Physically and mentally handicapped children were the subject of new legislation in 31 States and in Alaska, Hawaii, and Puerto Rico. Nineteen of these States and Alaska and Puerto Rico made provision for services to crippled children and for co-operation with the Federal government in such services. Laws relating to the care of mentally diseased and defective children were enacted in 22 States and Puerto Rico.

CHILE. A South American republic. Capital, Santiago.

Area and Population. Chile has an area of 286,396 square miles and a population estimated on Aug. 31, 1938, at 4,626,508 (4,287,445 at the 1930 census). Living births registered in 1937 numbered 153,328 (33.5 per 1000); deaths, 109,792 (24 per 1000); marriages, 38,079 (8.3 per 1000). The population is predominantly European (chiefly Spanish) in origin, but there is a considerable Indian strain in the lower classes. Populations of the chief cities at the 1930 census were: Santiago, 696,231; Valparaiso, 193,205; Concepción, 77,589; Antofagasta, 53,591; Viña del Mar, 49,488; Iquique, 46,458; Talca, 45,020; Chillán, 39,511; Temuco, 35,748; Valdivia, 34,296; Talcahuano, 27,594; Magallanes, 24,307.

Education and Religion. The adult population was estimated to be 75 per cent illiterate in 1930. In 1936 there were 4615 public and private elementary schools, with 568,700 pupils; 10 public and private normal schools, with 1597 pupils; 233 secondary schools, with 43,381 pupils; 28 commercial schools, with 4896 pupils. There are also four universities and various lyceums and colleges. Public primary schools in 1938 numbered 345 with a registration of 53,226. Most Chileans belong to the Ro-

man Catholic Church; other faiths enjoy complete religious liberty.

Production. The 1930 census showed 37.8 per cent of the working population engaged in agriculture and 22.1 per cent in industry. According to the President's message of May 21, 1938, 1,747,000 persons were employed on 202,000 farms which had an aggregate area of nearly 70,000,000 acres and a value of 6,667,000,000 pesos. Yields of the chief crops in 1937-38 were (in metric tons): Wheat, 827,200; barley, 163,800; rye, 7700; oats, 123,000; corn, 67,800 (1936-37); potatoes, 445,200 (1936-37); tobacco, 6900 (1936-37). The wine yield in 1935-36 was 3,483,000 hectoliters (hectoliter equals 26.42 U.S. gal.). Wool production in 1936 was estimated at 15,500 metric tons.

The production of nitrate soda in the year ended June 30, 1937, was 1,315,000 metric tons (1,220,000 in 1935-36). Output of other minerals in 1937 was (in metric tons): Copper, 413,200 (metal content of ore); coal, 2,001,000; iron ore, 916,000 (metal content); silver, 55.6. Gold output in 1937 was 9815 kilograms. There were 18,996 industrial establishments in Chile in 1936, the leading manufacturing lines being textiles, footwear, electric power, cement, paper. In 1938 there were 75,556 commercial enterprises. The per capita national income in 1937 was estimated at 1760 pesos (approximately \$70 at the average free market exchange rate).

Foreign Trade. Imports in 1937 were valued at 428,866,000 gold pesos (346,673,000 in 1936) and exports at 947,589,000 gold pesos (562,269,000 in 1936). The value of the chief 1937 exports was: Copper, 504,200,000 pesos; nitrate fertilizers and iodine, 190,400,000 pesos; wool, 43,200,000 pesos; lentils, 20,000,000 pesos; iron ore, 12,600,000 pesos; beans, 12,000,000 pesos. The United States supplied 29.1 per cent of the 1937 imports (25.4 in 1936); Germany, 26 (28.7); Great Britain, 10.9 (13.1); Peru, 8.1 (7.0). Of the 1937 exports, Great Britain took 19.6 per cent (16.4 in 1936); United States, 12.5 (19.5); Germany, 9.5 (9.7).

Finance. Ordinary revenues and expenditures for 1939 were estimated to balance at 1,667,000,000 gold pesos, as compared with actual ordinary revenues of 1,635,000,000 pesos and expenditures of 1,664,000,000 pesos in 1938. Actual revenues for 1937 totaled 1,957,300,000 pesos (ordinary, 1,438,300,000) and total expenditures were 1,846,000,000 pesos (ordinary, 1,478,500,000). The public debt on Dec. 31, 1937, was 5,319,949,000 gold pesos (direct, 4,260,789,000; indirect, 1,059,160,000). Of the direct debt 2,180,853,000 pesos represented the external debt, 1,524,259,000 pesos the internal debt, 321,546,000 pesos banking advances, and 234,131,000 pesos the floating debt. The gold peso (par value, \$0.2060) had the following average exchange rates for 1937: Official, \$0.0516; export draft, \$0.0390; free market, \$0.0379.

Transportation, etc. Chile in 1937 had 5422 miles of railway line (state-owned, 3607; private, 1815). Goods carried on all lines in 1937 aggregated 1,700,000,000 ton-kilometers. Revenues of the state railways were more than 400,000,000 pesos. Nine railways, including one from Antofagasta to Salta, Argentina, were under construction in 1938. During the years 1932-38 a total of 1900 miles of highways were built, 6000 miles of roads were improved, and 357 bridges were constructed. The road system in 1938 included 932 miles of concrete and bitumen, 7456 miles of crushed stone or gravel, 9321 miles of dirt roads, and 7146 miles of trails. The number of automobiles in 1937 was 38,035.

Chile is linked with the international air networks of Pan American Airways, Air France, and the Deutsche Lufthansa. A national air service also connects the principal cities.

Government. By the Constitution of Oct. 18, 1925, executive power is vested in a President, aided by a cabinet responsible to him. Legislation is the function of the National Congress, consisting of a Senate of 45 members elected for 8 years and renewed by halves every 4 years, and a Chamber of Deputies of 146 members elected for 4 years by departments. The President, chosen for 6 years by direct popular vote, is ineligible to succeed himself. President in 1938, Arturo Alessandri, who assumed office Dec. 24, 1932. The cabinet as reorganized May 27, 1937, represented a coalition of Rightist parties (Liberals, Conservatives, and Agrarians).

HISTORY

Presidential Election. The crucial presidential election held Oct. 25, 1938, resulted in the victory of Pedro Aguirre Cerda, candidate of the Popular Front, by a narrow margin over the Rightist candidate, former Finance Minister Gustavo Ross. Aguirre Cerda, a wealthy member of the liberal, bourgeois Radical party, had the support of the Radical Socialists, Socialists, Communists, and National Socialists (Nazis) as well as his own party. The Conservative, Democrat, and Liberal parties and several minor groups, all conservative in complexion, united behind the banner of Señor Ross, a Liberal. The first electoral count showed Aguirre Cerda elected by 220,892 votes to 213,521. The Rightist bloc, however, charged that there was evidence of fraudulent voting and intimidation of their supporters in various districts. They demanded a recount. The final results announced by an electoral commission on December 13 were as follows: Aguirre Cerda, 222,720; Ross, 218,609. On December 14 Congress officially declared Aguirre Cerda elected. He was inducted as President on December 24.

The Political Campaign. The election of the Popular Front candidate marked the triumph of the laboring masses and liberal middle-class elements in their struggle to end the rule of the landholding aristocracy and its conservative allies. During the preceding years President Alessandri had kept the social and class conflict under fair control by his middle-of-the-road policies, shrewd politics, and firm action against extremist tendencies. His success in averting open civil warfare between Rightist and Leftist groups led many moderates early in 1937 to propose revision of the Constitution to permit his continuance in office for another term. On Feb. 24, 1938, the President announced his firm opposition to such a revision of the fundamental law and indicated his determination to withdraw at the expiration of his term after insuring fair and free elections. This promise he fulfilled to the letter.

The political campaign had already gotten under way in 1937 (see 1937 YEAR BOOK, p. 149). With President Alessandri's announcement, it gathered immediate momentum. In the municipal (county) elections of April 3 the Popular Front parties won 1480 seats as against 1355 in 1935, these gains being at the expense of the Rightist parties. On April 17 a convention of the Popular Front parties selected Aguirre Cerda as their candidate after the Socialist leader, Marmaduke Grove, had withdrawn his candidacy, announced in 1937. A few days later Ross formally accepted the nomination offered by the Rightist bloc. A third candidate was

former President Carlos Ibáñez, who had returned to Chile from exile in 1937 and launched a campaign for his return to power on a radical platform. The Nazis were the only political party to rally to his support, but Ibáñez counted strongly upon the support of the army officers. Returning to Chile on June 8 from a six-months' absence in Europe, Ross also espoused a program of social reform and economic development for the benefit of the masses, but advocated decentralization of government and business, lower taxation, and encouragement of the investment of foreign capital in Chile—policies strongly disapproved by the extremist elements within the Popular Front.

The bitterness of the campaign was evidenced in Leftist charges that the state-controlled Nitrate and Iodine Sales Corporation, of which Ross was president, planned to close nitrate plants in the northern provinces in order to force the departure of numerous workers and reduce the Leftist vote. Although this charge was denied, the Popular Front parties continued to attack President Alessandri and to accuse him of working to secure Ross's election. Resenting these attacks, the President refused to receive a Leftist delegation. The Leftists thereupon issued a statement warning the President not to appear before Congress to read his annual message.

Dr. Alessandri ignored this warning and appeared before Congress on May 21 to reopen its ordinary sessions. His message was interrupted by a hostile Leftist demonstration during which Deputy Jorge González von Marées, leader of the Nazi party, drew a pistol and fired a wild shot. At the same time a bomb was exploded in the adjoining garden. The police arrested González von Marées, roughly handled several other Leftist deputies, and dispersed the crowd that had gathered outside. The Nazi leader was later sentenced to a year and a half in prison and fined \$200 for his part in the incident. These developments widened the breach between the government and the Leftists, who accused the Minister of the Interior of unconstitutional action in sanctioning the arrest of González von Marées and the mistreatment of other deputies. This charge was rejected by the Chamber of Deputies, 71 to 63, on June 1.

The Nazi Revolt. The tension produced by these events steadily mounted, particularly after the highest Chilean court late in August upheld the sentence imposed upon González von Marées. Two weeks later, on September 4, the Nazis mobilized between 10,000 and 20,000 persons for a political parade in Santiago in support of General Ibáñez's candidacy. Apparently intoxicated by the success of this demonstration and counting upon military support, a group of armed Nazis, most of them youths of 20 or under, staged a rising against the Alessandri Government the following day. A surprise attack gave them possession of a group of buildings near the Presidential palace. But the expected military help was not forthcoming. The Federal police, a well-trained and disciplined military force, quickly surrounded the revolutionists. After a four-hour siege with light artillery and machine guns, the surviving rebels raised the white flag. Sixty-two persons were killed or mortally wounded in the fighting, most of them Nazis.

Immediately upon the outbreak the government declared a state of siege and began arresting Nazi leaders and others suspected of complicity in the revolt. General Ibáñez was arrested when he entered an infantry regiment headquarters and demanded refuge. On September 8 González von Marées is-

sued a statement assuming full responsibility for the uprising and absolving General Ibáñez of any connection with it. This version of the uprising was confirmed by the Court of Appeals after careful investigation. On October 23, two days before the Presidential election, the Court cleared General Ibáñez, while sentencing González von Marées to 20 years in prison and barring him from holding public office as long as he lived. A sentence of 15 years' imprisonment and perpetual disbarment from office was passed on Oscar Jimenez, the organizer of the revolt. Of eight other Nazis convicted at the same time, three were sentenced to long prison terms and five were deported. In the meantime, General Ibáñez on October 16 had formally withdrawn his candidacy for the Presidency. The imprisoned Nazi leader then instructed his followers to vote for Aguirre Cerda.

The Nazi uprising served to heighten political tension between the Popular Front and Rightist parties, who accused one another of encouraging the revolt. The government's severe measures also came in for Leftist criticism. Over Leftist protests, Congress on September 12 granted the President's request for special powers in dealing with the Nazi conspiracy and for extension to the entire country for four months of the state of siege proclaimed in the capital on the day of the Nazi outbreak. Drastic censorship of the press and radio stations was imposed. As the police investigation of the revolt proceeded, the authorities announced that it had wide ramifications and that the Nazi plans called for the execution of President Alessandri, Gustavo Ross and a number of other prominent political leaders and newspaper editors.

The entire cabinet resigned on September 12, apparently in connection with the Nazi uprising. On September 15 President Alessandri refused to accept the ministers' resignations, asserting that their continued co-operation was needed to maintain public order against another Nazi conspiracy. All but three Conservative members of the cabinet then withdrew their resignations. The Conservative party declared it could no longer participate actively in the government. On October 14 the police arrested a number of retired army and aviation officers charged with conspiring against the government.

Aftermath of the Election. The narrow margin by which the Popular Front candidate was elected and the Rightist claims of fraud and violence increased the danger of civil war. The state of siege, suspended during the election, was reimposed October 30. Leftist leaders announced that the masses would defend their victory by armed force if the Rightists attempted to juggle the election returns so as to disqualify Aguirre Cerda. The action of some leading Rightists in proclaiming their acceptance of the Popular Front victory and Señor Aguirre Cerda's promises to observe the laws and the Constitution served to lessen the political tension during the remaining months of the year. The President-elect promised that his government would be "sincerely democratic and definitely end conditions in which the Chilean masses lack food, culture, clothes and dwellings." At the same time he indicated that he would respect "legitimate established rights," co-operate with foreign capital in the development of Chile, oppose foreign anti-democratic ideologies, and seek to reform rather than abolish existing social institutions. His foreign policy, he said, would include "buying from those who buy from us," withdrawal

from the League of Nations, and support of President Roosevelt's "good neighbor" policy.

While the electoral commission was counting the vote, political tension seemed repeatedly near the breaking point. Both sides were accused of organizing and arming private militias. On November 12 Ross announced that he would drop his demand for a recount in order to avert armed strife, and on November 28 he left Chile, thus accepting his defeat. Upon the confirmation of his election by Congress, Aguirre Cerda announced the following cabinet: Interior, Pedro Alfonso (Radical); Finance, Roberto Wacholts (Radical); Foreign Affairs, Abraham Ortega (Radical); Defense, Alberto Cabero (Radical); Education, Rudecindo Ortega (Radical); Agriculture, Arturo Olavarria (Radical); Justice, Raul Puga (Democrat); Labor, Antonio Poupin (Democrat); Health, Miguel Etchebarne (Socialist); Trade, Arturo Bianchi (Socialist); Lands, Carlos Martínez (Socialist).

The first action of President Aguirre Cerda after his induction was to grant amnesty to González von Marées and the other Nazi leaders imprisoned after the revolt of September 5. Reorganization of the government and military personnel followed. Seven army generals considered Rightist sympathizers retired on December 27 at the suggestion of the new Minister of Defense. There were wholesale resignations of Chilean diplomatic officials holding foreign posts. On December 28 a Communist was appointed mayor of Valparaíso and a Socialist mayor of Viña del Mar. Forty-five decrees signed by President Alessandri on the eve of his retirement were suspended on December 29. As the year ended, the government was considering concrete proposals for carrying out the Popular Front's program.

Other Internal Affairs. Although prices for Chile's major export products declined during the year, progress toward economic recovery and stability continued. Chile's frozen credits with various countries were virtually eliminated through a series of trade compensation and other agreements. The government's offer to resume interest and amortization payments on Chilean dollar bonds on an adjusted basis was accepted by the American Bondholders' Protective Council. A law passed in January gave a stimulus to the mining industry through the provision of low-interest government loans. The government granted an oil concession on October 3 to Pedro Dreyfuss, a French engineer.

Steps taken to strengthen the nation's defenses included the passage of a law providing funds for large army and navy purchases, authorization of a substantial increase in the number of officers and enlisted men in the army and navy, and the completion of plans for the purchase of two 8000-ton cruisers. A strike of 10,000 workers in the mines of the Braden Copper Company paralyzed operations for several weeks in July. It was ended through the intervention of President Alessandri, who appointed a commission to study the question of wage increases.

Foreign Relations. While withdrawing from the League of Nations, Chile during 1938 developed an active policy of closer political and economic relations with the neighboring states and the other American nations. Chile's resignation from the League was announced May 14 after the Geneva organization had ignored the Chilean demand that the Covenant be revised to make the League "a non-coercive political body" and to secure the membership of all the states outside of the League.

The collapse of the League of Nations, the Span-

ish civil war, the aggressive policies of Italy and Germany, and the flight of political refugees from Austria, Czecho-Slovakia, and other European countries to Latin America spurred the Alessandri Government to join with other American nations in removing mutual misunderstandings and promoting a policy of practical Pan Americanism. In his message to Congress May 21 President Alessandri warned that Chile would not tolerate foreign political activities on her soil.

The new Argentine Foreign Minister visited Santiago early in May and reached an agreement for arbitration of the Beagle Channel Islands dispute, the establishment of a permanent mixed Chilean-Argentine commission charged with the prevention of controversies between the two countries, and the development of cultural ties. This visit was returned later the same month by a Chilean delegation under Foreign Minister José Ramon Gutiérrez, which also spent four days in the capital of Brazil cultivating closer relations and returning a goodwill visit to Chile in March by a Brazilian military mission.

New commercial and cultural agreements were signed with Argentina on February 18, with the United States on January 6, and with Bolivia on May 21. The latter treaty, embodying some of the recommendations made in 1937 by a mixed Bolivian-Chilean commission, provided for reciprocal most-favored-nation treatment of one another's nationals and commerce. It also established a permanent mixed commission to promote trade between the two countries.

The Chilean-Peruvian mixed commission after extended negotiations submitted recommendations on September 28 for a new commercial treaty and for closer political, economic, and cultural relations. One result of the closer Chilean co-operation with neighboring states was the settlement of the Bolivian-Paraguayan dispute at the Chaco Peace Conference in Buenos Aires (see CHACO DISPUTE, SETTLEMENT OF). Also see ARGENTINA and BOLIVIA under *History*; PAN AMERICAN CONFERENCE.

CHINA. A republic of eastern Asia. Capital, Chungking. Nanking, the former capital, was captured by the Japanese in December, 1937, and Hankow, to which most of the Chinese Ministries were then transferred, fell in October, 1938.

Area and Population. Including the nominal dependencies of Sinkiang (Chinese Turkestan), Outer Mongolia (see MONGOLIA), and Tibet (q.v.), over which the Central Government exercised little or no actual control, and the former Chinese Provinces incorporated in the Japanese protectorate of Manchoukuo (q.v.), China has an area estimated by the Ministry of the Interior in 1937 at 4,516,934 square miles and a total population of 466,785,856. Official 1937 estimates of the area and population by Provinces are shown in the table in next column.

As no census has been taken in modern times, the above figures are merely rough estimates. Including the nominal dependencies, the area is roughly equal to that of the United States and Mexico combined, while the population is approximately one-fourth of the world's total. In addition there were estimated to be 7,828,888 Chinese residing abroad in 1936. The estimated population of Shanghai and its environs in 1936 was 3,489,998 including 1,450,685 persons in the Foreign Settlements; of Peiping, capital of China until 1928, 1,556,364; of Tientsin, 1,292,025; of Nanking, 1,019,948; of Tsingtao, 514,769. Estimated popula-

AREA AND POPULATION OF CHINA

<i>Province (Capital *)</i>	<i>Sq. miles</i>	<i>Population</i>
Anhwei (Anking)	51,902	23,265,368
Chahar ^b (Wanchuan, Kaigan, Chang-chiakow)	107,705	2,035,957
Chekiang (Hanghsien, Hangchow)	39,791	21,230,749
Fukien (Minhou, Foochow)	61,275	11,755,625
Heilungkiang ^c (Lungkiang, Tsitsihar)	173,600	3,822,344
Honan (Kaifeng)	66,693	34,289,848
Hopei (Paoting since June 1, 1935)	59,377	28,644,737
Hunan (Changsha)	91,595	28,293,735
Hupeh (Wuchang)	80,190	25,541,636
Jehol ^d (Chengteh)	74,297	3,054,305
Kansu (Kaolan, Lanchow)	145,968	6,705,446
Kiangsi (Nanchang)	77,301	15,820,408
Kiangsu (Chinkiang)	41,830	36,469,321
Kirin ^e (Tungki, Kirin)	109,413	7,666,648
Kwangsi (Yungning, Nanning)	84,007	13,385,215
Kwangtung (Fanyu, Canton, Kwangchow)	83,940	32,385,215
Kweichow (Kweiyang)	69,297	9,043,207
Liaoning ^c (Schenyang, Mukden, Fengtien)	124,256	16,465,303
Ningsia ^b (Ningsia)	106,143	1,023,143
Outer Mongolia ^d (Kulun, Urga ^e)	625,946	2,077,669
Shansi (Taiyuan)	58,662	11,601,026
Shantung (Tsinan)	69,216	38,029,294
Shensi (Changan, Sian)	72,353	7,717,881
Sikang (Kanting)	143,475	968,187
Sinkiang ^d (Tihwa, Urumtchi)	705,953	4,360,020
Suiyuan ^b (Kwaisui, Kweihua)	125,220	2,083,693
Szechwan (Chengtzu)	166,529	52,963,269
Tibet ^d (Lhasa)	469,416	3,722,011
Tsinghai (Sining)	269,187	1,196,054
Yunnan (Kunming, Yunnanfu)	123,572	11,994,549

* Where more than one name is given for the respective capitals in parentheses, they represent the official name, postal map name, and popular or ancient name, in the order given. ^b Chahar, Ningsia, and Suiyuan Provinces, together with part of Jehol, form the geographical region known as Inner Mongolia. ^c The Provinces of Heilungkiang, Kirin, and Liaoning constitute the geographical region known as Manchuria, which on Feb. 18, 1932, was proclaimed the free state of Manchoukuo. Jehol Province was incorporated in Manchoukuo in 1933. ^d Dependencies. ^e The Mongol name for Urga has been changed to Ulan Bator Khoto.

tions of the other chief cities in 1931 were: Canton, 861,024; Hankow (including Wuchang and Han-yang), 777,993; Chungking, 635,000; Wenchow, 631,276; Changsha, 606,972; Hangchow, 506,930; Weihaiwai, 390,337; Foochow, 322,725; Soochow, 260,000; Amoy, 234,159; Ningpo, 218,774; Wansien, 201,937; Chinkiang, 199,776.

Education and Religion. Between 25 and 50 per cent of the population were estimated to be literate in 1937, compared with an estimated 15 per cent in 1912. In 1933-34 there were 258,934 elementary schools, with about 12,324,000 pupils; and 3125 secondary schools, with about 560,000 students. In 1936 the number of public and private universities, colleges, and advanced technical schools was 108.

With the exception of Christians and Mohammedans, most Chinese practise and profess all three indigenous or adopted religions—Confucianism, Buddhism, and Taoism. The Mohammedans are estimated at about 20,000,000. In 1934 there were 2,623,560 native Roman Catholics and 123 Catholic missions, with a staff of 16,241. In 1932 there were 1130 Protestant mission stations, a staff of 6150, and 488,539 communicants.

Production. About 74 per cent of the total population (some 60,000,000 families) live on farms. There were estimated to be 607,000,000 acres of arable land, of which about 228,000,000 acres were under cultivation (145,000,000 acres devoted to foodstuffs) in 1936. The farm plots average about four acres. In 1936 about 46 per cent of the farmers owned their own land, 25 per cent were part owners, and 29 per cent were tenants. Previous to the outbreak of the Chino-Japanese War in 1937,

China was the world's leading producer of rice, soybeans, tea, kaoliang, sweet potatoes, millet, and vegetable oils; it ranked second in the output of raw silk and wheat; third in cotton; and was an important producer of corn, tobacco, fruits and vegetables, and cane sugar, as well as the leading exporter of eggs and tung oil. Estimated production of the chief crops in 1937 was (in metric tons): Wheat, 17,320,000; barley, 6,371,000; oats, 852,500; corn, 6,130,100 in 1936; rice, 48,014,900 in 1936; tobacco, 633,700 in 1936; cotton-seed, 1,630,000; linseed (exports), 12,200; rape-seed, 2,478,600 in 1936; sesamun, 865,000 in 1936; ground-nuts, 2,631,100 in 1936; soybeans, 5,911,000 in 1936; cotton, 700,000; raw silk (exports), 5500.

China is normally one of the world's leading producers of antimony, tin, tungsten, and manganese. It produces substantial quantities of coal, oil, fluorite, mercury, galena, gold, silver, and many other metals. For 1936 production, see 1937 YEAR BOOK. Estimated output of tungsten (metal content of ore) in 1937 was 9910 metric tons; tin, 11,300 metric tons. China's rapidly growing industries (see 1937 YEAR BOOK, p. 152) suffered a severe setback as a result of the devastation of Shanghai, Nanking, Hankow, Canton, and other great cities during the warfare of 1937 and 1938 (see *History*).

Foreign Trade. Excluding the trade of Manchuria, the foreign (non-Chinese) trade of Hong Kong, and all other trade not controlled by the maritime customs, general imports in 1937 were valued at 956,234,000 yuan (\$167,312,000 in old U.S. gold dollars) and exports of Chinese products totaled 838,770,000 yuan (\$146,760,000). In U.S. currency dollars, the 1937 net imports totaled \$276,100,000; net exports of Chinese products, \$248,174,000. The leading import items were heavy iron and steel, machinery, chemicals and allied products, kerosene, and rice. The chief exports were tung oil, \$26,600,000 (currency dollars); raw silk, \$13,392,000; tungsten, \$12,067,000; tin ingots and slabs, \$11,759,000. The United States supplied 19.8 per cent of the 1937 general imports; Germany, 15.3; Japan, 15.7; United Kingdom, 11.7. Of the exports of Chinese products, the United States took 27.6 per cent; Hong Kong, 19.4; Japan, 10.1; United Kingdom, 9.6; and Germany, 8.6.

Recorded merchandise imports into China during 1938 totaled 385,600,000 customs gold units (customs gold unit equaled \$0.6655 in 1937), a decrease of 8 per cent from 1937. Recorded merchandise exports were valued at 762,600,000 yuan, a 9 per cent decrease from 1937. Japan furnished 28.76 per cent of the recorded imports (18.12 in 1936, the last normal year); United States (including Philippines), 17.32 per cent (20.07 in 1936). Of the recorded 1938 exports, the Japanese Empire took 21.71 per cent (19 per cent in 1936); the United States and Philippines combined, 19.6 per cent (30 per cent in 1936). United States trade figures for 1938 showed exports to China (not including Hong Kong) of \$34,772,436 (\$49,702,780 in 1937) and imports from China of \$47,160,079 (\$103,621,914).

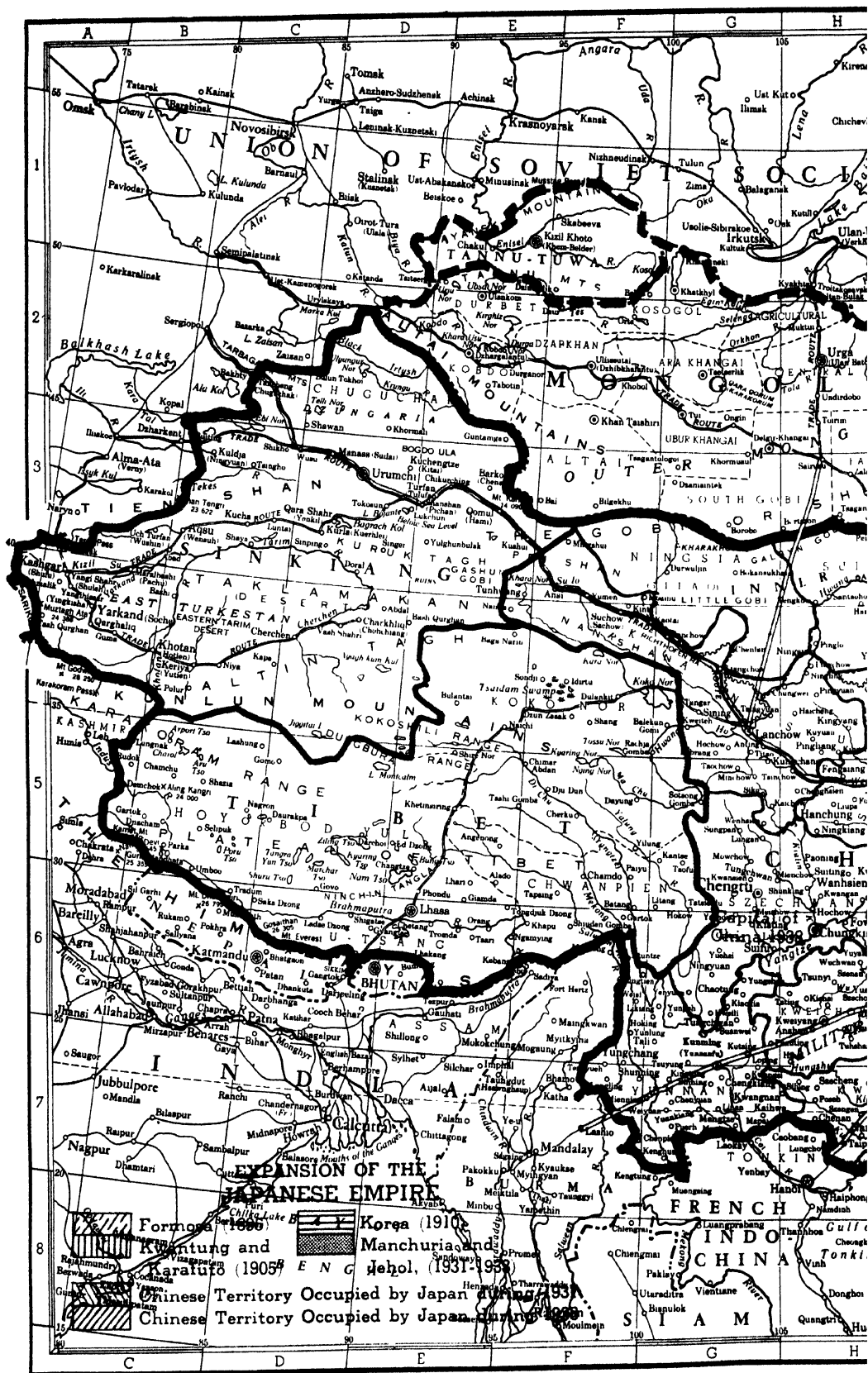
Finance. The budget of the Chinese Central Government was put on a calendar year basis as of Jan. 1, 1938. The budget for the fiscal year 1937-38 (balancing receipts and expenditures at 1,000,649,000 yuan) was extended through the last six months of 1938 with required revisions. No figures as to actual budgetary operations since the outbreak of the Chino-Japanese war in 1937 were available. The British Inspector General of Chinese maritime customs reported that collections for 1938 were 254,570,000 yuan (342,900,000 in 1937). About

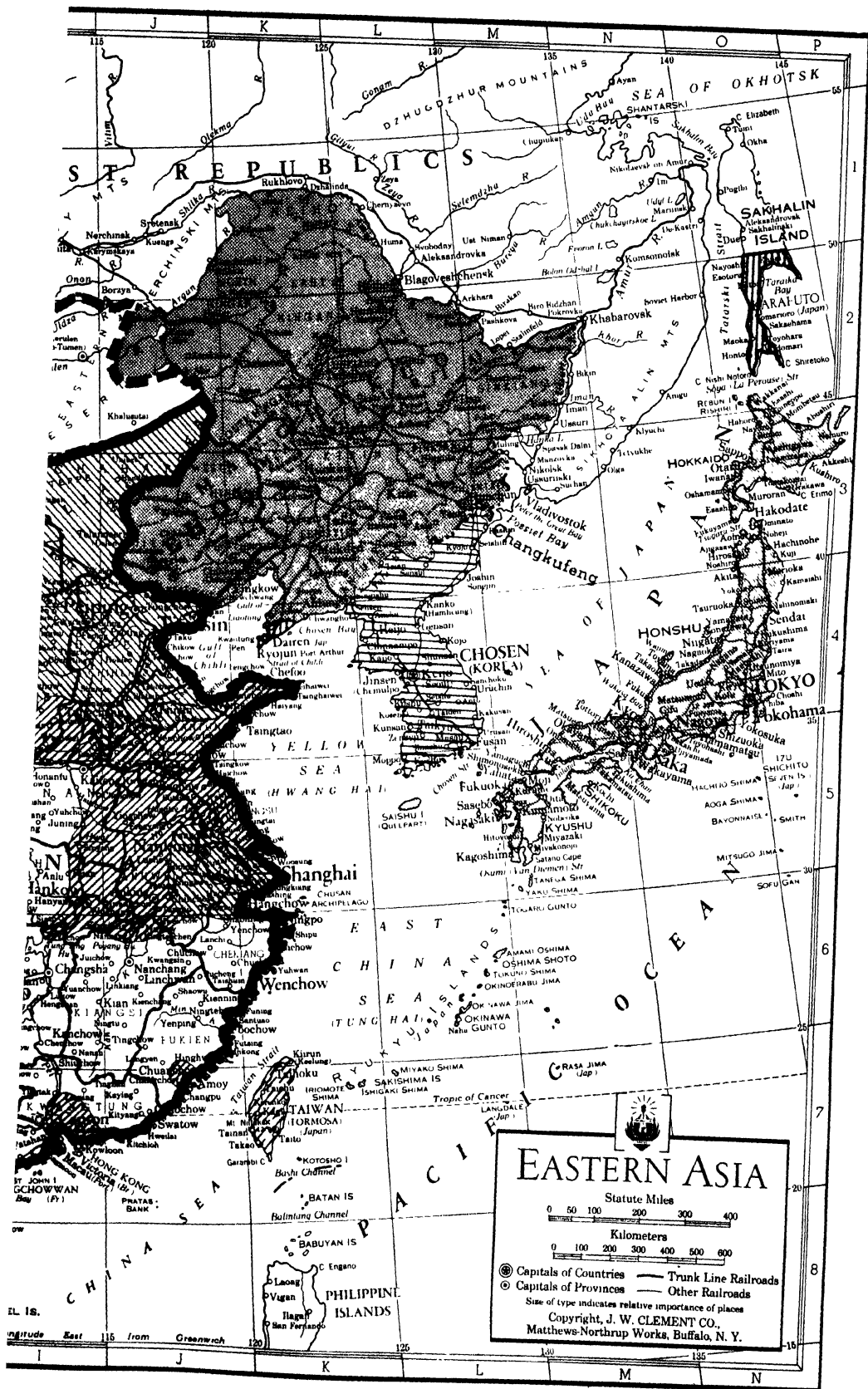
38 per cent of the 1938 receipts were collected in ports still under the control of Chinese authorities, but the Central Government received only about 97,000,000 yuan out of the total collections. With the exception of 1,180,000 yuan remitted by the Shanghai customs in June, 1938, none of the customs revenues collected in Japanese-controlled areas was made available to the Chinese Central Government for either domestic or foreign loan service or for administrative expenses. Nevertheless, the Central Government reported that it met all payments due in 1938 on domestic and foreign loan obligations secured on the customs, the payments being distributed as follows: Anglo-German loan of 1898, Boxer indemnities, and Reorganization loan of 1913, 78,000,000 yuan; United States wheat, flour, and cotton loan, 10,000,000 yuan; domestic loans, 129,100,000 yuan; total, 217,200,000 yuan. The yuan exchanged at an average of \$0.2961 in 1937 and \$0.2136 in 1938.

Transportation. The advances made by Japanese forces during 1937 and 1938 placed most of the Chinese railway system under their control. The Japanese proceeded to extend this system in North China. Completion of the Chengteh-Kupeikow railway early in 1938 provided a second route from Manchuria to Peiping, via the capital of Jehol Province. Work was also under way on a strategic railway from Chengteh to Dolon Nor on the Chahar border. Outlets for the Chinese-controlled areas and the development of transportation lines within these areas are described under *History*. The Chinese Ministry of Communications announced that between the outbreak of the Chino-Japanese war and early August, 1938, 14 trunk highways in the interior had been opened to traffic. Their total length was about 8700 miles. The total road mileage of China in 1937 was estimated at 61,430 miles; number of automobiles, 42,861.

The existing routes of the three commercial air companies operating in China were disrupted by Chino-Japanese hostilities. A number of Japanese-controlled air services were opened connecting the newly conquered cities of China with Japan and Manchuria. The Sino-American and Sino-German companies opened many new routes in the interior to replace those abandoned to the Japanese. The Chinese merchant marine in 1938 comprised 249 vessels (of 100 tons or over) with a gross tonnage of 473,086. During 1937, 35,925 vessels of 17,765,000 net registered tons entered Chinese ports in the foreign trade, while 60,124 of 27,315,000 net registered tons entered in the coastal trade.

Government. The Nationalist Government at the beginning of 1938 represented a Kuomintang (National party) dictatorship. The Organic Law of Oct. 4, 1928, revised on Dec. 29, 1931, and Dec. 27, 1932, vested supreme power in the National Congress of the Kuomintang, acting through the Central Executive Committee, the Central Supervisory Committee, and the Central Political Council. Executive control, however, rested mainly in the hands of Gen. Chiang Kai-shek, commander-in-chief of the Nationalist armies. Pending the projected establishment of representative government, governmental functions were carried on by means of a committee system (for description, see 1932 YEAR BOOK). The chairman of the State Council and nominal head of the government at the beginning of 1938 was Lin Sen. The chairmen of the five yuan (committees) of the government were: Executive, Dr. H. H. Kung; Legislative, Sun Fo; Judicial, Chu Cheng; Examination, Tai Chi-tao; Control, Yu Yu-jen. Assisting Dr. Kung





in the executive branch were nine ministries, headed as follows after the cabinet reorganization of Jan. 2, 1938: Interior, Gen. Ho Chien; Foreign Affairs, Dr. Wang Chung-hui; Military Affairs, Gen. Ho Ying-chin; Finance, Dr. Kung; National Economy, Dr. Oong Wen-hao; Railways and Communications, Dr. Chang Chia-ngau; Education, Chen Li-fu. The Ministry of Judicial Administration, headed by Wang Yung-ping, was subordinate to the Judicial Yuan. For developments in 1938, see *History*.

HISTORY

Progress of War. The sanguinary Chino-Japanese war that broke out in July, 1937, continued with unabated fury throughout 1938. Despite stubborn Chinese resistance, Japan's armies registered further sensational gains, indicated on the accompanying map. They closed the great gap separating their forces in the Yangtze Valley and in North China, the campaign culminating in the fall of Suchow on May 19. They then turned their mechanized armies against Hankow, provisional capital of Nationalist China after the capture of Nanking on Dec. 12, 1937. Hankow was occupied on October 25, after a strenuous and costly drive up the Yangtze. Meanwhile another Japanese force landed near British-owned Hong Kong and easily captured Canton, the metropolis of South China, on October 21.

The end of 1938 found the invaders in possession of nine-tenths of the far-flung Chinese railway system, practically all of the principal ports on the China coast, and most of the great cities of the interior. Nearly one-fourth of China, with 270,000,000 inhabitants, was under their nominal control. The Chinese armies were completely cut off from contact with the outside world except for a newly completed motor highway from Kunming, Yunnan Province, to the Burma frontier, a caravan route passable to motor trucks from Sian across Sinkiang to the Soviet frontier, and the narrow-gauge railway connecting Yunnan with the ports of French Indo-China. The richest lands of China were devastated or ruled by the Japanese. China had been deprived of many of her mines, of her key industries and industrial centers. Far more than a million Chinese soldiers and civilians were estimated to have been slaughtered and at least 30,000,000 had been rendered destitute and homeless. Great floods and war-made famines added to the havoc wrought by contending armies. The "scorched earth" policy of the Chinese left ruined cities and countryside for the Japanese to occupy. Japanese looters extended the work of devastation, while Japanese narcotic peddlers working under the alleged protection of the army spread drug addiction among thousands of hope-bereft Chinese (see *NARCOTICS*).

The Chinese armies were repeatedly defeated with heavy losses and the cities remaining in their control were frequently bombed by the Japanese air force. Yet at the end of 1938 about 1,500,000 armed soldiers remained in Chiang Kai-shek's armies, stubbornly opposing further Japanese advances and even recapturing some of their lost territories. In addition, some 1,250,000 guerrillas were active behind the Japanese lines. They frequently interrupted railway and highway communications, captured supply trains, annihilated small Japanese detachments, and exercised full control over large areas of countryside, sometimes up to the very walls of Peiping, Shanghai, and other Japanese-held cities. Defeatist sentiment that appeared among

some Chinese officials after the loss of Hankow and Canton was ruthlessly suppressed by Gen. Chiang Kai-shek and his adherents. Toward the end of the year China's will to resist was strengthened by American and British credits and increased military aid from the Soviet Union.

Meanwhile Japan was feeling more and more acutely the financial and economic strain of a war costing her about \$5,000,000 daily. Uneasiness was increasing at home, while the Japanese troops in China had come to regard the conflict as anything but a picnic. Some neutral estimates placed the number of Japanese soldiers killed and wounded in battle or incapacitated by disease in the year and a half of fighting as high as 500,000. Of nearly 800,000 Japanese troops under arms in China at the year end, few felt certain that they would ever return to Japan. They were widely scattered over a "front line" more than 2100 miles long and over thousands of miles of communications. Unable to inflict a decisive defeat upon the enemy, and harassed day and night by Chinese guerrillas, the lot of the Japanese soldier was anything but pleasant. Yet the militarists now in full control of Japanese foreign and domestic policy were determined to continue the war until China was beaten to her knees and Gen. Chiang Kai-shek and his Nationalist Government destroyed.

The Suchow Campaign. Soon after the fall of Nanking in December, 1937, the Japanese launched their campaign to unite their forces in North and Central China. From Pukow, on the opposite bank of the Yangtze from Nanking, the troops under Gen. Iwane Matsui drove northward along the Tientsin-Pukow railway. At the same time Count Juichi Terauchi, Japanese commander in North China, sent his armies southward along the same railway from Tsinan in Shantung Province to meet General Matsui's forces. Before this threat, Gen. Han Fu-chu, the Governor of Shantung, abandoned the port of Tsingtao after destroying all Japanese industrial properties. A Japanese naval force occupied Tsingtao on January 10. Meeting scarcely any resistance, small Japanese forces were able to occupy the Tsingtao-Tsinan branch railway and most of Shantung. For this precipitate retreat, which nearly upset Gen. Chiang Kai-shek's plans for the defense of Suchow, Han Fu-chu was subsequently executed.

Suchow is the junction point of the Tientsin-Pukow railway with the strategically important Lung-Hai railway connecting Haichow on the Yellow Sea with Chengchow on the Peiping-Hankow line and Sian, capital of Shensi Province. The Chinese rushed their best troops to the defense of Suchow and by the middle of February were able to halt General Matsui's northward advance at the Hwai River, while Terauchi's forces on the Tientsin-Pukow line were stopped in the vicinity of Tsining and Yenchow. While the Japanese forces on the Tientsin-Pukow railway recruited their strength, Terauchi mobilized other troops in North China for two additional offensives designed to cross the Yellow River and cut the Lung-Hai railway west of Suchow. One of these drove southward along the Peiping-Hankow railway, the other southwestward through Shansi Province.

Both of these columns made considerable progress during late February and early March, but before they could reach the Yellow River both offensives were abandoned. Leaving skeleton forces in control of newly conquered territory, the Japanese rushed the bulk of the troops on the Peiping-Hankow railway and in southern Shansi to the

Suchow front, where their northern army had suffered severe reverses early in April.

Chinese victory at Taierhchwang. Terauchi's troops based on Tsining and Yenchow had resumed their southward drive on March 14. Advancing 50 miles, they captured Hanchwang, where the Tientsin-Pukow railway crosses the Grand Canal, on March 21. Suchow was only 20 miles away, but stubborn Chinese resistance blocked the crossing of the Grand Canal. The Japanese then launched a flanking movement along the branch railway line to the walled town of Taierhchwang, some 20 miles southeast of Hanchwang on the Grand Canal. The advance units of Terauchi's troops fought their way into Taierhchwang on March 31. There they were hemmed in by superior Chinese forces while guerrillas harried their supply lines. After a week of bloody fighting the Japanese were driven out of Taierhchwang on the night of April 6-7. Several thousand were trapped and annihilated, while the survivors retreated to join the main column at Yih sien. It was the most severe defeat inflicted upon Japanese troops in modern times. The Japanese force at Yih sien defended itself with difficulty against strong Chinese attacks until a relief column from Tsingtao arrived on April 23.

Strengthened by constantly arriving reinforcements, the Japanese sought to flank the Chinese to the east of Taierhchwang by a drive toward the junction of the Lung-Hai railway and the Grand Canal at Yunho. This move was likewise halted by the Chinese short of its objective after days of heavy fighting along the entire line from Taierhchwang to Matowchen and Tancheng. By May 6 the battle had developed into a stalemate, which the Japanese broke by a new flanking movement launched from Tsining against the Lung-Hai railway west of Suchow. At the same time, the Japanese forces that had advanced from the Yangtze to the Hwai River along the Tientsin-Pukow railway resumed their advance with augmented forces and a new commander. Driving rapidly northward, they planned to meet the Japanese northern armies on the Lung-Hai line west of Suchow and thus cut off the westward retreat of some 750,000 Chinese troops in the Suchow area.

Fall of Suchow. This pincers movement forced Chiang Kai-shek to abandon Suchow and to withdraw his forces hastily westward along the Lung-Hai railway. The Chinese suffered heavy casualties from the hot pursuit of Japanese mechanized columns and constant air attacks, but managed to escape with the bulk of their forces. Suchow was occupied by the Japanese on May 20, thus bringing the entire Tientsin-Pukow railway under their control. The victory-flushed Japanese columns continued to drive the Chinese rapidly westward across the open plains of Honan and northern Anhwei. Kweiteh, Lanfeng, and Kaifeng were captured in rapid succession and Chengchow, which offered an excellent base for an offensive along the railway line southward to Hankow, appeared doomed.

The Yellow River Flood. At this crucial point, the Yellow River, swollen with spring floods, broke through its dikes on June 7 and flooded the country in the path of the advancing Japanese. They charged that the dikes were dynamited by the Chinese troops. The Chinese denied this. At any rate the flood was the equivalent of a major victory for the hard-pressed Chinese. At least 6000 Japanese troops, as well as thousands of Chinese civilians, were drowned or lost in the swirling waters, which swept southeastward across the

broad plains of northern Honan. Several days of heavy rain added to the invaders' difficulties. By June 15 the Japanese columns had become hopelessly mired. They were obliged to retire to Kaifeng, abandoning scores of trucks, artillery pieces, and other equipment. As no further advance was possible until the flood waters began to subside in September, the offensive along the Lung-Hai railway was abandoned. Most of the troops in that and other North China sectors were transferred to the Yangtze Valley to participate in the up-river campaign against Hankow. During the months required to achieve this objective, the Japanese forces in North China remained largely on the defensive, guarding the occupied cities and railway zones against incessant guerrilla attacks.

The Hankow Offensive. A small Japanese force began the advance up the Yangtze from Wuhu in the middle of May while the fate of Suchow was being decided. They advanced 70 miles along the north bank as far as Hofei before being checked. After Suchow's capture, the Yangtze column was strongly reinforced. On June 12 the combined land and naval force captured Anking, capital of Anhwei Province, almost without resistance. The next obstacle encountered was the barrier of sunken barges and stone-filled junks blocking the river at Matang, 40 miles above Anking. Japanese troops were landed below the boom on June 24. The Chinese defenders withstood the Japanese land, air, and naval attack for 11 days before a passageway was cleared through the barrier on July 5.

While fighting continued at Matang, Japanese naval vessels and transports proceeded 25 miles upstream and on July 10 captured Hukow, dominating the waterway through which Poyang Lake empties into the Yangtze, 150 miles by river from Hankow. It took the Japanese two weeks to clear the Chinese from strongly held positions in the hills around the entrance to Lake Poyang. Then the Japanese flotilla moved up the Yangtze 25 miles to Kiukiang, which was captured without resistance on July 26. Up to this point, the Japanese had made notable progress in the face of difficult terrain, searing heat, the ravages of disease, and unusual activity by the Chinese air force, which reported the sinking of a number of Japanese war vessels and transports.

The Advance from Kiukiang. Above Kiukiang, however, the Chinese resistance stiffened, while geographic and climatic obstacles increased. Another strongly defended barrier across the river at Wusueh-Matowchen defied the attack of Japanese land, naval, and air forces for more than two months. The Japanese again resorted to flanking tactics to pass this obstacle. A column was dispatched from Kiukiang southward against Nanchang, site of an important Chinese air base and capital of Kiangsi Province. This drive along the Kiukiang-Nanchang railway met stubborn resistance and failed to attain its objective. Another force landed on the west shore of Poyang Lake with orders to cut the Kiukiang-Nanchang railway, but became stalled in the marshlands surrounding the lake. A stronger column pushed straight west from Kiukiang in an effort to cut the Canton-Hankow railway 70 miles southwest of Hankow. After heavy fighting it captured Juichang, 20 miles west of Kiukiang, on August 24. Its further advance was slow and hard-fought. By the end of September it was still 40 miles away from the railway. Other units struck northward from Juichang against the Chinese troops defend-

ing the southern end of the Wusueh-Matowchen boom. Their progress was equally slow.

Meanwhile two Japanese columns were advancing north of the Yangtze. One, following the river bank, attempted to outflank the Wusueh-Matowchen boom. After weeks of sanguinary fighting, it aided the Japanese naval and air forces in blasting a passageway through the barrier. But even then progress up the river was achieved only by hard fighting for every mile. The first week of October found these units still 80 miles from Hankow. Farther north, however, another column was making better progress. This expedition moved westward from Hopei through Anhwei and along the watershed between the Yangtze and Hwai Rivers toward the Peiping-Hankow line, which it finally reached at a point 88 miles north of Hankow on October 8.

Capture of Hankow. Even after the cutting of the Peiping-Hankow railway, the Chinese armies blocked further progress north of the Yangtze until the Japanese forces on the Yangtze had advanced far enough to outflank Yangsin, the key to the Chinese defenses south of the river. On October 17, Yangsin was abandoned and the Chinese right flank commenced a general retreat, which forced the defenders of the north bank to follow suit. About the same time the Japanese in South China succeeded in severing the railway by which munitions from Hong Kong were being forwarded through Canton to Hankow, thus making further defense of the latter city unfeasible.

The various Japanese columns now advanced rapidly on the heels of the retreating Chinese. On October 25 they entered Hankow, and the neighboring cities of Hanyang and Wuchang, which together formed China's chief industrial center. Before abandoning the cities, the Chinese, pursuing their "scorched earth" policy, had burned huge sections and dynamited millions of dollars' worth of industrial plants, public buildings, and other installations that might prove useful to the Japanese. Of the 1,500,000 inhabitants of the three Wuhan cities, only 400,000 refugees remained when the Japanese entered. Again the Japanese had failed to trap the Chinese armies. One million first-line soldiers remained in the field to the west and south of Hankow, while 2,000,000 more were being trained. The Chinese Government established a new provisional capital at Chungking, 750 miles from the mouth of the Yangtze.

The War in South China. Throughout the first year of the China war the Japanese sought unsuccessfully by diplomatic pressure on Great Britain to check the steady flow of munitions reaching Chiang Kai-shek's armies through Hong Kong and the Kowloon-Canton-Hankow railway. They hesitated to attack Canton, partly for fear that Britain might be provoked into siding openly with China. But this fear was gradually dissipated. During May 10-13, 1938, Japanese troops landed from a fleet of transports under the protection of 12 warships and after some fighting took possession of the Chinese port of Amoy, 300 miles northeast of Canton. Immediately afterward, small Japanese naval expeditions attempted landings at various other points along the coasts of Fukien and Kwangtung Provinces, possibly to sound out British policy in South China.

Isolated air attacks had been made upon Canton from Japanese naval vessels and occupied islands off the Kwangtung coast. But two weeks after the seizure of Amoy, a more serious effort to interrupt the flow of munitions through Canton was

launched. Commencing May 28, squadrons of Japanese bombers, based chiefly at Amoy, rained heavy explosives upon the city daily for nearly three weeks and frequently thereafter. While undoubtedly the main objectives of these attacks were the railway line and the fortifications guarding Canton, the bombs created havoc among the city's million inhabitants. It was estimated that 8000 civilians were killed and wounded and that half of the city's population fled to the hinterland and neighboring Hong Kong to escape the air raids. Large areas of the city were shattered by bombs and gutted by the accompanying fires.

This ruthless bombardment of civilians aroused a storm of denunciation abroad and formal protests from the United States and British governments. It served to impede but not to terminate the flow of munitions through Hong Kong and Canton. Another Japanese air base was established on Namoa Island, off the port of Swatow in eastern Kwangtung, which a Japanese landing party occupied on June 21. Swatow was repeatedly bombed but no attempt was made to occupy it. On July 17 Chinese guerrillas forced the Japanese to withdraw from Namoa. The Japanese on June 20 also threatened to occupy the strategically important island of Hainan, dominating the Gulf of Tonkin.

The Fall of Canton. Great Britain's capitulation to Germany at Munich on September 29 convinced the Japanese Government that it was safe to proceed with an expedition against Canton, secret preparations for which had been underway during the summer. On October 12 Japanese transports escorted by warships unexpectedly landed a mechanized army of some 30,000 fresh troops on Bias Bay, a few miles northeast of the British territory on the mainland opposite Hong Kong. The Chinese, confident that Japan would not run the risk of antagonizing Britain, had withdrawn their best troops from the Canton region to aid in the defense of Hankow. Consequently the Japanese at Bias Bay met little effective opposition. One detachment quickly cut the Canton-Kowloon railway. The main motorized force moved rapidly northward to Waichow, which was occupied October 15, and then circled to the northwest and entered Canton from the north on October 21, after dispersing the numerically superior Chinese defense forces with heavy artillery and gas attacks.

Before abandoning the metropolis, the Chinese dynamited the \$8,000,000 bridge across the Pearl River and many public buildings. This supplemented the work of destruction wrought by Japanese bombers and the invaders found themselves in possession of a ruined city, in which only about 50,000 out of a million inhabitants remained. During the remainder of the year the Japanese extended their control over the delta area around Canton for a distance of 30 or 40 miles. But even with reinforcements their efforts to advance northward along the Canton-Hankow railway and westward toward Wuchow on the Kwangsi border met with reverses. Guerrilla forces were active within the Japanese lines. The year end found the opposing forces in the Canton area in a stalemate, with 120,000 Japanese preparing for drives westward into Yunnan Province and northward along the Canton-Hankow railway. Meanwhile, the Chinese had repulsed a Japanese landing party that attempted to capture Pakhoi on the Gulf of Tonkin, terminus of the railway line from Nanning.

The Central China Front. With the fall of Hankow and Canton, the major objective of Japanese strategy was to establish control over the

entire Canton-Hankow railway. As noted above, the Japanese advanced along the railway from Canton only about 35 miles before being checked. On the northern end of the line, however, the Japanese made more progress. Pressing hard on the Chinese troops retreating from Hankow, they advanced 120 miles farther up the Yangtze to Yochow by November 11. From Yochow the railway leaves the river and strikes southward for 80 miles to Changsha, capital of Hunan Province. When the Japanese troops started from Yochow toward Changsha, panic seized the latter city and on November 14 the local authorities set fire to it in anticipation of its early capture by the invaders. The fires, raging for five days, almost completely destroyed the city of over 600,000 population. It was reported that some 2000 residents were trapped and burned to death in the flames. Meanwhile the Chinese troops had launched a counter-offensive which halted the Japanese advance 40 miles north of the ruined city in the middle of November and drove the invaders back to the outskirts of Yochow by the end of December.

Farther east, the Japanese advance along the railway from Kiukiang to Nanchang made slow progress. From July 26, when Kiukiang was captured, to the end of December, the invaders gained only 50 miles. They were still some 30 miles from Nanchang when the year ended. Japanese casualties in this drive alone were estimated by the Chinese at 30,000. Another active front south of the Yangtze was in the vicinity of Hangchow, southwest of Shanghai, which was captured late in 1937. From there the Japanese in January attempted to advance southward against Ningpo, but were repulsed by Chinese forces. Large Chinese guerrilla forces remained active in the Hangchow district throughout the year despite Japanese efforts to disperse them.

To the north of the Yangtze, the Japanese succeeded with some difficulty in clearing Chinese forces from the immediate vicinity of the Hankow-Peiping railway line, although service on the railway was frequently interrupted by guerrilla raids. Japanese forces, after the fall of Hankow, also advanced westward in an offensive against Shasi and Ichang. They took Tsao-shuh, some 100 miles west of Hankow, but the recapture of this town by the Chinese in the first part of December was reported to have stalled the Japanese drive.

Fighting in North China. The northwestern front had remained largely inactive, except for guerrilla warfare, during the Suchow and Hankow campaigns. The withdrawal of Japanese forces to serve on the latter fronts enabled the well-organized Chinese Communist armies and other guerrilla forces to regain much territory in Shansi and neighboring provinces occupied by the Japanese in 1937 and early in 1938. After the fall of Hankow, however, the Japanese prepared for another drive against Sian, capital of Shensi Province, where the Lung-Hai railway meets the new motor road to Urumchi and the distant Soviet frontier. The drive aimed to cut off military supplies reaching the Chinese armies in northwestern and central China.

Early in December, Chinese Communist sources reported that they had stifled a Japanese advance from Wutai in northern Shansi and killed 6000 of the invaders. Late in the month five Japanese columns started another offensive in southwestern Shansi to reoccupy previously conquered territory, take the strategically important crossing of the Yellow River at its north Fen tributary, and drive

Gen. Yen Hsi-shan, the Chinese commander, from his headquarters at Taning. This drive was weakened by the withdrawal of large numbers of Japanese troops in December from North China to Manchoukuo, reportedly to check disturbances caused by the entrance of the Chinese Communist Eighth-Route Army into Manchuria.

Bombing Activities. From their new bases deep in the heart of China, the Japanese during November and December carried out repeated air raids on virtually all of the larger cities still in Chinese hands. Chengtu, capital of Szechwan; Sian; Lanchow, the capital of Kansu; Shasi and Ichang on the Upper Yangtze; Kweilin in northern Kwangsi, and various other cities experienced, in most cases for the first time, the terrors of heavy air bombardments. These raids bore out the statement of the Japanese embassy at Shanghai on November 4 that "there is now no section of China over which Japanese planes cannot operate."

Chinese Politics. The continuance of Chinese resistance to Japan was dependent to a considerable degree upon maintenance of the anti-Japanese united front of the Kuomintang, the Chinese Communists, and other political groups established in 1937 (see 1937 YEAR BOOK). On Jan. 3, 1938, a reorganization of the Nationalist Government at Hankow took place, with Dr. H. H. Kung replacing Gen. Chiang Kai-shek as President of the Executive Yuan (Premier) to permit the latter to devote himself exclusively to his military task (see *Government*). At the same time steps were taken to reorganize national defense and strengthen the united front. It was reported that Communists and other radicals in government reformatories for political offenders were released. Mao Tse-tung and other Communist leaders were granted a voice in the determination of military and civil policies.

The Kuomintang Party Congress held in Hankow, March 29 to April 2, with 400 representatives from all parts of China in attendance, took notable steps toward establishment of a democratic political system. The Congress reaffirmed Sun Yat-sen's principles of nationalism, democracy, and popular welfare as the basic precepts of the political system. It created a People's Political Council, composed of representatives of all political groups, to serve pending the establishment of a full-fledged legislature. A decree was issued granting full freedom of speech, press, and assembly so long as it did not hamper prosecution of the war against Japan. While the Kuomintang dictatorship was thus substantially modified, the party retained its dominant position. A Kuomintang Youth Corps was established to train future party members. Gen. Chiang Kai-shek was made Leader or President (Tsung Tsai) of the party, with the position of permanent chairman of the Central Executive Committee and with powers of "conditional veto" over the latter's actions. Detailed plans were also drawn up for the building up of war industries in Western China and for reconstruction of devastated areas.

The People's Political Council met for the first time in Hankow July 7-16 under the chairmanship of Wang Ching-wei. Of its 200 members, most belonged to the Kuomintang, but there were seven Communists and a few members of the Socialist and Youth parties. The meeting ended with a declaration of the complete unity of all Chinese factions in resisting Japanese aggression. Nevertheless, friction between the Kuomintang and the minority political groups cropped out from time to time. It was reported from Hankow June 12 that activities of groups seeking immediate radical po-



© International

THE FALL OF HANKOW

A Japanese patrol "mopping up" a street of the Chinese provisional capital after its capture on Oct. 25, 1938



© International

THE CAPTURE OF CANTON

As Japanese troops occupied the metropolis of South China on Oct. 21, 1938, a great fire completed the devastation wrought by numerous air bombardments



© International

SOVIET-JAPANESE CLASH AT CHANGKU FENG

Soviet planes bombing Japanese positions during the fighting of July-August, 1938, for the Changkufeng heights, in the background, at the junction of the Soviet, Korean, and Manchoukuoan frontiers. The Russians retained control of the two peaks, which dominate the Japanese-owned railway in the foreground.



© International from "News of the Day"

CHINESE VICTORY AT TAIERHCHWANG

Gen. Chiang Kai-shek's Nationalist troops driving the invaders from this South Shantung city early in April, 1938. It was the first severe defeat of Japanese arms by the Chinese.

litical changes had been suppressed in western Chinese cities and their leaders arrested. On August 23 Gen. Chiang Kai-shek's chief of staff ordered the dissolution of all organizations of students and workers in the Wuhan area inspired or sponsored by Communists.

Despite these developments, the Communist Executive Committee's session at Yen-an in November voted for continued co-operation with the Kuomintang. On November 23 the Communists issued a manifesto at Chungking asking permission to join the Kuomintang and the Kuomintang Youth Corps. The manifesto declared that "the present internal and international situation will not permit a one-party dictatorship or the establishment of a soviet socialist state in China." It asserted that the Communists would not establish Communist organizations or carry on their propaganda within the Kuomintang or the army. The Kuomintang leaders were under pressure to accept the Communist overtures. Chiang Kai-shek's German military advisers had been replaced by Soviet officers. And Japan's success in cutting off all munitions imports through Chinese ports had greatly increased China's dependence upon Soviet arms and munitions.

Peace Feelers. The growth of Communist influence was an important factor in a split within the Kuomintang ranks late in December on the issue of making peace with Japan. New Japanese conditions of peace were announced by Premier Konoye on December 22. They included Chinese recognition of Manchoukuo; Chinese adherence to the Berlin-Tokyo-Rome anti-Communist pact or a similar treaty; Chinese consent to the garrisoning of Japanese troops at specified points in China as an anti-Communist measure and the reservation of Inner Mongolia as a special anti-Communist area; freedom of residence and trade in the interior of China for Japanese; and the granting of facilities to Japanese for the development of China's natural resources, especially in North China and Inner Mongolia. Premier Konoye disclaimed demands for Chinese territory (other than Manchoukuo) or war indemnities and promised to respect China's sovereignty. He declared Japan was ready to consider abolition of extraterritoriality and foreign concessions in China, denied any intention to exercise an economic monopoly in China, and promised that Japan would not limit the Chinese interests of other powers "who grasp the meaning of the new East Asia and are willing to act accordingly."

This peace offer proved moderate enough to wean Wang Ching-wei, leader of the conservative anti-Communist minority faction within the Kuomintang ranks at Chungking, away from the anti-Japanese united front. Wang left Chungking on "sick leave" late in December and proceeded to Hong Kong. There on December 31 he issued a statement, addressed to Chiang Kai-shek, declaring that the Japanese terms offered a basis for peace talks. Chiang refused to consider the peace terms, and Wang was expelled from the Kuomintang and all his government posts.

Meanwhile, Chiang proceeded energetically with preparations for a long war of attrition, designed to produce a financial and economic collapse in Japan. With the opening of the long motor highway from Kunming (formerly Yunnanfu) to the Lashio railroad in northeastern Burma late in the year, a new source of munitions supplies became available to China. The Nationalist Government purchased 1000 American motor trucks for the transport of supplies over this road. Construction

of a railway over this route was begun. The other western outlet—the highway from Sian across Sinkiang to the Turksib railway in the Soviet Union—was completed in March. In addition a network of highways connecting the provinces of western and southwestern China for military and commercial purposes was rushed to completion during the year.

Chiang Kai-shek's plans for continued resistance also were bolstered by the rapid industrial development of Szechwan, Yunnan, and other western provinces as the result of the movement of factories and workshops inland from the coast and other Japanese occupied areas. Government officials were active during the Japanese advance upon Hankow in transferring machinery and other industrial equipment westward from the Wuhan cities. A government iron works in Kweichow, with a 50-ton daily capacity, was completed in December. During the year 57 new factories were opened in Szechwan.

Japanese Political and Economic Measures.

Without waiting for the capitulation of the Nationalist Government, the Japanese had commenced to organize and exploit their conquered territories, starting in 1937 (see 1937 YEAR BOOK, p. 159). In 1938 this policy was greatly extended. Additional puppet governments were established in Nanking, Shanghai, Hankow, and Canton, as well as a Mongol autonomous government in the northwest. Late in the year an effort was made to establish a single Japanese-dominated government for all of the territories under Japanese nominal control. Gen. Wu Pei-fu, an old-time Chinese warlord, was selected to head this government, with Peiping as the permanent capital. But Wu reportedly rejected the offer. Despite frequent assassinations by Chinese patriots of persons participating in the puppet regimes, they served as rallying grounds for those Chinese who were tired of war or preferred Japanese domination to possible future subjection to a Chinese Communist state.

Japan's economic program in China was proclaimed by Premier Konoye at the opening of the Japanese Diet on January 22. The basic principle to be followed, he said, was the increase of Japanese productive power "under the one comprehensive scheme covering Japan, Manchoukuo, and China," with the objective of "supplying the articles needed for national defense, promoting all the important industries and expanding our export trade." Foreign Minister Hirota later explained that the plan called for agreements with China covering the exploitation of her natural resources, communications, and trade. The "co-ordination" of China with Japan's economic needs was already under way. A Federal Reserve Bank opened for business in Peiping on March 1 issued a new currency, linked to the yen, for North China. This served to divert trade from other foreign countries to Japan. On June 10 all other Chinese currencies were banned. A new tariff, favoring Japanese goods, was established by the puppet government at Peiping.

The North China Development Co. and the Central China Promotion Co. were organized in Tokyo November 7 under the direction of the Japanese Government, which subscribed half the capital of each. Like the South Manchuria Railway Co. in Manchoukuo, these gigantic holding companies were designed to supervise and control the economic exploitation of their respective regions. Franchises were allotted to various Japanese subsidiaries for the more or less monopolistic exploita-

tion of Chinese resources. Mines, industries, public utilities, transportation, shipping, banking, the import and export trade, and even the marketing of agricultural and pastoral products rapidly passed under the control of influential Japanese capitalists working through the two holding companies. An oil monopoly partially excluded foreign oil companies from North China. Under Japanese pressure Chinese farmers were obliged to raise cotton and other products used as raw materials by Japanese industry, to be paid for with Japanese manufactures. Effective December 1, an embargo measure reduced raw cotton prices in North China and diverted all shipments to Japan.

Chinese and foreign capital was invited to participate in the economic development of China under Japanese direction. The Sino-Japanese Joint Economic Committee on July 1 decided, among other things, "to prevent the wasting of funds resulting from economic rivalry between Japan and China and among similar enterprises, as well as to effectuate, as much as possible, co-operation between Japan and China through joint investments and management." Japanese military authorities at Shanghai announced July 9 that Chinese factories would be turned over to Japanese operators if the owners refused to accept joint Chinese-Japanese management. It was stated that transfers or sales of Chinese industrial properties to nationals of third powers would not be recognized. Management of all Chinese silk mills and filatures throughout the Shanghai-Hangchow-Nanking areas was taken over October 1 by the newly formed Japanese Sericultural Industrial Co. of Central China.

Closing the "Open Door." It had been clear even before the outbreak of the Chino-Japanese war that Japan intended to close the "open door" in China to all foreign individuals and powers except those submitting to Japanese supervision of their investments and trade. The economic and financial measures cited above all served progressively to strangle foreign economic relations with China. But it was not until after Munich and the capture of Canton and Hankow that the Japanese leaders felt sure enough of their ground to proclaim a protectorate over all China.

The Japanese occupation of Canton was in itself notice to Great Britain that her long economic domination of South China was at an end. Immediately afterward brusque warnings were issued that Japan would resort to stronger action than mere diplomatic protests if Britain, France, and the United States continued to aid the Chinese Nationalist Government in any way. On October 26 the Japanese Embassy at Shanghai issued a statement declaring that "Japan cannot admit the inviolability of third powers' property in China and is not responsible for any damages inflicted thereon during actual fighting." On November 3 the Tokyo Government proclaimed that Japan's "immutable policy" called for the establishment of "a new order that will insure the permanent stability of East Asia." The statement continued:

This new order has for its foundation a tripartite relationship between Japan, Manchoukuo, and China in political, economic, cultural, and other fields. Its object is to secure international justice, perfect a joint defense against communism, create a new culture, and realize close economic cohesion throughout East Asia. . . .

Japan is confident that other powers will on their part correctly appreciate her aims and policy and will adapt their attitude to the new conditions prevailing in East Asia. . . .

This invitation to the western powers to get out of China was repeated on November 11 by Yosuke Matsuoka, president of the government-owned

South Manchuria Railway Co., who called on the United States, Great Britain, and other countries, "frankly to recognize Japan's paramount position in East Asia." "Japan's national and racial pride and her tremendous achievements make recognition of her position imperative," he added. On November 18 Foreign Minister Arita declared, in response to an American protest against violation of the Nine-Power Treaties:

It is the firm conviction of the Japanese Government that, in view of the new situation fast developing in East Asia, any attempt to apply to the conditions of today and tomorrow, inapplicable ideas and principles of the past would neither contribute toward the establishment of real peace in East Asia nor solve immediate difficulties.

These declarations were supplemented by the activities of Japanese military chiefs in China. Despite foreign protests, the Yangtze River and its tributaries remained closed to all except Japanese commercial traffic on the ground Chinese guerrilla activities and mines made navigation unsafe. Late in November the Japanese began construction of a great military base near Woosung, downstream from Shanghai, and of a large airfield at Shanghai, indicating their intention to remain there permanently. At Tientsin the Japanese sought by obstruction and intimidation to whittle down the control of the various foreign powers over their respective concessions.

United States Upholds Treaty Rights. The United States took the lead in opposing Japan's effort to close the "open door" and establish a protectorate over China. On October 6 Washington protested against the squeezing out of foreign economic interests in China by exchange control, tariff manipulations, monopolistic companies, censorship of mail and telegrams, restrictions on freedom of residence and travel, and other measures of Japanese-controlled puppet regimes. Economic reprisals against Japanese interests in American territories were hinted at if these discriminations against American interests in China continued.

Japan's reply indirectly repudiated the Nine-Power Treaty, which affirmed the "open door" and China's territorial and administrative integrity. This was followed by retaliatory economic measures by the United States. On December 15 the Export-Import Bank at Washington placed a \$25,000,000 credit at China's disposal for the purchase of motor trucks and war supplies in the United States. In addition the U.S. Treasury extended the Chinese-American monetary agreement of July 9, 1937, by which China was enabled to obtain dollar exchange against its gold reserves in New York. An American note delivered at Tokyo on December 31 rejected Japan's "new order" in East Asia, insisted upon observance of the "open door" policy, and demanded respect for "all rights of the United States as they exist." It stated that any change in the Nine-Power and other relevant treaties could be considered only through a conference of all the interested powers. The fact that Great Britain acted along parallel lines, both in extending new credits to China and in upholding the "open door" doctrine, aroused alarm in Japan, where close Anglo-American co-operation was regarded as the only influence capable of changing Japan's course in China.

British Policy Stiffens. The British stood the brunt of Japanese encroachments upon foreign interests and rights in China during 1938, due partly to the shipment of munitions to Chiang Kai-shek's armies through Hong Kong. To prevent the development of closer Anglo-American collaboration, and possibly also because of the firm attitude

of the Roosevelt Administration in the *Panay* incident of December, 1937, the Japanese consistently displayed more consideration of American than British susceptibilities. An Anglo-Japanese accord for meeting foreign obligations secured by Chinese maritime customs was reached on May 2. But with this exception, Anglo-Japanese relations during the year were marked by a succession of futile British protests against Japanese attacks upon British subjects, properties, and treaty rights in China. A firm Anglo-French stand postponed the Japanese occupation of Hainan Island, but British warnings against Japanese encroachments in South China went unheeded. British financial and commercial interests suffered great damage by the destruction of Canton and the isolation of Hong Kong. On October 24 six Japanese planes bombed the British gunboat *Sandpiper* at Changsha, damaging the superstructure but causing no casualties. The Japanese dismissed the bombing as accidental. At Hankow, Tientsin, Shanghai, and other Chinese cities, Japanese antagonism toward the British was particularly marked.

On November 9 a British official declared in the House of Commons that Britain had no intention of lending money to Japan to enable her to complete the domination of China and that she stood squarely behind the Nine-Power Treaty and the "open door" policy. Britain's intention to grant export credits to China was officially announced December 6 and it was reported that part of these credits were made available later in the month. Meanwhile the British had been busy strengthening their fortifications and other defense preparations against a possible Japanese attack on Hong Kong.

French Interests Menaced. The Japanese invasion of South China, posing a threat to the French possessions in Indo-China, aroused alarm in France and an intensification of colonial defense preparations. The Japanese, on the other hand, were resentful over the shipment of arms and munitions to China over the railways from French Indo-China to Kunming in Yunnan Province. Japanese protests against this arms traffic, made early in 1938, were renewed on October 28 with the warning that if the traffic was not ended, "Japan might be compelled in self-defense to take such measures as she deems necessary." The Chinese charged that the French in violation of the commercial treaty of 1930 had repeatedly prevented or delayed shipments to China over these railways. But commencing early in November all war shipments were barred by the French as a result of a deal with Japan under which the Japanese promised not to invade Hainan Island. To forestall Japan in this vital area, the French and British late in June warned the Tokyo Government that they would support each other in opposing Japanese occupation of Hainan. A week later small French forces occupied the strategically placed Paracel Islands, south of Hainan.

The German Attitude. After the failure of German efforts to arrange peace between China and Japan late in 1937 (see 1937 YEAR BOOK), the Reich became progressively more friendly to Japan and cooler toward China. In response to Japanese representations at Berlin, Chiang Kai-shek's German military advisers, headed by General von Falkenhausen, were ordered to return home and German munition shipments to China were halted. The Chinese were reluctant to cancel the advisers' contracts, which had not yet expired, for fear that important military secrets would reach

the Japanese. After some weeks of negotiation on the issue, the Reich recalled its Ambassador at Hankow (June 26). Fearing that Germany was preparing to recognize the Japanese puppet regimes at Peiping and Nanking, the Chinese then permitted the German officers to leave Hankow on July 5. During the year both Hitler and Foreign Minister Ciano of Italy openly declared their sympathy and support of their partner in the Rome-Berlin-Tokyo axis. Italians instructing Chinese aviators had been withdrawn in 1937.

Growth of Soviet Influence. The open hostility manifested by Germany and Italy and the neutral attitude of the United States, Britain, and France threw the Chinese Nationalists increasingly into the arms of the Soviet Union, especially after munitions shipments through Hong Kong and French Indo-China were stopped. Soviet aviators and military instructors replaced the departed Italians and Germans on Chiang Kai-shek's staff. In July it was reported that 500 Russians had arrived to train and organize new Chinese recruits. The Soviet-Japanese clash at Changkufeng on the Manchoukuo-Korean-Siberian frontier in July and August (see MANCHOUKUO under *History*) was also a direct aid to the Chinese, Japan being forced to hold her best troops in reserve in Manchoukuo. The Soviet Union also continued to send some planes and munitions to the Chinese, but Soviet intervention was nevertheless of a limited character. A Chinese mission sent to Moscow in January to seek additional military support was not as successful as had been hoped.

Action by League of Nations. The League Council at its meeting of Jan. 27-Feb. 2, 1938, adopted a resolution reaffirming its moral support of China as against Japan. At another Council meeting on September 11, the Chinese delegate appealed for action against Japan under Article XVII. On September 19 the Council invited Japan to sit with it in considering the Chinese appeal, and when Tokyo ignored the invitation, the Council reported on September 30 that League states were free to apply sanctions against Japan under Article XVI of the Covenant if they desired to do so. The Japanese Foreign Office spokesman on October 3 warned that Japan would adopt counter-measures against any state that applied sanctions against her. None of the League states did apply punitive economic and financial measures under Article XVI up to the end of 1938.

See FRANCE, GERMANY, GREAT BRITAIN, ITALY, JAPAN, MANCHOUKUO, MONGOLIA, TIBET, and UNION OF SOVIET SOCIALIST REPUBLICS under *History*; LEAGUE OF NATIONS; UNITED STATES under *Administration*.

CHRISTIAN ENDEAVOR, INTERNATIONAL SOCIETY OF. An organization founded in Portland, Me., in 1881 by the Rev. Francis E. Clark, D.D., a Congregational minister, for the purpose of pledging young people to certain forms of Christian devotion, expression, and service. In 1938 it consisted of 58,000 societies in the United States and Canada, with a membership of more than 2,500,000. Throughout the world there were in the same year approximately 80,000 societies, with a membership of more than 4,000,000 in 105 countries, dominions, and island groups, representing more than 80 evangelical and reformed denominations. These societies were united into national unions which, in turn, composed the World's Christian Endeavor Union.

In 1938 was held the tenth World's Convention at Melbourne, Australia, with 26 nations represent-

ed. This was followed by a world journey of Dr. Poling, the president. The outstanding event of 1937 was the International Convention in Grand Rapids, Mich., and the introduction of a two-year programme under the title, "Christ for the Crisis." The 1939 International Convention will be held in Cleveland, Ohio, in July.

The Rev. Daniel A. Poling, D.D., LL.D., is president, and the Rev. William Hiram Foulkes, D.D., and Mr. Harry N. Holmes are vice-presidents. The official magazine is the *Christian Endeavor World* (monthly). Headquarters are in the World's Christian Endeavor Building, Mt. Vernon and Joy Streets, Boston, Mass.

CHRISTIAN SCIENCE. A system of metaphysical or spiritual healing, discovered by Mrs. Mary Baker Eddy in 1866 and set forth in her textbook of the movement, *Science and Health with Key to the Scriptures*, first published in 1875. The first church was established by Mrs. Eddy in Boston in 1879. In 1892 it was reorganized as a voluntary religious association, known as The First Church of Christ, Scientist, in Boston, but called more frequently by its adherents, "The Mother Church."

The total number of recognized branches of The Mother Church reported for the fiscal year ending May 31, 1938, was 2805, of which 64 were college and university organizations. During the year 67 churches and societies and 4 college organizations were recognized as branches.

The affairs of The Mother Church are administered by a board of directors, which supervises the work of the board of education, board of lectureship, and committee on publication. The board of education instructs and authorizes students to teach Christian Science. The board of lectureship consists of 24 members who are engaged in delivering free lectures on Christian Science.

The Christian Science Publishing Society, whose affairs are administered by a board of trustees according to the *Manual* of the church, issues the daily paper of the organization, *The Christian Science Monitor*. Other periodicals include *The Christian Science Journal*, *Christian Science Sentinel*, *Christian Science Quarterly*, and four editions of *The Herald of Christian Science* in the German, French, Dutch, and Scandinavian (Danish, Swedish, and Norwegian) languages, each with the English translation opposite, and in Braille.

The benevolent association of the church conducts sanatoria in Brookline, Mass., and San Francisco, Calif. Pleasant View Home at Concord, N. H., is a home for Christian Scientists of advanced years. Ralph H. Knapp was president of The Mother Church for the year ending May 31, 1938. Headquarters are at 107 Falmouth St., Boston, Mass.

CHRISTMAS ISLAND. The name of two separate islands. (1) An island in the Indian Ocean (10° 30' S. and 105° 40' E.), a dependency of the Straits Settlements. Area, 60 square miles; population (1937), 1313. Phosphate of lime is exported (161,440 tons in 1936 and 162,568 tons in 1937). (2) The largest atoll in the Pacific (2° N. and 157° W.), over 100 miles in circumference, included in the (British) Gilbert and Ellice Islands Colony. It is leased to the Central Pacific Coconut Plantations, Ltd., for a period of 87 years from Jan. 1, 1914. Population (1936), 23.

CHRONOLOGY. The following chronology lists the more important happenings of the year 1938, according to the dates of occurrence. In most

cases, these events are treated in detail under their respective headings. To such articles, particularly those on leading countries and states, such as UNITED STATES, GREAT BRITAIN, and NEW YORK, the reader is referred for additional information. For a list of prominent persons who died during the year, reference should be made to the article NECROLOGY and the more important obituary notices there listed.

January 1—Mayor LaGuardia's 2d Fusion Administration began in N. Y. City as the City Council replaced the Board of Aldermen.

Morrow-Calles oil agreement was abrogated by President Cardenas of Mexico, by stating that only if the U.S. petroleum companies agreed to pay royalties would they be permitted to hold their concessions.

2—900,000 Chinese were under arms to resist Japanese invasion.

H. H. Kung succeeded Chiang Kai-shek as Chinese premier. Generalissimo Chiang Kai-shek had resigned to consolidate Chinese defenses against Japan.

3—U.S. Congress began its regular session.

PWA was upheld unanimously by U.S. Supreme Court in the granting and lending of funds to electric plants of municipalities competing with private enterprise.

5—U.S. Supreme Court Justice George Sutherland announced his retirement, as of January 18, at the age of 75. \$950,000,000 deficit for 1938-39 was forecast in President Roosevelt's annual budget message.

7—President Roosevelt appointed Joseph P. Kennedy and Hugh R. Wilson as ambassadors to Great Britain and Germany, respectively.

284 airplanes made futile search of Pacific Ocean over a radius of 60,000 square miles for a U.S. bombing plane, with a crew of seven navy men, missing since January 5.

Spanish Loyalists captured 2000 rebels at Teruel.

10—Crash of plane of the Northwest Air Lines, in the Bridger Mountains, near Bozeman, Mont., killed the crew of four and six passengers.

11—Tsingtao, Shantung's seaport in North China, was captured by Japanese sailors.

The crew, totaling seven members, was drowned, when the *Samoan Clipper*, Pan American Airways hydroplane, en route to Auckland, New Zealand, from Pago Pago, American Samoa, was sunk fifty miles off Pago Pago.

13—Evolution was accepted by the Church of England.

14—Due to industrial and financial conditions, the Chautemps Cabinet resigned in France. After successive failures of Bonnet and Blum to form new cabinets, Chautemps succeeded in forming a Radical-Socialist one on January 18.

15—President Roosevelt appointed Solicitor General Stanley Reed to succeed Sutherland on the Supreme Court bench.

18—Roman Catholic College of the Sacred Heart was destroyed by fire at Ste. Hyacinthe, Quebec, resulting in a toll of 47 killed.

21—Three judges of the Federal Court at Chattanooga, Tenn., upheld the Administration's TVA program.

27—Ice jam swept away the Falls View Bridge over Niagara Gorge. On February 5, dynamite broke up the wreck.

February 1—U.S. Navy bombing planes 11-P-3 and 11-P-4 were destroyed with a toll of 11 killed, when they collided during maneuvers over the Pacific off San Pedro, Calif.

2—An Arctic hurricane broke up the ice field on which four Soviet scientists, landed at the North Pole by airplane on May 21, 1937, had been drifting for eight months and set them adrift on an ice floe near Jan Mayen Island, east of Greenland. See February 19.

10—Miron Cristea, Patriarch of the Orthodox Church in Rumania, headed a cabinet after the downfall of Premier Octavian Goga and his cabinet.

12—Japan refused the demand of the United States, France, and Great Britain, submitted on February 5, to reveal whether she was building over the treaty limit of 35,000 tons for battleships.

14—The 1938 Agricultural Adjustment Act, providing controls for corn, tobacco, rice, cotton, and wheat, was passed by U.S. Congress.

British Far East naval base at Singapore, costing \$55,000,000, was inaugurated. Three U.S. cruisers, U.S.S. *Memphis*, *Trenton*, and *Milwaukee*, were present at ceremonies.

15—Resolution for ratification of the Federal Child Labor Amendment suffered its 3d defeat in four years in the N. Y. State Assembly by a vote of 107 to 40.

16—Chancellor Schuschnigg, who had been in conference with Hitler at Berchtesgaden, Germany, on February 12, accepted ultimatum to put Austria's foreign affairs and police under control of pro-Nazi Ministers.

19—Four Soviet scientists were removed to ice breakers from their drifting ice floe off Greenland, after two rescue planes had reached them on February 16.

20—"Self-determination" for the 10,000,000 Germans in

Austria and Czecho-Slovakia, was demanded by Hitler, before the Reichstag.

The appeasement policy toward dictators, adopted by the British Prime Minister, Neville Chamberlain, caused Anthony Eden to resign as Foreign Secretary.

Inauguration of Roberto M. Ortiz as President of Argentina took place at Buenos Aires.

Fascist corporative Chamber and Senate replaced parliamentary government in Rumania, by proclamation of King Carol. On February 24, popular vote sustained the new constitution, 4,165,193 to 5313.

21—Anti-Lynching Bill was laid aside by U.S. Congress, due to the Southern filibuster lasting 30 days.

23—In first air raid ever to be launched on territory of the Japanese Empire, Chinese planes dropped bombs on Formosan cities, including Taihoku, the capital.

24—Peter Levine, 12-year-old son of Murray Levine, a N. Y. City lawyer, residing in New Rochelle, was kidnapped by unknown persons.

27—The good-will flight of six U.S. Army "flying fortresses" to Buenos Aires, Argentina, ended at Langley Field, Va., after a non-stop flight from Panama Canal Zone in 10 hrs. and 26 min.

March 2—Storms and floods in southern California were responsible for the deaths of 81 persons.

6—While blockading the Spanish coast, the 10,000-ton Insurgent cruiser *Baleares* was torpedoed and sunk by a Loyalist destroyer, with a loss of several hundred men.

7—Pacific islands of Canton and Enderbury were put under the jurisdiction of the U.S. Dept. of the Interior, after President Roosevelt had ordered that the American flag be flown over them. Notice was served by Great Britain of the reservation of her rights.

U.S.—Czecho-Slovak reciprocal trade treaty was signed.

8—Richard Whitney & Co., Wall Street firm, failed.

10—Belchite was captured by the Spanish Insurgents in an offensive started on the eastern front.

11—German planes and troops crossed Austrian border, as Chancellor Schuschnigg resigned, stating that he "yielded only to force."

13—German-Austrian union was proclaimed in Vienna.

Three days after Premier Camille Chautemps resigned, a new French cabinet was formed by Leon Blum.

In the Soviet treason trial, Alexis Rykov, Nikolai Bukharin, and other ex-leaders, were among the 18 defendants sentenced to death for "Trotzkyite conspiracy." Prison terms were given to three others.

15—British Home Secretary Sir Samuel Hoare's appeal for 1,000,000 volunteers for air-raid defense resulted in the enrollment of thousands of men and women throughout Great Britain.

18—For failure to comply with wage decisions, the properties of 17 British and United States oil companies were expropriated by Mexico.

19—Austria's incorporation into the German Reich was officially noticed by the U.S.

20—U.S. Naval armada of 150 fighting ships and 500 aircraft, with a personnel totaling 3600 officers and 55,000 men, commenced the 2d big-scale war game within a year in the mid-Pacific sector.

22—TVA Chairman Arthur E. Morgan was dismissed by President Roosevelt, after hearings resulting from dispute with two co-directors.

24—Lithuanian cabinet, headed by Vladas Mironas, chief army chaplain, succeeded Juozas Tubelis and his cabinet, which had agreed to a Polish ultimatum demanding renewal of diplomatic relations.

27—I-tang Hung-chih became head of the "Reformed (Central China) Government of the Republic of China."

28—Public Utility Holding Company Act's requirement, that utilities register with SEC, was validated by U.S. Supreme Court.

30—Three U.S. Navy bombing planes crashed off Hawaii, during the war maneuvers in the Pacific, with the loss of lives.

Prince Franz Joseph, 32, succeeded Prince Franz I as head of the Principality of Liechtenstein, upon the latter's abdication.

New Rumanian cabinet was formed by Patriarch and Premier Miron Cristea, eliminating Liberals.

April 5—Constitutional Convention of N. Y. State convened.

8—President Roosevelt's prestige was affected when Reorganization Bill was killed by House of Representatives.

Thousands of Japanese were trapped and defeated by the Chinese at Taiherchwang, Shantung.

An anti-Communist French cabinet was formed by Edouard Daladier, after Premier Blum resigned due to the Senate's refusal to grant him special financial powers.

11—Richard Whitney, ex-head of R. Whitney & Co., collapsed brokerage firm, and ex-president of N. Y. Stock Exchange, received 5 to 10 years in Sing Sing for misuse of \$105,000 of a trust fund founded by the late George R. Sheldon, his father-in-law, and for the theft of \$109,000 from the N. Y. Yacht Club fund.

15—Loyalist Spain was cut in two as the Insurgents reached Vinaroz, on the Mediterranean.

16—Great Britain promised to promote recognition of

Italy's conquest of Ethiopia, and Italy to withdraw her troops from Spain, in a pact signed by them in Rome.

18—Dr. Francis E. Townsend, 71, of California, founder of the Townsend old-age pension plan, who was convicted of a misdemeanor and was sentenced to serve 30 days with a \$100 fine for contempt of a U.S. House committee by walking out while it was investigating his plan, was pardoned by President Roosevelt before sentence began.

20—Fifteen villages were destroyed in the central region of Anatolia, Asiatic Turkey, by earthquakes, resulting in a loss of over 300 lives.

24—First president of Estonia to be elected under the new Constitution was Regent Konstantin Pats by the total of 219 votes against 19.

28—During Premier Daladier's visit to London, a closer defensive alliance was formed between Great Britain and France.

29—U.S. Congress was asked by President Roosevelt to investigate "concentration of economic power."

Rail unions protested, after 15 per cent wage cut was announced.

30—Preview of the N. Y. World's Fair featured parades and motorcades through the boroughs of Manhattan and Queens.

Norman Thomas, Socialist, was ejected twice by police of Jersey City, as he defied Mayor Frank Hague's order not to speak.

May 1—President Lazaro Cardenas's newly formed and uniformed Mexican workers' army, totaling 100,000, was reviewed by him in May Day parade in Mexico City.

Military and workers' parades were featured in Moscow. The first Great Germany May Day was celebrated in Berlin.

3-8—Mussolini was assured by Hitler, on the latter's visit to Rome, that the Alpine border would remain inviolate.

4—Ireland (Eire) elected its first president, Dr. Douglas Hyde.

11—Revenue Bill of \$5,300,000,000, modifying capital-gains and undistributed-profits taxes, was passed by U.S. Congress.

500 revolutionists were arrested in the Rio de Janeiro district of Brazil, after an uprising against President Vargas's administration, in which the executive mansion, naval arsenal, and other public buildings were the objects of attack.

13—Diplomatic relations were broken off between Mexico and Great Britain, when the former recalled its Minister in London, due to controversy over expropriated oil properties and Britain's special claims arising out of revolution.

Bela Imredy in Hungary, formed a cabinet in succession to that of Koloman Daranyi's cabinet, supposedly less anti-Nazi.

Paul Spaak formed new ministry in Belgium to succeed the Janson Cabinet.

16—Northwest Air Lines' plane, en route from Los Angeles to St. Paul, Minn., crashed into a hillside an hour after start, killing nine persons.

Plot to establish a dictatorship after overthrowing the Lebanese Government in Syria, was discovered, resulting in the arrest of many persons.

Holland-American Liner, *Nieuw Amsterdam*, of 36,287 tons, on her maiden voyage across Atlantic, arrived at N. Y. City in 5 days, 23 hrs., and 45 min. from the Needles to Ambrose Light.

17—\$1,090,656,000 10-year naval expansion bill was signed by President Roosevelt.

20—Japanese Army recouped losses sustained at Taiherchwang, and occupied Suchow, the Chinese key rail junction.

21—Czecho-Slovak troops formed along the Czecho-Slovak-German border.

24—Newark-Chicago United Air Lines passenger plane crashed a few miles south of Cleveland, killing all 10 of passengers and crew.

25—James J. Hines, Tammany district leader of New York City, was arrested as numbers racket "fixer."

Alicante, Spain, suffered greatly from day-long raids of Insurgent bombing planes, with 272 persons killed and 224 wounded.

29—Peter Levine's mangled body was found on shore at Davenport Neck, Long Island Sound, after he had been missing since February 24 from his home in New Rochelle, N. Y.

June 5—Crop losses of between 65 and 80 per cent resulted on 75,000 acres of farm land in the central part of Hokkaido Island, Japan, as the result of a severe dust storm. Communication lines were disrupted, schools were closed, and factories and homes were damaged.

7—In first defeat for New Deal's "purge," renomination was won by Sen. Guy M. Gillette in Iowa Democratic primary.

10—U.S. Army bombing plane crashed and burned during a storm, near Delavan, Ill., while en route from Rantoul, Ill., to Denver, Col., killing eight officers and men.

11—Northeast France, Belgium, and England felt earth tremors, originating 15 miles below the North Sea. In Ghent and Brussels they were particularly severe.

12—TWA plane wreckage and nine bodies were found

on Buena Vista mountain, 90 miles east of Fresno, Calif. On March 1, the plane had left San Francisco for the East, via Los Angeles.

16—After passing unemployment relief and public works bill for \$3,700,000,000 the 75th U.S. Congress adjourned. Franklin Pierce McCall, 21, farm laborer, who had kidnapped and smothered James Bailey Cash, Jr., aged five, of Princeton, Fla., on May 28, was sentenced to death by the State Circuit Court in Miami, Fla.

Japanese drive was halted by Yellow River floods.

19—Chicago, Milwaukee, St. Paul, and Pacific R.R. passenger train *Olympian*, en route from Chicago to Tacoma, Wash., plunged into Custer Creek, in Montana, 26 miles east of Miles City, when the bridge collapsed during a sudden flood due to a cloudburst; 47 persons died and 75 were injured.

20—High military officers in Germany were among the 18 persons indicted for espionage plot by the N. Y. Federal grand jury.

21—Evacuation of "volunteers" in Spain was agreed upon by all major powers at London.

League of Nations was notified by Paraguay that she had decided to give up membership in the World Court.

22—Max Schmeling was knocked out in the 1st round of a 15-round bout by Joe Louis, who retained the heavy-weight championship of the world.

23—Labor in Germany was conscripted for "nationally urgent tasks" for short terms.

27—Wages and Hours Act was signed by President Roosevelt. Went into effect October 24.

Bill widening the marine, naval, and mercantile reserve was signed by President Roosevelt.

30—For the fiscal year ended June 30, 1938, the U.S. Treasury deficit was \$1,459,248,100.

July 1—Last reunion of the Grand Army of the Republic and the United Confederate Veterans, totaling 1800 survivors, began on the Gettysburg, Pa., battlefield of the Civil War. There were more than 100,000 visitors.

5—The 32-nation refugee conference, convoked by President Roosevelt, convened at Evian, France.

Non-Intervention Committee, representing 26 nations at London, approved the withdrawal of 10,000 foreign soldiers from each side in Spanish civil war, restoration of international control of arms shipments, and eventual granting of belligerent rights to both sides.

7—New Civil Aeronautics authority was appointed by President Roosevelt.

8—Stumping for New Deal Senators, President Roosevelt began political tour.

9—Uprising of Arabs in Palestine necessitated the dispatching of British troops from Cairo, Egypt.

10—Howard Hughes, and his four-man crew, started on round-the-top-of-the-world flight in his monoplane, *New York World's Fair 1939*.

11—Spike Island, important fort in Cork Harbor, Ireland, was turned over to Irish government by Great Britain.

12—In a revision of the U.S. budget estimate for the fiscal year 1939, President Roosevelt estimated a deficit of \$4,000,000,000.

14—Round-the-top-of-the-world flight of Howard Hughes and his crew ended at Floyd Bennett Field, Brooklyn, in record time of 3 days and 19 hours.

18—Douglas Corrigan's "wrong way" flight from New York to Dublin, Ireland, ended after 28 hours and 13 minutes in his nine-year-old "crate."

19—The British King and Queen visited Paris.

21—Controversy started between U.S.S.R. and Japan over Siberian border line.

Chaco dispute was terminated when Paraguay and Bolivia signed treaty of peace and friendship at Buenos Aires, Argentina.

22—Four-power settlement at Sudeten problem in Czechoslovakia, proposed by Germany, was turned down by Great Britain and France.

24—Colombian war plane crashed into grand stand, during opening of new Campo de Marte military aviation field at Bogota, killing 53 persons and injuring over 100.

26—Counteroffensive, launched by Spanish Loyalists, resulted in the capture of many towns, after the Ebro River was crossed.

29—*Hawaii Clipper*, flying boat, vanished with 15 persons on board, while en route from Guam to Manila.

30—Crete Island revolt was crushed by Greek Premier, John Metaxas.

Kingston, Jamaica, excursion train was derailed and dropped into river, with a toll of 30 persons killed and 70 injured.

31—Bulgaria was given the right to rearm in accordance with an agreement signed by Greece for the Balkan Entente, at Salonika.

August 1—Jury disagreement resulted, in trial in Harlan County, Ky., Federal Court, of coal operators charged with conspiring to violate the Wagner Act.

2—Fighting took place between Japanese and Russian planes, tanks, and troops for control of Shachofeng, near the dominating height of Changkufeng, in the Possiet Bay region on the border between Manchoukuo, Korea, and Russian Siberia.

10—Siberian border line "miniature war" between U.S.S.R. and Japan was ended by truce.

11—First non-stop flight between Berlin and New York was completed in 25 hrs. by the German Lufthansa commercial plane *Brandenburg*.

17—Hines policy-racket case in New York City was opened by District Attorney Dewey.

18—"The United States will not stand idly by" if Canada is attacked, declared President Roosevelt in a speech at Ivy Lea, Ontario, Canada.

21—Agreement of the Non-Intervention Committee for "volunteer" foreign soldiers' withdrawal from Spain was rejected by General Franco.

22—German war fleet of 110 vessels was reviewed by Hitler and Admiral Nicholas Horthy, Hungarian Regent.

28—Thrace's demilitarized zone, discontinued by Salonika agreement of July 31, was occupied by Greek, Turkish, and Bulgarian troops.

29—German forts along the French border were inspected by Hitler as the Czech crisis became intensified.

31—French flying boat made survey North Atlantic crossing from Horta, Azores, to Manhasset Bay, L. I., in 22 hrs. and 48 min.

September 6—Maginot line was reinforced by France as the Nazi party congress was convened by Hitler.

7—Negotiations between the Czechoslovak Government and the Sudeten Nazi party were broken off.

12—Mistrial was granted by Justice Ferdinand Pecora in Hines policy-racket case due to District Attorney Dewey's mention of "poultry racket" during cross-examination of defense witness.

"Oppression of Sudeten Germans must end" declared Hitler at Nuremberg.

14—Martial law was declared in the Sudeten districts by Czechoslovakia.

15—British Premier Neville Chamberlain flew to Berchtesgaden to discuss the Czech crisis with Hitler.

16—Thousands of Sudetens crossed the border into Germany as their party was outlawed by the Prague government, which mobilized the Czech army.

18—Conference on the Czech situation took place between Chamberlain and Daladier in London.

19—Prague government was urged by France and Great Britain to relinquish the Sudeten area to Germany, after the two powers had agreed to Hitler's demands.

20—Two Southern Pacific passenger trains collided head-on at Tortuga, Calif., causing 12 deaths and injuries to 100 persons.

21—More than 500 persons were killed, and property worth tens of millions of dollars was wrecked in hurricane that swept New Jersey, Long Island, N. Y., and New England.

Hitler's partition ultimatum was accepted by the Prague government.

22—Hitler stiffened demands in talk with Chamberlain at Godesberg.

Prague "capitulation" government resigned.

23—U.S. Comptroller of the Currency, James F. T. O'Connor, was succeeded by Preston Delano.

Prague received from Chamberlain Hitler's "definite terms" made at Godesburg. General mobilization took place in Czechoslovakia, and partial mobilization in France.

24—October 1 was set by Hitler as the date for the Sudeten cession.

26—Hitler and President Beneš of Czechoslovakia were appealed to by President Roosevelt to make a peaceful settlement of the Sudeten issue.

27—Liner *Queen Elizabeth* was launched on the River Clyde, Glasgow, Scotland, after having been christened by Queen Elizabeth.

28—Invitations to a conference at Munich were extended to Chamberlain, Mussolini, and Daladier, by Hitler.

30—Communiqué stating the "desire of our two peoples never to go to war with one another again" was signed by Hitler and Chamberlain, after Hitler's demands on Czechoslovakia had been agreed to by the conferees at Munich.

October 1—Occupation of Sudeten area was begun by German troops.

Polish demand for Teschen area was agreed to by Prague government. Poles entered area on October 2.

French army reserves were ordered demobilized.

Britain's First Lord of the Admiralty, Albert Duff-Cooper, resigned in protest against Chamberlain's foreign policy.

4—Czech Premier, Syrový, in order to meet demands of the Slovaks, reorganized his cabinet.

5—President Beneš of Czechoslovakia resigned.

8—The residence of the Roman Catholic Cardinal, Theodore Innitzer, of Austria, was attacked by "a mob of irresponsible persons" in Vienna.

9—Dedication of the \$3,250,000 international bridge between Port Huron, Mich., and Point Edward, Ont., over the St. Clair River, took place.

The 36th annual Baseball World Series was won by the N. Y. Yankees (American League), defeating the Chicago Cubs (National League).

10—Arbitration commission, composed of representatives of United States, Uruguay, Peru, Chile, Brazil, and Argentina, awarded Paraguay an additional 69,000 square

miles, and moved her recognized frontier 275 miles west of Paraguay River, in settling the Chaco Paraguay-Bolivia boundary dispute.

Occupation of Sudeten territory was completed by German army.

11—Felix Paiva was elected Constitutional President of Paraguay by the National Congress, which met for the first time since 1936.

12—21 Cities Service tanks of gasoline and fuel oil were consumed by fire in Linden, N. J.

13—A.F.L. re-elected William Green as president. He asked the C.I.O. to "come back home."

17—District Attorney William F. X. Geoghan, of Brooklyn, N. Y., was superseded by John Harlan Amen, who was appointed by Governor Lehman to inquire into corruption in Brooklyn.

18—Military commanders in Palestine took over authority from district commissioners, by order of British High Commissioner, Sir Harold MacMichael. Police Force was put under military control.

19—Old city of Jerusalem was retaken from Arab rebels who had controlled it for four days, by 1000 British Coldstream Guards.

21—Canton, the principal port of South China, was captured by the Japanese.

25—Japanese forces entered abandoned provisional capital of Hankow in the wake of Generalissimo Chiang Kai-shek's flight to Chungking, the new provisional capital of China.

Popular Front candidate, Pedro Aguirre Cerda, was elected President of Chile.

26—Libya, Italian African colony, was to be made an integral part of Italy, with a new constitution, by decree of Fascist Grand Council.

27—Mayor Hague of Jersey City was enjoined by Federal Court against denying C.I.O. organizers their civil liberties.

28—Thousands of Polish Jews were sent across the Polish border, after having been arrested in Germany.

29—8000 Arabs in Gaza, Palestine, were rounded up as suspects in harboring or assisting rebels.

30—Midland Canal in Germany, connecting the River Rhine and the Baltic Sea, was opened officially.

31—16 Italian ships carrying 18,000 persons (1800 families of agricultural workers) departed for Libya, North Africa, as part of colonization plan.

November 2—Hungary received most of territory demanded, as German and Italian Foreign Ministers defined new Slovakian boundary.

5—Occupation of ceded section of Slovakia was begun by Hungarian troops.

7—Ernst vom Rath, German diplomat in Paris, was fatally shot by Herschel Grynszpan, 17-year-old son of a Polish Jew, and German deportee.

8—Eleven Governorships, 80 seats in the House of Representatives, and 8 seats in the Senate were captured by the Republican party in the elections held throughout the United States.

10—Throughout Germany, thousands of Jews were arrested, stores were looted, and synagogues were burned in retaliation for the assassination of Ernst vom Rath.

12—German Jews were prohibited from carrying on trade and were "fined" 1,000,000,000 marks by the Nazi government.

14—Hugh R. Wilson, U.S. Ambassador to Germany, was ordered home for "report and consultation."

Jews were barred from universities and high schools in Germany on orders issued by Minister of Education Bernhard Rust.

Lithuanian Parliament re-elected Antanas Smetona as President for a seven-year term.

Premier Bela Imredy, of Hungary, formed a new cabinet.

16—Anglo-Italian pact of April went into effect as Great Britain recognized Italy's conquest of Ethiopia.

17—U.S. trade pacts with Canada and Great Britain were signed.

18—U.S. Army plane, stationed at Mitchell Field, N. Y., crashed near La Grange, Ga., during a storm, killing the crew of eight.

Congress of Industrial Organization, successor to the Committee for Industrial Organization, elected John L. Lewis as its first constitutional president, at Pittsburgh.

Hans Heinrich Dieckhoff, German ambassador to Washington, was recalled by Berlin to report on attitude of U.S.

19—Autonomy was voted for Slovakia and Carpatho-Ukraine (Ruthenia) by the lower house of the Czech Parliament.

Italy's conquest of Ethiopia was recognized by France.

21—British troops reoccupied Beersheba in Palestine.

A signed agreement fixing a definite border between Czechoslovakia and Germany was confirmed by the International Commission.

Many homes were buried on the island of St. Lucia, Windward Islands, by landslides due to heavy rains.

23—California forest fires destroyed many homes and bungalows in the Santa Monica and San Bernardino areas near Los Angeles.

26—Revolt by Leftist agitators was suppressed by Boliv-

ian government which proclaimed a nationwide state of siege.

Paraguay and Bolivia renewed diplomatic relations after six-year lapse.

27—Polish troops occupied the final Czechoslovakian area ceded to Poland.

29—Dr. Ross T. McIntire, White House physician, was appointed Surgeon General of the Navy by President Roosevelt.

30—French government broke one-day general strike called as protest against Daladier's longer-working-hours decrees.

Relinquishment by France of Nice, Savoy, Corsica, and Tunisia was demanded by Italian deputies in riotous demonstration in parliament.

Emil Hacha was elected president of Czechoslovakia by the National Assembly, 272 to 40, and Rudolf Beran became Premier.

December 1—Monopoly inquiry was begun by temporary Economic Committee in Washington.

6—"Good neighbor" treaty, disavowing territorial designs, was signed by Germany and France.

8—Nelson T. Johnson, U.S. Ambassador to China, was ordered home by President Roosevelt for consultation on Sino-Japanese affairs.

9—Eighth Pan American Conference opened at Lima, Peru.

14—McKesson & Robbins's president, F. Donald Coster (Philip Musica), was arrested for false reports.

15—Daniel C. Roper resigned as U.S. Secretary of Commerce.

Ex-King Alfonso's Spanish citizenship was restored by General Franco.

16—Philip Musica (alias F. Donald Coster, president of McKesson & Robbins) killed himself, after exposure as vanished swindler.

Lima Conference adopted U.S. Secretary of State Hull's policy of reducing trade restrictions.

18—Trade agreement between U.S. and Turkey was initiated at Ankara.

19—All Europe suffered from record cold and snowstorms.

20—In a test case of the Dept. of Justice at Washington, D. C., the American Medical Association, 21 doctors, and three A.M.A. units were indicted as a "trust."

22—French-Italian 1935 agreement was repudiated by Italy.

23—Daniel C. Roper was succeeded by Harry L. Hopkins as U.S. Secretary of Commerce. Col. F. C. Harrington succeeded Harry L. Hopkins as head of the WPA.

Catalonia drive was started by Spanish Insurgents.

24—Agreement to resist aggression was signed by 21 American republics at Lima Conference.

27—Training as air pilots was ordered by President Roosevelt for 20,000 college students annually.

Lima Conference adjourned.

28—Greatest battle in Spanish civil war was fought in the Tremp zone.

29—N.Y. Stock Exchange expelled Joseph A. Sisto on charge of stock-juggling.

31—Democrats in U.S. Senate re-elected Senator Barkley as majority leader.

Naval talks between Great Britain and Germany were suspended.

Japanese "new order" program for China was rejected by U.S. Department of State.

CHUVASH AUTONOMOUS SOVIET SOCIALIST REPUBLIC. See RUSSIAN SOVIET FEDERATED SOCIALIST REPUBLIC.

CINCINNATI, UNIVERSITY OF. An institution for the higher education of men and women in Cincinnati, Ohio, founded in 1870. The enrollment for the autumn of 1938 was 10,619, and for the summer session, 1066. There were 689 members on the faculty. The endowment funds for the year amounted to \$9,494,255; the income for the same period was \$397,231. The library contained 449,358 volumes. President, Raymond Walters, Litt.D., LL.D.

CIRENAICA. See LIBYA.

CITY, DISTRICT, STATE, REGIONAL, AND NATIONAL PLANNING. The National Resources Committee continues to be the promoter and co-ordinator of activities in the several fields of American governmental planning. By its exploratory studies it indicates what has been done in each field and the best lines for further accomplishment. For regional areas it provides the assistance of specialists. Recent committee bulletins are: *Regional Planning, The States and Planning, The Future of State Planning, Our Cities, Water Plan-*

ning, Technology and Planning, *Planning Our Resources and Population Problems*. Each contains a list of related publications of the committee. In June, the National Resources Committee had Regional Planning Offices in eight city centers: Boston, Baltimore, Atlanta, Cincinnati, Omaha, Dallas, San Francisco, and Portland, Oregon. Among the states, 45 have planning boards, with legislative authority in 40 cases. Within the last few years, 400 county planning agencies have been set up. Over 1700 cities and towns have developed some form of planning or zoning. Delegation of planning powers to municipalities by a New Jersey legislative act in 1930 was upheld by the New Jersey Supreme Court on March 30 in a suit brought by a West Orange real estate company against the local authorities. At Princeton, N. J., Thomas Square, an area of eight acres north of Nassau Street, was being developed. Thirty projected Colonial type buildings, a theater, hotel, and central heating plant had been completed early in the year. (See *Planning and Civic Comment*, April-June, 1938.) Cincinnati, Ohio, put into use Columbia Parkway, a high-speed road skirting the Ohio River for seven miles, reaching from the heart of the downtown business area to its furthestmost eastern suburb. Of a total cost of over \$8,600,000 there was spent \$4,800,000 for right-of-way. Work was begun in 1929. (See *Engineering News-Record*, Oct. 6, 1938.)

Other Countries. A plan for the central part of Ottawa, Ontario, has been given general approval by the Canadian Government, which retained Jacques Greber, French architect and town planner, to make the plan. The estimated cost is \$30,000,000. The time of completion is put at 25 to 50 years. Early work on the project will be the erection of a Canadian National War Memorial. In England, the city of Manchester has created a residence suburb called Wythenshaw, similar to the recently opened Greenbelt, Md. Ultimately, Wythenshaw will house 100,000 persons. Its maximum density will be 12 families to the acre, compared with 60 in the central area of Manchester. At Sheffield, England, a general development plan has been prepared for the entire city area of 39,600 acres and a more detailed plan has been made for a rectangular area of 710 acres, having the town hall and other public buildings near its center. (See *Journal Town Planning Institute*, May, 1938.) The four German cities of Berlin, Hamburg, Munich, and Nuremberg are being replanned. The Berlin plan provides for the destruction of four of the existing railway stations, the building of two new stations joined by a triumphal way from south to north, along which new ministries, restaurants, cinemas, and shops will be grouped. The project reaches into the suburbs, where housing will be provided for 20,000 families annually, many forced out from the center of Berlin. The intention is to reduce the density of population in central Berlin from 400 to 150 per hectare—162 to 60 per acre. (For illustrated description see *Völkischer Beobachter*, Jan. 28, 1938; abstracted in *Journal Town Planning Institute*, London, April, 1938.) The new town of Pomezia, Italy, the fifth and last rural center on the former Pontine Marshes, was "founded" April 25 and is scheduled to be "inaugurated" Oct. 29, 1939. The four other towns are Littoria, Sabaudia, Pontina, and Aprila, constructed in 1932-37.

Bibliography. Hegeman, *City Planning and Housing*, vol. iii (New York). New York Regional Planning Association, various *Bulletins* (New York).

CIVIL AERONAUTICS AUTHORITY. See AERONAUTICS; UNITED STATES under *Administration*.

CIVIL ENGINEERS, AMERICAN SOCIETY OF. An association of professional engineers, founded in 1852 to advance engineering and architectural knowledge and practice, to maintain high professional standards, and to encourage intercourse among men of practical science.

The membership as of Jan. 10, 1939, was 15,811. There were 63 local sections and 118 affiliated student chapters in colleges and universities throughout the United States.

The Spring Meeting of the Society was held in Jacksonville, Fla., Apr. 20-23, 1938, and was a joint meeting with the Florida Engineering Society. At the general session, discussions were had on the pulp and phosphate industries of the Southern states. The 68th Annual Convention met in Salt Lake City, Utah, July 20-23, 1938, the principal feature being a symposium on transportation. The Fall Meeting was held October 12-14, in Rochester, N. Y., and the chief paper was on the development of structural analysis over three centuries. At all of these meetings, sessions were also held by several of the Technical Divisions, presenting papers in their own specific fields.

The Society publishes two monthly magazines: *Civil Engineering*, which presents news of society affairs and articles of more popular appeal; and *Proceedings*, which contains technical papers that are later collated, with discussions, in the yearly volume of *Transactions*.

At the Annual Meeting, held in New York City, Jan. 19-22, 1938, there were awarded medals and prizes for papers published in the "Transactions" for 1936. These included the Norman Medal to J. C. Stevens, the J. James R. Croes Medal to Inge M. Lyse and Bruce G. Johnston, the Thomas Fitch Rowland Prize to Eugene A. Hardin, the James Laurie Prize to Boris A. Bakhmeteff and Arthur E. Matzke, the Arthur M. Wellington Prize to E. C. Harwood, and the Collingwood Prize for Juniors to Victor L. Streeter. The Rudolph Hering Medal of the Sanitary Engineering Division was awarded to W. W. Horner and F. L. Flynt.

The officers of the society in 1938 were: President, Henry E. Riggs; vice-presidents, L. F. Beltinger, R. C. Gowdy, E. N. Noyes, Malcolm Pirnie; secretary, George T. Seabury; treasurer, Otis E. Hovey. Headquarters are in the Engineering Societies Building, 33 West Thirty-ninth Street, New York City.

CIVILIAN CONSERVATION CORPS (CCC). See CHILD WELFARE.

CIVIL SERVICE REFORM LEAGUE, NATIONAL. Organized in 1881 under the leadership of George William Curtis, Dorman B. Eaton, Carl Schurz, Everett P. Wheeler, Charles J. Bonaparte, and others for the purpose of eliminating the spoils system of making appointments to public office, and for the establishment of a career system in the public service.

During 1938 improvements in civil service procedure and extensions of the merit system long sought by the League were embodied in Executive Orders issued by the President in June, to take effect Feb. 1, 1939. Legislation placing in the classified civil service first-, second-, and third-class postmasters, for which the League had worked for many years, was enacted. During the year the League successfully fought several measures making exemptions from the civil service law of Federal agencies or groups of positions (notably the

Labor Standards Board administering the wage and hour law), and requiring Senate confirmation of Federal employees.

Good Government is the League's official publication. The officers in 1938 were: Robert L. Johnson, president; W. W. Montgomery, Jr., chairman of the executive committee; Nicholas Kelley, chairman of the national council; Ogden H. Hammond, treasurer, and H. Eliot Kaplan, executive secretary. Headquarters: 521 Fifth Avenue, New York City.

CIVITAN INTERNATIONAL. An organization composed of selected professional and business men throughout the United States and Canada, who have dedicated themselves to unselfish service to their city, county, State, and Nation. Its three major objectives are the "Building of Good Citizenship," "Curbing of Crime," and "Elimination of Tuberculosis." The first Civitan Club was founded in Birmingham, Ala., in 1917, the name being formed from the Latin "civitas." A total of 355 clubs had been chartered by Dec. 1, 1938.

The 1938 Convention was held in Cincinnati, Ohio, July 3-6. The official organ is *The Civitan* (monthly). The officers for 1938-39 were: President, Forrest G. Miles, Winston-Salem, N. C.; Vice-Presidents, Don McKee, Wheeling, W. Va., and Thos. J. Cole, St. Louis, Mo.; International Secretary, Arthur Cundy, Birmingham, Ala.; and International Treasurer, Dr. J. L. Brakefield, Birmingham, Ala. Headquarters are at Suite 800-16 Farley Bldg., Birmingham, Ala.

CLARK, JOHN BATES. An American political economist, died in New York, Mar. 21, 1938. Born in Providence, R. I., Jan. 26, 1847, he was educated at Brown University and Amherst College (A.B., 1872), and following graduation went to Germany to study under Karl Knies at the University of Heidelberg. After two years of study there he matriculated at the University of Zurich for a short period.

He returned to the United States in 1877 to become professor of political economy and history at Carleton College, Northfield, Minn. In 1882 he became professor of history and political science at Smith College, and thereafter served as professor of political economy at Amherst (Ph.D., 1890), (1892-95), during which period he also lectured in political economy at Johns Hopkins University. On July 1, 1895, he was appointed professor of political economy at Columbia University. He retired on June 30, 1923, with the title of emeritus.

In 1910 upon the organization of the Carnegie Endowment for International Peace, Dr. Clark was invited to head the department of economics and history and to make a study of the economic consequences of war. He called the first meeting at Berne, Switzerland, to formulate a plan for carrying out the research. The outbreak of the War in Europe postponed the second meeting (Aug. 5, 1914), but after the Armistice, Dr. Clark reorganized the work and continued as director of that department until his retirement in 1923.

One of the first of a large group of American economists who did postgraduate work in Germany, his views were influenced by the methods of economic research then popular. This influence was shown particularly in his articles published in *The New Englander*, and in his first major book, *The Philosophy of Wealth* (1895). His theories which dominated American economic philosophy until the World War were propounded in his most important book, *The Distribution of Wealth* (1899).

Honored by American and foreign universities,

in 1927 he was a guest at a banquet held in his honor, and, in the following year, a volume of economic essays in his honor was published by his colleagues, friends, and former students. He was president of the American Economic Association during 1893-95 and edited *Political Science Quarterly* from 1895 to 1911.

Other of his published works, exclusive of monographs and special articles, included *Capital and Its Earnings* (1888); *Wages* (1889); *The Control of Trusts* (1901); *The Problem of Monopoly* (1904; revised, in collaboration with John Morris Clark, 1912); *Essentials of Economic Theory* (1907).

CLARK UNIVERSITY. A nonsectarian university in Worcester, Mass., founded in 1887. The registration for the autumn of 1938 was 380. The enrollment for the summer session was 202. There were 40 members on the faculty. The productive funds amounted to approximately \$5,000,000. The library contained 157,000 volumes. During 1938, a new gymnasium was completed at a cost of \$175,000, and an auditorium and an addition to the library, to cost \$250,000, were under construction. President, Wallace W. Atwood, Ph.D.

CLOISTERS, THE. See ARCHITECTURE; ART MUSEUMS.

COAL. Total coal production in the United States in 1938 was less than in 1937. Bituminous (soft) coal production in 1938 as compiled from weekly reports of the National Bituminous Coal Commission totaled 347,849,000 net tons, compared to 442,455,000 in the previous year, showing a decrease of 84,606,000 tons or about 21 per cent. Production of Pennsylvania anthracite amounted to 45,674,000 net tons, compared to 50,915,000 of the previous year, indicating a decrease of around 12 per cent. Both bituminous and anthracite producers had an unsatisfactory year, caused in part by labor troubles, and by Federal and State bills attempting to regulate the coal industry. Anthracite producers were also adversely affected by mild weather, which reduced the consumption of coal for heating purposes. According to the U.S. Bureau of Foreign and Domestic Commerce, 324,013 tons of anthra-

PRELIMINARY STATISTICS OF COAL PRODUCTION IN 1938 WITH FIGURES FOR 1937

[Figures in net tons]

State or Territory	1937	1938
Alaska	130,000	132,000
Alabama	12,400,000	10,848,000
Arkansas and Oklahoma	3,200,000	2,512,000
Colorado	7,153,000	5,452,000
Georgia and North Carolina ..	15,000	22,000
Illinois	51,240,000	39,929,000
Indiana	17,270,000	13,949,000
Iowa	3,690,000	3,391,000
Kansas and Missouri	7,044,000	6,054,000
Kentucky	47,053,000	38,874,000
Maryland	1,570,000	1,302,000
Michigan	561,000	469,000
Montana	3,075,000	2,853,000
New Mexico	1,795,000	1,333,000
North and South Dakota	2,152,000	2,174,000
Ohio	24,500,000	18,015,000
Pennsylvania (bituminous) ...	110,160,000	78,721,000
Tennessee	5,292,000	4,464,000
Texas	879,000	890,000
Utah	3,750,000	2,939,000
Virginia	13,558,000	12,400,000
Washington	2,010,000	1,591,000
West Virginia	118,050,000	94,113,000
Wyoming	5,930,000	5,176,000
Other	25,000	29,000
Total bituminous	442,455,000	347,849,000
Pennsylvania anthracite	50,915,000	45,674,000
Total	493,370,000	393,523,000

[This table compiled from weekly coal reports of the National Bituminous Coal Commission.]

cite valued at \$2,350,322 were imported into the United States in 1938; 1,704,385 tons, valued at \$14,634,504 were exported. Of bituminous coal, 165,079 tons valued at \$722,215 were imported and 9,366,312 tons valued at \$38,104,926 were exported.

The National Bituminous Coal Commission has been engaged in carrying out the Bituminous Coal Act of 1937. The Commission has been working on the re-establishing of minimum prices and marketing rules and regulations, since those established in December, 1937, were revoked by Commission Order No. 230 of Feb. 24, 1938. Whether there will be any real relief by the Commission of the unsatisfactory mine prices of coal is doubted by many producers, because if prices are raised there will be more competition from gas and oil.

A survey of the anthracite industry by the Anthracite Institute of New York, showed that 1938 had been a trying year. Unfavorable influences were decisions advanced by the Interstate Commerce Commission, Pennsylvania Public Utility Commission, Canadian trade agreement, and the Lauck Commission bills introduced before the Pennsylvania Legislature at Harrisburg, Penn. The Lauck Commission bills, the Anthracite Institute states, are designed to put anthracite production and marketing under complete control of a permanent State Commission, and regulating the business of mining and selling hard coal by exercise of the right of eminent domain.

COCCIDIOIDOMYCOSIS. See MEDICINE AND SURGERY.

COCHIN CHINA. See FRENCH INDO-CHINA.

COCOS or KEELING ISLANDS. See STRAITS SETTLEMENTS.

COELENTERATES. See ZOOLOGY.

COFFMAN, LOTUS DELTA. An American educator, died in Minneapolis, Minn., Sept. 22, 1938. Born near Salem, Ind., Jan. 7, 1875, he was educated at the Indiana State Normal School, Indiana State University (A.B., 1906), and Columbia University (Ph.D., 1911). During 1896-1907 he was connected with the school system of Indiana, and thereafter he was supervisor of the Training School, Charleston, Ill., (1907-09, 1911-12); a student (1909-10) and a lecturer (1910-11) at Columbia University; professor of education, University of Illinois (1912-15), dean, College of Education, University of Minnesota (1915-20), and president of the University of Minnesota from July 1, 1920. Under his administration the student body increased 100 per cent, many new buildings were erected, and the curriculum was expanded to fit the needs of all its students.

Actively interested in educational affairs, Dr. Coffman was visiting professor for the Carnegie Endowment for International Peace to New Zealand and Australia in 1931; visiting lecturer at the University of the Philippines in 1932; expert consultant to the U.S. Department of the Interior, Land Grant College Survey, 1928-30; and the National Survey of School Finance in 1931. He was one of a group of educators who visited the Soviet Union in 1928, and served as president of the National Society for the Study of Education (1917-18), of the Association of Urban Universities (1921-22), and of the National Association of State Universities (1930).

He wrote *The Social Composition of the Teaching Population* (1911); *Teacher Training Departments in Minnesota High Schools* (1920); *The State University: Its Work and Problems* (1934), and was the co-author of numerous textbooks. Besides co-editing the *Journal of Educational Ad-*

ministration and Supervision from 1922, Dr. Coffman made many educational surveys throughout the country during the years 1916-33.

COINS, CURRENCIES, VALUE OF FOREIGN. The legal estimates of the value of foreign moneys on Jan. 1, 1939, as issued by the U.S. Secretary of the Treasury, are given in the table on page 167.

COLBY COLLEGE. A nonsectarian college for men and women at Waterville, Me., founded in 1813. The enrollment for the autumn term of 1938 was 675. The faculty numbered 52. The endowment amounted to \$2,734,748. Total income was \$319,883, of which \$93,330 was from interest on investment, \$223,077 from student fees and sundry, and \$3475 from gifts. The library contained 93,000 volumes. A new model campus is being built to cost \$3,000,000. President, Franklin W. Johnson, L.H.D., LL.D.

COLGATE UNIVERSITY. A nonsectarian institution for the higher education of men in Hamilton, N. Y., founded in 1819. In the autumn of 1938, there were 1071 students enrolled. The faculty numbered 107 members. The productive funds amounted to approximately \$6,555,000, and the income for the year \$732,000. The library contained 110,000 volumes. President, George Barton Cutten, Ph.D., LL.D., D.D., Pd.D., L.H.D.

COLLECTIVE BARGAINING. See LABOR.

COLLEGES. See UNIVERSITIES AND COLLEGES.

COLOMBIA. A South American republic, third in population and area among the states of that continent. Capital, Bogotá.

Area and Population. The area is estimated at about 448,794 square miles and the population in 1938 was estimated at 8,698,634 compared with 7,851,000 at the 1928 census. In 1928 the population was 35 per cent white, 5 per cent Negro, 2 per cent pure Indian, and 58 per cent of mixed blood. There were 24,383 foreigners in the country in 1938, including 3215 Spaniards, 2977 Germans, 2887 United States citizens, 2683 Ecuadoreans, 1944 British, 271 Chinese, and 206 Japanese. Living births registered in 1937 numbered 239,939 (27.1 per 1000 of population); deaths, 123,201 (13.9); marriages, 39,147 (4.4). Estimated populations of the chief cities in 1937 were: Bogotá, 420,000; Barranquilla, 180,000; Medellín, 150,000; Cartagena, 130,000; Cali, 120,000; Manizales, 100,000; Ibagué, 75,000; Cúcuta, 74,000; Bucaramanga, 68,000; Pasto, 60,000.

Education and Religion. The 1928 census showed that about 48 per cent of the adult inhabitants were illiterate. In 1936 there were 8314 public elementary schools, with 551,961 pupils; 160 continuation schools, with 10,000 pupils; 390 secondary and normal schools, with 28,000 students; 35 professional schools, with 2803 students; 165 night schools for workers, with 8696 students; 11 music and art schools, with 780 students; and 5 universities, with 2948 students (1935). Primary education was made free and compulsory in 1936. The Roman Catholic Church was disestablished as the state church in 1936. The great majority of Colombians profess that faith, but freedom of worship exists for other religions.

Production. The production of raw materials and foodstuffs for export is the basis of the national economy. Coffee, bananas, petroleum, and gold accounted for 94.9 per cent of the value of all exports in 1936. Colombia is the world's chief source of mild coffee and ranks second to Brazil in total production. Estimated yields of the principal crops were (in metric tons): Coffee, 258,000 in 1937-38 (267,000 in 1936-37); cacao, 9955 in 1937-

VALUES OF FOREIGN MONEYS—JAN. 1, 1939

Country	Monetary unit	U.S. money	Remarks
Argentine Republic	Peso	\$1.6335	Given valuation is of gold peso. Paper nominally convertible at 44 % of face value. Conversion suspended Dec. 16, 1929.
Australia	Pound	8.2397	Control of gold stocks and exports authorized Dec. 17, 1929.
Belgium	Belga	.1695	Decree of Mar. 31, 1936. Belga = 5 Belgian francs.
Bolivia	Boliviano	.6180	Conversion of notes into gold suspended Sept. 23, 1931.
Brazil	Milreis	.....	Conversion of Stabilization-Office notes into gold suspended Nov. 22, 1930.
British Honduras	Dollar	1.6931	Conversion of notes suspended.
Bulgaria	Lev	.0122	Exchange control established Oct. 15, 1931.
Canada	Dollar	1.6931	Embargo on export of gold, Oct. 19, 1931; redemption of Dominion notes in gold suspended Apr. 10, 1933.
Chile	Peso	.2060	Given valuation is of gold peso. Gold pesos received for conversion at rate of 4 paper pesos for 1 gold peso. Conversion of notes suspended July 30, 1931.
China	Yuan	.....	Silver standard abandoned by decree of Nov. 3, 1935; bank notes legal tender under Currency Board control; exchange rate for British currency fixed at 1s. 2½d., or 29½¢ U.S., per yuan.
Hong Kong	Dollar	.....	Treasury notes and notes of the three banks of issue made legal tender by silver nationalization ordinance of Dec. 5, 1935; exchange fund created to control exchange rate.
Colombia	Peso	.5714	Obligation to sell gold suspended Sept. 24, 1931. Gold content of .56424 grams of gold 9/10 fine established by law of Nov. 19, 1938, effective Nov. 30, 1938.
Costa Rica	Colon	.7879	Conversion of notes into gold suspended Sept. 18, 1914; exchange control established Jan. 16, 1932.
Cuba	Peso	1.0000	By law of May 25, 1934.
Czecho-Slovakia	Koruna	.0351	By decree of Oct. 9, 1936.
Denmark	Krone	.4537	Conversion of notes into gold suspended Sept. 29, 1931.
Dominican Republic	Dollar	1.6931	U.S. money is principal circulating medium.
Ecuador	Sucre	.3386	Conversion of notes into gold suspended Feb. 9, 1932.
Egypt	Pound (100 piasters)	8.3692	Conversion of notes into gold suspended Sept. 21, 1931.
Estonia	Kroon	.4537	Conversion of notes into gold suspended June 28, 1933.
Finland	Markka	.0426	Conversion of notes into gold suspended Oct. 12, 1931.
France	Franc	.....	Provisions of Monetary law of Oct. 1, 1936, providing for gold content of franc, superseded by decree of June 30, 1937, which stated that the gold content of the franc shall be fixed ultimately by a decree adopted by the Council of Ministers. Pending such decree a stabilization fund shall regulate the relationship of franc and foreign currencies.
Germany	Reichsmark	.4033	Exchange control established July 13, 1931.
Great Britain	Pound Sterling	8.2397	Sale of gold at legal monetary par suspended Sept. 21, 1931.
Greece	Drachma	.0220	Conversion of notes into gold suspended Apr. 26, 1932.
Guatemala	Quetzal	1.6931	Conversion of notes into gold suspended Mar. 6, 1933.
Haiti	Gourde	.2000	National bank notes redeemable on demand in U.S. dollars.
Honduras	Lempira	.8466	Gold exports prohibited Mar. 27, 1931; lempira circulates as equivalent of half of U.S. dollar.
Hungary	Pengő	.2961	Exchange control established July 17, 1931.
India (British)	Rupee	.6180	Sale of gold at legal monetary par suspended Sept. 21, 1931.
Indo-China	Piaster	.....	Piaster pegged to French franc at the rate of 1 piaster = 10 French francs; exchange of notes for gold ended Oct. 2, 1936.
Ireland	Pound	8.2397	Conversion of notes into gold suspended Sept. 21, 1931.
Italy	Lira	.0526	New gold content of 46.77 milligrams of fine gold per lira established by monetary law of Oct. 5, 1936.
Japan	Yen	.8440	Embargo on gold exports Dec. 13, 1931.
Latvia	Lat	.....	Currency pegged to sterling Sept. 28, 1936, at 2522 lati = £100.
Liberia	Dollar	1.6931	British money is principal circulating medium.
Lithuania	Litas	.1693	Free export of gold suspended Oct. 1, 1935.
Mexico	Peso	.....	Decree of Aug. 28, 1936, left the monetary unit, the peso, to be later defined by law.
Netherlands and colonies	Guilder (florin)	.6806	Suspension of convertibility of notes into gold and restrictions placed on free gold exports—Sept. 26, 1936.
Newfoundland	Dollar	1.6931	Newfoundland and Canadian notes legal tender.
New Zealand	Pound	8.2397	Conversion of notes into gold suspended, gold exports curbed, Aug. 5, 1914; exchange rules December, 1931.
Nicaragua	Cordoba	1.6933	Embargo on gold exports Nov. 13, 1931.
Norway	Krone	.4537	Conversion of notes into gold suspended Sept. 29, 1931.
Panama	Balboa	1.6933	U.S. money is principal circulating medium.
Paraguay	Peso (Argentine)	1.6335	Paraguayan paper currency is used; exchange control established June 28, 1932.
Persia (Iran)	Rial	.0824	Obligation to pay out gold deferred Mar. 13, 1932; exchange control established Mar. 1, 1936.
Peru	Sol	.4740	Conversion of notes into gold suspended May 18, 1932.
Philippine Islands	Peso	.5000	By act approved Mar. 16, 1935.
Poland	Zloty	.1899	Exchange control established Apr. 27, 1936.
Portugal	Escudo	.0749	Gold exchange standard suspended Dec. 31, 1931.
Rumania	Leu	.0101	Exchange control established May 18, 1932.
Salvador	Colon	.8466	Conversion of notes into gold suspended Oct. 7, 1931.
Siam	Baht (Tical)	.7491	Conversion of notes into gold suspended May 11, 1932.
Spain	Peseta	.3267	Exchange control established May 18, 1931.
Straits Settlements	Dollar	.9613	British £ sterling, Straits \$ and half \$ legal tender.
Sweden	Krona	.4537	Conversion of notes into gold suspended Sept. 29, 1931.
Switzerland	Franc	.....	Order of Federal Council enacted Sept. 27, 1936, instructed the Swiss National Bank to keep gold parity of franc at value ranging from 190 to 215 milligrams of fine gold.
Turkey	Piaster	.0744	100 piasters equal to the Turkish £; conversion of notes into gold suspended 1916; exchange control Feb. 26, 1930.
Union of South Africa	Pound	8.2397	Conversion of notes into gold suspended Dec. 28, 1932.
U.S.S.R.	Chervonetz	8.7123	Conversion of notes into gold suspended Aug. 2, 1914; exchange control since Sept. 7, 1931. Gold content of .585018 grams pure gold per peso, law of Jan. 12, 1938.
Uruguay	Peso	.6583	Exchange control established Dec. 12, 1936.
Venezuela	Bolivar	.3267	Exchange control established Oct. 7, 1931.
Yugoslavia	Dinar	.0298	Exchange control established Oct. 7, 1931.

* At par as regards gold units; nongold units have fixed par with gold.

38; cane sugar, 28,800 in 1936-37; tobacco, 10,700 in 1936-37; rice, 48,722 in 1937-38; wheat, 64,127 in 1937-38; corn, 500,000 in 1934-35; potatoes, 225,000 in 1934-35. Banana exports in 1936 were 159,648 metric tons, valued at 8,207,000 pesos. Live-stock slaughtered in 1937 included 1,012,000 cattle and calves, 104,000 sheep, and 550,000 swine. Production of the chief minerals in 1937 was: Petroleum, 20,054,798 bbl. (of 42 gal.) against 18,751,964 bbl. in 1936; gold, 442,222 troy oz.; platinum, 29,314 troy oz.; salt, 2,928,962 pesos. Output of other minerals was (in metric tons): Cement, 105,000 in 1936; coal (transported by rail), 445,000 in 1936; silver, 5.2 in 1937. Emeralds, copper, lead, mercury, and cinnabar are found. Manufacturing is confined largely to oil refining and to the fabrication of articles for local consumption. Manufactured and partly manufactured goods comprise about 90 per cent of all imports.

Foreign Trade. Imports, including bullion and specie, totaled 167,800,000 pesos (\$95,341,000) in 1937 as against 120,037,000 pesos (\$68,593,000) for 1936. The 1937 import statistics are based on the c. i. f. value at port of entry, while figures for earlier years were based on values declared in consular invoices. Consequently the 1937 values should be reduced by 12 per cent to be comparable to those for 1936. Exports in 1937, excluding gold, were valued at 150,071,000 pesos (\$85,268,000) against 136,844,000 pesos (\$78,197,000) in 1936. The value of the leading 1937 exports was: Coffee, 97,963,000 pesos (91,968,000 in 1936); crude petroleum, 35,079,000 pesos (28,267,000); gold, 31,753,000 pesos (20,788,000); bananas, 6,983,000 pesos (8,207,000); cattle, hides, 4,979,000 pesos (3,499,000); platinum 2,666,000 pesos (3,184,000). The United States furnished 48.5 per cent of the 1937 imports by value (41.3 per cent in 1936); United Kingdom, 18.7 (18.3); Germany, 13.5 (22.3). Of the 1937 exports, the United States took 56.7 per cent (54.3 in 1936); Germany, 12.6 (16.5); France, 5.1 (4.5).

Finance. In the budget estimates for 1939, ordinary receipts and expenditures balanced at 89,249,000 pesos and extraordinary receipts and expenditures at 1,959,000 pesos. For 1938 the respective totals were 81,568,000 pesos and 3,792,000 pesos. Actual receipts for 1937 were (in pesos): Ordinary, 82,606,000; extraordinary, 8,286,000; extra-budgetary, 1,630,000; total, 92,522,000. Actual 1937 expenditures were: Ordinary, 76,688,000; extraordinary, 9,052,000; extra-budgetary, 1,630,000; total, 87,370,000. The public debt on Dec. 31, 1937, amounted to 177,047,000 pesos, divided as follows: External funded, at par, 62,469,000 (excluding unpaid interest); internal funded, 47,387,000 (excluding unpaid interest); internal irredeemable, 2,054,000; external floating and short-term, 32,767,000 (at 1.80 pesos to the dollar and 0.06 to the franc); internal floating and short-term, 32,370,000. The Colombian pesos (par value, \$1.6449) had an average exchange value of \$0.5450 in the official market and \$0.5494 in the curb market in 1937 (\$0.571 and \$0.546 in 1936).

Transportation, etc. The Magdalena River, navigable to 500-ton vessels for 514 miles from Barranquilla, is the main traffic artery. Port improvements made Barranquilla accessible to ocean steamers in 1936. The railways in 1937 had 2022 miles of line; nearly 1300 miles were under construction. The Colombian Government purchased the North Eastern Railway from private owners for 11,600,000 pesos under the law of Nov. 30, 1938. Roads and highways in 1937 extended 16,637 miles; there were 19,435 automobiles in the same year.

The Bogotá-Quito automobile highway was completed with the opening of the Cali-Popayan section during 1938. Work was begun in 1938 on an extension of the Medellín-Cauca Valley highway to the Gulf of Uruba, where a port was to be constructed. Various other highway projects were under way. Air services in operation in 1938 covered 7401 miles of route.

Government. The Constitution of Aug. 5, 1886, vests executive power in a President elected for four years by direct popular vote and ineligible for re-election for four years after completion of his term. A Congress of two houses exercises the legislative power. The Senate has 56 members, elected for four years by departmental Assemblies; the Chamber of Deputies, 118 members, elected for two years by direct suffrage. President at the beginning of 1938, Dr. Alfonso López (Liberal), who assumed office Aug. 7, 1934. Under his leadership, extensive amendments to the Constitution were voted on Aug. 1, 1936 (see 1936 YEAR BOOK, pp. 174 f.).

HISTORY

Santos Elected President. Dr. Eduardo Santos, whose election as President of Colombia was forecast by developments in 1937 (see 1937 YEAR BOOK, p. 169), was elected without opposition on May 1 and was inaugurated on August 7. Both the Conservatives and Communists abstained from voting, not because of compulsion but because they regarded a Liberal electoral victory as certain. About 500,000 voters cast their ballots for Dr. Santos. For the first time in Colombian history, the selection of a President took place without election disorders. On May 13, however, a clash between Liberals and Conservatives in which four Liberals were killed was reported in Villacaro, a town in the State of North Santander.

The inauguration of Dr. Santos on August 7 was the outstanding feature of the celebration of the fourth centenary of the founding of Bogotá. Three large U.S. Army bombers flew to Bogotá from Miami, Fla., to participate in the inaugural ceremonies and special representatives of most of the American governments were present. The anniversary festivities were saddened, however, by the disaster attending the opening of a great new military field at Bogotá on July 24. A military plane, stunting low over the field, crashed into part of a crowd of 50,000 people gathered to watch a review, killing and mortally wounding 60 and injuring 150 others.

The assumption of power by Dr. Santos, a noted diplomat, newspaper publisher, and chairman of the Liberal party, marked a swing toward the center from the more radical government of President López. Dr. Santos declared his policy would be the unification of the economic and social forces of the nation, an objective obstructed by the violence of political and social conflicts. Opposing the program of international political action adopted by the convention of the National Labor Union at Cali on January 24, he likewise spoke out against fascism and pledged his government to defend democracy and civil liberties. The foreign policy announced in his inaugural address and subsequently elaborated, called for the readjustment of the foreign debt on a basis acceptable to the Colombian Government and its creditors, the welcoming of foreign capital provided it obeyed Colombian laws, revision of the Concordat with the Vatican, and support of Pan Americanism but retention of Colombia's membership in the League of Nations so

long as hope of the acceptance of the League's principles remained. The key figures in his new cabinet included: Minister of Government, Carlos Lozano y Lozano; Foreign Relations, Luis López de Meza; War, José Joaquín Castro Madrid; Internal Affairs, Carlos Lleras Restrepo.

Legislation. In the first session of Congress during 1938, ended on May 26, the Constitution was further amended to provide for one annual five-months' session of Congress beginning July 20, 1939, instead of meeting twice a year as in 1937 and 1938. Other measures adopted included a decree making traffic regulations uniform throughout the Republic, a bill for a 5,000,000 peso increase in the War Department's annual budget, a new code of criminal procedure, a law for the protection of expectant mothers, and a decree extending additional credit facilities to remote districts of the Republic through the establishment of territorial credit banks. In the second session of Congress opening July 20, laws were passed authorizing the establishment of a state-supported iron and steel industry, the creation of an advisory committee to assist the government in negotiating an agreement with foreign creditors for liquidation of the defaulted public debt, and the devaluation of the Colombian peso. The peso was stabilized at 1.75 to the dollar by specifying as the monetary unit a coin containing 900 parts of fine gold and weighing 0.56424 grams. The law also authorized the government to negotiate a modification of its contract of Oct. 31, 1934, with the Bank of the Republic and to define the manner in which debts originally contracted in foreign moneys, coined gold, and legal currency could be settled in national bills representing gold or Bank of Republic notes. Another law directed the government to acquire shares of the Agricultural Mortgage Bank held by municipalities. Other legislation established new ministries of National Economy and Labor and of Hygiene and Social Welfare, and provided for reforestation and the establishment of a chemical industry.

Political Developments. Heated and lengthy debates on two important issues delayed the work of Congress. One issue involved the bill to repeal a section of a 1931 law barring intervention by labor unions in the military policies of the country. The rise of political unionism as a result of the rapid spread of unions since the Liberals returned to power in 1930, accounted for the interest in this issue. The National Labor Union convention in January approved the establishment of a continental labor federation to fight fascism and defend the interests of the laboring classes. It demanded revision of foreign-owned concessions and nationalization of railways, of shipping on Colombian rivers, and of oil and other mineral deposits. The convention also advocated union representation on the boards of directors of private corporations and of the National Railways, and opposed the obligatory arbitration of labor disputes. Dr. Santos's newspaper, *El Tiempo*, asserted that the convention was controlled by radical politicians opposed to the Liberal government and party.

The second issue delaying legislation was the strike conducted by students of the secondary schools against the requirements established by the Liberal regime for entrance into the universities. Most of the secondary schools were established by the Catholic Church during the Conservative period of domination and were opposed to supervision by the Liberal government. The strike broke out early in May in Bogotá and other cities and

assumed such violence that the police used tear gas bombs and fire hose on the strikers. After four persons had been killed and 40 wounded during a riot in Pasto, the government on May 13 prohibited all public demonstrations. Both the government and the Liberal press denounced the strike as a subversive movement against the Liberal regime instigated by the Conservatives. The strike died down in the middle of May after a special commission was named to study the problem.

Other Internal Developments. The influx of Jewish and anti-Nazi refugees into Colombia from Germany continued in 1938. The discovery of a scheme for the entrance of additional Jewish refugees with fraudulent passports led the police on June 29 to order all foreign residents to present their passports for verification of their authenticity. Anti-Semitism was reported on the increase. In connection with the government's program of agricultural development a national cotton board of six members was appointed in March to promote the cotton-growing and yarn industries. The agricultural program received a setback when the United Fruit Co. suspended new plantings and development work on its banana plantations, indicating that it would confine its activities in Colombia to buying from native planters. This action was attributed to the company's difficulties with both labor unions and the government. The government had charged an American and two Colombian agents of the company with the bribery of legislators. The Colombian Supreme Court on May 9 upheld the government's suit to collect an oil pipe-line tax of 2½ per cent of the operating revenues from the Andian National Corporation. Nevertheless, heavy foreign investments in the Catatumbo and other oil fields continued, especially by the Shell company.

Foreign Relations. The growing trade between the United States and Colombia resulting from the reciprocal commercial pact effective May 20, 1936, was accompanied by a tightening of diplomatic ties. Dr. Santos visited the United States in March and seized the occasion to affirm his firm support of President Roosevelt's "good neighbor" policy. In October the legations of the United States and Colombia in Bogotá and Washington, respectively, were simultaneously raised to the rank of embassies. In February the Liberal Senator José Combariza in a speech in the Senate urged an alliance with the United States to protect Colombian democracy against the growth of fascism in Peru, Ecuador, and Brazil. Colombia joined with the Dominican Republic in drafting a plan for an American league of nations submitted to the Pan American Conference at Lima in December. (See PAN AMERICAN CONFERENCE.) It was announced November 9 that Colombia and Brazil had agreed to raise their respective legations to embassies.

Strained relations between Colombia and Germany ensued when Berlin police held the Colombian Minister-designate, Jaime Jaramillo Arango, and members of the legation staff for taking pictures of the anti-Jewish excesses in the German capital on November 10. The Bogotá Government immediately withdrew the diplomat and the first secretary of the legation from Germany, later transferring them to Copenhagen. Reich officials said that Hitler had refused to receive Jaramillo Arango for the presentation of his credentials and had demanded the first secretary's expulsion. On November 26 it was announced at Washington that a United States military aviation mission and a naval

mission would be sent to Colombia at the request of that government. Venezuela and Colombia raised their respective legations to embassies on December 7.

COLORADO. Area and Population. Area, 103,948 square miles; included (1930) water, 290 square miles. Population: Apr. 1, 1936 (census), 1,035,791; July 1, 1937 (Federal estimate), 1,071,000; 1920 (census), 939,629. Denver, the capital, had (1930) 287,861 inhabitants; Pueblo, 50,096.

Agriculture. The accompanying table shows the acreage, production, and value of the chief crops of Colorado for 1938 and 1937.

Crop	Year	Acreage	Prod. Bu.	Value
Hay (tame) .	1938	1,062,000	1,863,000 *	\$11,364,000
	1937	1,022,000	1,661,000 *	12,956,000
Sugar beets .	1938	137,000	1,984,000 *	.....
	1937	160,000	1,992,000 *	9,562,000
Wheat	1938	1,339,000	19,415,000	9,708,000
	1937	1,136,000	15,155,000	13,791,000
Potatoes	1938	91,000	11,830,000	6,506,000
	1937	106,000	15,688,000	7,060,000
Corn	1938	1,078,000	11,319,000	5,320,000
	1937	1,067,000	8,536,000	5,378,000
Dry beans ...	1938	312,000	1,498,000 *	4,410,000
	1937	244,000	781,000 *	2,702,000
Barley	1938	510,000	11,985,000	3,476,000
	1937	408,000	8,772,000	4,474,000
Oats	1938	163,000	5,053,000	1,314,000
	1937	143,000	4,433,000	1,685,000

* Tons. ♢ 100-lb. bags.

Mineral Production. The yearly production of coal in Colorado attained some 7,153,000 net tons for 1937, as against 6,811,802 (value \$16,277,000) for 1936. The mining of molybdenum by the Climax Molybdenum Company continued in 1937 to make extraordinary progress. In the form of concentrate, ore produced in that year contained 22,750,368 lb. of metal, an increase of nearly 50 per cent over the total for 1936. This mine was the only producer of molybdenum in the State and was reckoned to furnish 71 per cent of the world's current output.

As to the mining of gold, silver, copper, lead, and zinc, preliminary approximations of Colorado's production were issued for 1938. The recoverable value of the five metals in the ore mined during the year was about \$22,020,731 for 1938, or very nearly the \$22,107,207 for 1937. The comparison with 1937's total was more favorable than in a number of the other Mountain States producing these metals, where declines ran to 30 and even 50 per cent. In this State, the predominance of gold and silver, both bought by the Government without reference to ordinary considerations of supply and demand, helped keep production up; also, in Eagle County, where most of the silver and copper were mined, the Empire Zinc Company's mining of recently developed ore on Battle Mountain, containing copper, silver, and gold, went on increasing, despite lower prices in the metal-markets.

Reckoned in terms of recoverable metal in ores, the yearly production of gold rose to some 370,100 oz. (1938), from 368,905 (1937); by value, to \$12,953,500, from \$12,911,675. That of silver, to 7,776,600 oz. (1938), from 6,260,963 (1937), and to \$5,072,297, from \$4,842,646. That of copper, to some 27,090,000 lb. (1938), from 21,868,000 (1937); in value, \$2,654,820 (1938), about the same as the previous year's \$2,646,028. The value of the year's production of lead dropped below \$1,000,000, and that of the output of zinc below \$500,000, although both were produced in somewhat greater quantity than in 1937. Mining was, as usual, widespread: a score of counties were substantial producers of

one or more of the five metals, and six attained production in excess of \$1,000,000.

At Climax the production of molybdenum (in concentrates) rose to 28,150,000 lb. (1938), from 22,750,368 (1937).

Finance. Colorado's State expenditures in the year ended June 30, 1937, as reported by the U. S. Bureau of the Census, were: For maintaining and operating governmental departments, \$30,926,094 (of which \$13,628,422, or 44 per cent, was for charities, \$5,675,417 was for highways, and \$720,159 was apportioned for local education); for interest on debt, \$347,045; for capital outlay, \$17,881,798. Revenues were \$40,683,396. Of these, property taxes furnished \$3,467,828; sales taxes, \$16,328,465 (including tax on gasoline, \$7,123,276); departmental earnings, \$2,804,393; sale of licenses, \$3,160,500; unemployment compensation, \$2,320,010; Federal or other grants-in-aid, \$9,745,655. Funded debt outstanding on June 30, 1937, totaled \$30,055,700. None of it was offset by sinking-fund assets. On an assessed valuation of \$1,103,563,605 the State levied in the year ad-valorem taxes of \$3,352,991.

Education. Colorado's inhabitants of school age, as reckoned for April, 1938, numbered 314,212. In the scholastic year 1936-37, the latest covered by the data that follow, enrollments of pupils in the public schools totaled 254,665. This comprised 178,593 in the elementary group, 56,624 in high schools, and 19,448 otherwise classified (kindergartens, opportunity classes, and evening classes). The year's expenditure for public-school education totaled \$22,648,594. Teachers numbered 9131; their yearly salaries averaged \$1196.63. This did not include 374 administrators in the public-school system, whose salaries averaged \$2569.

The distribution of funds from Colorado's income tax, for the support of public schools, went into effect. The *Journal* of the National Education Association reported that the operation of the public junior colleges had been merged with that of the public-school system, and that by terminating county examinations for certification of teachers, further certifications had been restricted to those issued by the State teachers' colleges and by the State Department of Education.

Charities and Corrections. The State's Department of Public Welfare (Earl M. Kouns, Director) was the administrative authority for the State's payments of support to several groups of needy inhabitants; in particular, old-age assistance. The latter part of its duty involved, during 1938, the most conspicuous and controversial feature in Colorado's internal affairs. The payments made to the elderly indigents, as may be seen from particulars given under *Events*, below, were burdensome to the State's finances and fell short of the intended \$45 a month that the popular vote of 1936 had made a constitutional requirement. The State institutions having care or custody of persons were administered by respective managing boards. See *OLD AGE PENSIONS*.

Political and Other Events. The State's law devoting some of its most productive taxes to the payment of the old-age pension at the rate of \$45 a month continued to burden the State government and to rouse opposition and discontent. The recipients at the outset of 1938 numbered 34,804. The monthly total paid them varied greatly, as it was limited by the receipt of means from the available sources. At the full rate it would have approximated \$18,000,000 a year, allowance made for deduction in the cases of pensioners who had small

means of their own. This sum, diminished by the amount of the corresponding Federal contribution, came to some \$11 per capita of the population. Actually the payments for the year, despite the addition of "jackpots" or extra payments at some occasions, as the law required, ran considerably below the prescribed total. A County Judge ruled (April 22) that the pensioners were entitled to accumulated deficiencies in payments since Jan. 1, 1937, and these were supposed to total \$3,000,000 or over.

A petition for the repeal of the pension was circulated and gained the needful number of names to put the proposal for repeal on the ballot. The proposal was defeated in the November election.

The State's position as to water rights and water development for electricity and irrigation was affected by a compact of Colorado, New Mexico, and Texas, consenting to the removal of the Federal prohibition of reservoirs in the Rio Grande; the compact, signed by the Governors of these States, awaited ratification by their Legislatures. The commencement of work on the Colorado-Big Thompson project about July 1 was announced; a contract binding prospective users of the water to repay a share of the cost was approved by special vote in districts of northern Colorado (June 29). The Big Thompson Highway, a \$1,800,000 road giving a new access to the Rocky Mountain National Park, was opened with a three-day celebration at the end of May. U.S. Route 40, carried across the Great Divide at Berthoud Pass, 11,315 ft. above sea-level, was opened with ceremonies on July 2. It was stated to be the most elevated transcontinental highway.

A public examiner's report of excessive cost in the operation of the State Industrial School at Golden led Governor Ammons to take steps for the reorganization of this institution. The Denver Medical Society voted (August 16) to sponsor a plan for giving medical attention to groups of persons of low income, at small charge, prepaid, in the Denver area. The discovery of platinum-bearing ores in paying quantity in an area of Southwestern Colorado was announced (May 16) by the U.S. Geological Survey.

Elections. U.S. Senator Alva B. Adams (Dem.) was re-elected, defeating Archibald A. Lee (Rep.) by nearly 3 to 2. Ralph L. Carr (Rep.) gained the Governorship from Gov. Teller Ammons (Dem.), who sought re-election.

Officers. Colorado's chief officers, serving in 1938, were: Governor, Teller Ammons (Dem.); Lieutenant-Governor, Frank J. Hayes; Secretary of State, George E. Saunders; Auditor, Thomas Annear; Treasurer, Homer F. Bedford; Attorney-General, Byron G. Rogers; Superintendent of Public Instruction, Inez Johnson Lewis.

Judiciary. Supreme Court: Chief Justice, Haslett P. Burke; Judges, E. V. Holland, Benjamin C. Hilliard, Francis E. Bouck, John C. Young, Norris C. Bakke, William Lee Knous.

COLORADO, UNIVERSITY OF. A coeducational State institution of higher learning in Boulder, Colo., founded in 1876. The number of students enrolled for the autumn of 1938 was 4125; the summer session enrollment was 4275. There were 288 faculty members. The total income for the year was \$2,131,512. The library contained 282,933 bound volumes, 17,000 pamphlets, and 3525 maps. An engineering building and two wings to the Arts and Sciences building were completed at a cost of \$475,000. President, George Norlin, Ph.D., LL.D., Litt.D., L.H.D.

COLORADO RIVER AQUEDUCT. See

AQUEDUCTS; ELECTRICAL INDUSTRIES; ELECTRICAL TRANSMISSION AND DISTRIBUTION; TUNNELS, WATERWORKS AND WATER PURIFICATION.

COLUMBIA UNIVERSITY. A nonsectarian institution for the higher education of men and women in New York City, founded as King's College in 1754. At Morningside Heights, Broadway, and 116th Street are located: Columbia College (for undergraduate men); Barnard College (for undergraduate women); Teachers College, including the Advanced School of Education; the professional schools of law, engineering, architecture, journalism, business, library service, and optometry; and nonprofessional graduate faculties of political science, philosophy, and pure science. The College of Physicians and Surgeons and the School of Dental and Oral Surgery are at the Medical Center on West 168th Street, the College of Pharmacy on West 68th Street, Bard College at Annandale-on-Hudson, N. Y., and the New York Post-Graduate Medical School on East 20th Street. In addition, through university extension classes and the summer session, courses are offered for resident students at Morningside Heights; and other courses are offered at Camp Columbia, as well as at several centers.

On the basis of the enrollment on Nov. 1, 1938, the total number of resident students for the year was estimated at 32,619, distributed as follows: Undergraduates, 3131, of whom 1803 were in Columbia College, 986 in Barnard College, 142 in Bard College, and 169 in other schools; and graduate students, 2787. The distribution of professional students was as follows: Law, 533; medicine, 539; engineering, 246; architecture, 62; journalism, 61; business, 541; dental and oral surgery, 289; pharmacy, 366; optometry, 99; library service, 420; and Teachers College, 8180; 5803 students were enrolled in university extension classes and 290 were unclassified. Of the 2968 nonresident students, 70 were registered in home study courses and 2898 in special and extramural courses. There were 11,822 students registered for the summer session of 1938. The grand total of resident students is exclusive of 2314 duplicate registrations.

The faculty and officers of administration in 1938-39 numbered 3682, of whom all but 88 were in active service. This number was distributed as follows: Professors, 415; associate professors, 228; assistant professors, 371; associates, 378; instructors, 557; lecturers, 170; assistants, 398; curators, 6; associates, instructors, lecturers, and assistants in Teachers College, 229; associates, instructors, lecturers, and assistants in the College of Pharmacy, 17; associates, instructors, and lecturers in Bard College, 20; instructors in extension and home study, not included above, 518; instructors in summer session, not included above, 463; officers of administration, 90; emeritus and retired officers, 88.

During the year 1937-38 the university received gifts in money representing a total of \$1,971,253. The principal gifts were: \$200,000 from the Commonwealth Fund and \$180,000 from the Martha M. Hall Foundation toward the cost of construction and equipment of the laboratory building at the Medical Center for graduate work in medicine; \$162,097 from the estate of William R. Shepherd for the Shepherd Foundation; \$150,000 from the Carnegie Corporation for the endowment of a professorship in the School of Library Service and \$75,000 for the establishment of the Andrew Carnegie Fund for the support of the School of Library Service; \$145,365 from the Rockefeller Found-

dation for research work; \$135,302 from the estate of Ellen C. Harris for the Harris Fund; \$129,984 from an anonymous donor to establish the Legislative Drafting Research Fund.

The capital endowment of the university in 1938, excluding value of plant (including Barnard College, Teachers College, College of Pharmacy, Bard College, and New York Post-Graduate Medical School), was \$86,980,474. The estimated total resources as of June 30, 1938, were \$155,868,638. The annual budget for 1938-39 was \$11,148,859. The library contained 1,615,000 volumes. President, Nicholas Murray Butler, Ph.D., Hon.D., LL.D.

COMMITTEE FOR INDUSTRIAL ORGANIZATION (C.I.O.). See **LABOR UNIONS**; **KENTUCKY, MICHIGAN, NEW JERSEY, and TEXAS.**

COMMODITY CREDIT CORPORATION. See **AGRICULTURE**; **UNITED STATES** under *Congress*.

COMMODITY PRICES. See **BUSINESS REVIEW**.

COMMUNISM. The international Communist movement registered some gains during 1938 by taking full advantage of the virtually unlimited opportunities for propaganda offered by the worldwide fear of fascism, the failure of the democratic governments to resist the Fascist advance, and the persistence of large-scale unemployment in many capitalist countries. The growth of communism was encouraged in China not only by Japanese aggression but by the forced withdrawal of the German military advisers to the Nationalist (Kuomintang) Armies and the cutting off of Chinese munitions imports through Hong Kong. These developments forced the Nationalist Government to rely increasingly upon Soviet military assistance and consequently to relax its restrictions upon Communist propaganda. In the United States, Mexico, and some other countries the Communists made progress in boring from within liberal, pacifist, and anti-imperialist organizations and movements. But these gains were small compared with the setbacks administered to revolutionary Marxism during the year.

Position of the Soviet Union. The international position of the Soviet Union was gravely weakened by the continuance of fratricidal strife among Communist factions. The most sensational of the series of treason trials held in Moscow ended with the execution on March 15 of 18 anti-Stalin Communists, including several leaders of the Bolshevik revolution and builders of the Soviet state. Drastic purges of other anti-Stalin elements were reported from time to time. In 1937 most of the outstanding leaders of the Red Army were shot. In 1938 it was the turn of the Navy. Admiral Orlov, the commander-in-chief, and many other admirals and naval experts were executed or imprisoned (see **UNION OF SOVIET SOCIALIST REPUBLICS** under *History*).

These developments not only disillusioned many Communists and Communist sympathizers in other countries but gravely weakened the confidence of the Czecho-Slovaks and French in the value of their military alliances with the Soviet Union. This feeling, together with the fear among British and French conservatives of the spread of communism during another European war, was a major factor in the Anglo-French capitulation to Hitler and Mussolini at Munich on September 29-30. That capitulation eliminated Czecho-Slovakia as a valuable military ally of the Soviet Union and placed the Franco-Soviet alliance in jeopardy. It stimulated Nazism throughout Central and Southern

Europe. From his refuge near Mexico City, Trotsky declared that "the collapse of Czecho-Slovakia was the collapse of Stalin's international policy of the last five years."

That policy had consisted of suspending the Communist program of world revolution in order to enlist the aid of democratic and liberal forces in the world-wide fight against advancing fascism. The failure of this policy was indicated not only by Munich but by the collapse of the Popular Front in France and the formation of an anti-Communist government under Premier Daladier. In Great Britain, the United States, and most other democratic countries, with the exception of Chile, liberal and radical non-Communist groups persisted in rejecting Communist proposals for unity against "fascism." The general council of the International Federation of Trade Unions at Oslo, Norway, on May 19 rejected, 16 to 4, the conditions laid down by Soviet trade unions for affiliation with the federation. It contended that such an affiliation would be inconsistent with democracy. On November 18 all Communist candidates for election to the executive committee of the French General Confederation of Labor were defeated.

Communist Policy Changed. As though recognizing the truth of Trotsky's dictum, the Stalin regime during 1938 modified the world policies of the Third (Communist) International. At the 1935 Congress of the Third International, a united front of Communists and liberals against war and fascism was adopted as the "party line." In February of 1938 Stalin declared that the survival of Marxian socialism in the Soviet Union could be guaranteed against intervention from capitalist powers only through the aid of the proletariat in capitalist countries. By implication he called for the elimination of all bourgeois elements from the united front movements.

On June 25 President Mikhail Kalinin revived the old slogan of "world revolution" in a speech at Leningrad. "Our enemy is the capitalist world," he said. "We live not only in order to live but we live for the future, for a complete victory of communism throughout the world." After the Munich settlement, correspondents in Moscow reported a revival of the activities of the Third International directed toward the eventual overthrow of bourgeois governments everywhere. In November the Russian Communist party initiated a momentous change in the Marxian doctrine that the state would "wither away" after the establishment of communism. Propaganda instructions issued to party members declared that the existing all-inclusive state apparatus, including a strong professional army and police force, must be retained until Marxian socialism triumphed in the principal capitalist countries.

Communism in United States. At the Communist National Party Builders' Congress held in New York City February 18-22, William Z. Foster, national chairman, reported a gain of 22,000 members for the party, half of the new members being from A. F. of L. and C.I.O. labor unions. One-third of them were women and 15 per cent were Negroes, he said. Yet in May the total dues-paying membership of the party in the United States was reported at only 75,000. At the 10th annual convention of the New York State branch of the Communist party in New York City, May 19-23, a gain in membership from 15,814 in 1937 to 30,000 was announced. During 1937 the State organization spent \$120,000, including \$20,000 for "educational and organizational work," while its income was \$94,242. A full slate of candidates for

State and Congressional offices was named with the understanding that they might be withdrawn "in the interests of united progressive candidacies."

While Communist international strategy, as laid down by the Stalin regime in the Soviet Union, was beginning to shift from the Communist-liberal united front program, the American Communist party's national convention held in New York at the end of May sought to bolster the united front movement. "As a direct answer to those reactionary tory attacks which attempt to characterize the Communist party as undemocratic," the party's central executive committee drafted a new pledge to be taken by all American Communists. The pledge, which was inserted in the new party constitution, follows:

I pledge firm loyalty to the best interests of the working class and full devotion to all progressive movements of the people. I pledge to work actively for the preservation and extension of democracy and peace, for the defeat of fascism and all forms of national oppression and for the establishment of socialism. For this purpose I solemnly pledge to remain true to the principles of the Communist party and to maintain its unity of purpose and action and to work to the best of my ability to fulfill its program.

The constitution provided that "individual party members enjoy unrestricted rights of discussion in pre-convention periods," but declared that "decisions of the convention shall be final." It also required members of the party to become citizens of the United States. The concluding session of the convention was featured by demands of Communist leaders for a united front of all "democratic and progressive forces" to defeat the "reactionaries." In furtherance of this program, subsequent efforts were made to establish co-operation with various non-Communist groups, including the Catholics. These efforts met with scant success.

Communist Political Strategy. On September 5 Earl Browder, national executive secretary of the party, declared Communists were obligated to support President Roosevelt and the New Deal in the November elections. In October the Communist party in New York State withdrew all its nominees and announced that it would support the State-wide candidates of the American Labor party, which had endorsed the Democratic candidates for Governor and Lieutenant Governor. The American Labor party and the Democratic nominees for Governor and Lieutenant Governor all rejected the Communist endorsement. In reply to inquiries from the New York State commander of the American Legion, both the Democratic and Republican gubernatorial candidates in that State pledged themselves not to appoint Communists to public office if elected. In spite of these rebuffs, the Communists voted for the Democratic and American Labor party candidates. On November 9 Browder asserted that "the Communist vote in New York State represented the difference between victory and defeat for the Democratic forces on election day."

Investigations of Communism. Fairly exhaustive inquiries into the activities of the Communist party in the United States were made during the year by a New York State joint legislative investigation committee headed by Senator John J. McNaboe, and by the U.S. House Committee Investigating un-American Activities, of which Representative Martin Dies of Texas was chairman. Earl Browder testified before the McNaboe committee on June 30 and July 1. He said that the American Communist party was affiliated with the Third International (Comintern) but asserted the decisions of the Comintern were binding in the

United States only when approved by the American party. He admitted, however, that his party had never vetoed a decision of the Third International. He testified that Communist newspapers and propagandist literature "penetrate almost everywhere in America," but denied that there was "any Communist conspiracy to overthrow the United States by violence." Under questioning, he testified that he would "fight for the United States" in case of a United States-Russian war. Other witnesses before the committee testified to strong Communist influence in the Workers Alliance and in the New York units of the Federal Writers Project.

Before the Dies Committee, John P. Frey, vice-president of the A. F. of L., testified that a meeting of leading American Communists in New York in May decided to broaden the Communist movement by action within the major political parties, by pressure on President Roosevelt to force him farther to the Left, and by supporting Governor Earle of Pennsylvania.

Sensational testimony was given by James B. Matthews of Washington, N. J., an organizer and former president of the American League Against War and Fascism, which he described as a Communist-inspired "united front" organization. The name of the organization was later changed to the American League for Peace and Democracy. He said that the major aims of the Communist program in America were the disruption of the Democratic party, the control of labor unions, and the installation in responsible governmental positions of Communists or their sympathizers. Communist party circles, he continued, boasted that the party had "its friends and sympathizers situated strategically in every important institution in this country—government agencies, newspapers, magazines, the churches, women's clubs, trade unions, universities and colleges, and in industry." He declared peace, job security, and civil liberties were "temporary ideas and ideals which the Communist party utilizes for its objective of bringing about class war, almost universal insecurity, and the complete abolition of civil liberties."

Matthews said the four types of individuals making up the Communist united front were (1) the Communist party members, who "invariably occupy strategic positions of control," (2) "the fellow travelers, who as a rule go along as faithfully as if they were actually party members," (3) the "stooges,"—"persons of prominence whose names have considerable publicity value . . . and do the work of covering up the Communist control of the united front," and (4) the "innocents" who are "supposed to make up the overwhelming number of the adherents to the united front." The witness described their functions as follows:

The chief object of the united front is to draw the innocents gradually closer and closer to the Communist party until they are at last completely under its influence. The party members do most of the hard work. The fellow travelers are the go-betweens who bring the Communist world and the capitalist world together. The stooges are the necessary camouflage for the united front manoeuvre. The innocents are the fodder for revolution, although some of them are prospective party members as well.

Matthews testified that the Communists had made little progress in "boring from within" A. F. of L. unions but much more in C.I.O. unions; that Communists were planted in strategic factories and industries to sabotage vital processes in case of war with the Soviet Union; that the "first and only loyalty" of the American League Against War and Fascism was to the Soviet Union; and that the Communist party relies heavily upon the careless-

ness or indifference of prominent non-Communist citizens in lending their names to its propaganda purposes.

Other witnesses before the Dies Committee included a number of former Communists, who described the party's activities in various WPA projects, in provoking disorders in Jersey City, in raising funds and volunteers for the Spanish Loyalists, and in directing the agitations of the Workers Alliance and other "united front" organizations. Investigators for the committee and labor leaders testified that many of the sit-down strikes in Michigan and other States in 1937 were instigated by Communists.

According to Frederick R. Barkley of the *New York Times* "the general conclusion" in Washington was that the Dies Committee hearings "indicated existence of an active Nazi-Fascist movement which is not having much success, but which might be dangerous in wartime, and a much more extensive and successful Communist infiltration into labor unions and many other agencies." On November 27 Representative Dies requested Secretary of State Hull to prosecute the American Communist party and certain other Communist and Fascist organizations for failure to comply with the law of June 8, 1938, requiring registration at the State Department by agents of foreign principals. Among the Communist united front organizations which he suggested be investigated in connection with this law were the Workers' International Relief, Friends of the Soviet Union, North American Committee to Aid Spanish Democracy, International Workers' Order, American Student Union, Young Communist League, and Young Pioneers of America.

Communism in Labor Movement. The struggle to purge the United Automobile Workers Union and certain other C.I.O. unions of Communist influence continued during 1938. In June Homer Martin, president of the U.A.W.U., suspended five of its officers for "disruptive tactics" in connection with alleged efforts of the Communist party to seize control of the union. Later the four suspended officers were restored to their posts by a C.I.O. mediatory committee and the union's executive board ordered Martin to purge his staff of "Lovestone" Communists, bitter enemies of the orthodox Stalinist Communist party. On November 19 the U.A.W.U. executive board voted to abolish the Detroit District Council, which Martin had accused of being under Communist domination.

A group of alleged Communists, led by Harry Bridges, West Coast maritime union leader, pressed for a Leftist policy at the convention of the Committee for Industrial Organization in Pittsburgh in November, but were checked by the opposition of John L. Lewis. It was reported on December 30 that three members of the faculty of Teachers College, Columbia University, had resigned from the American Federation of Teachers on the ground that the New York City locals of the union were dominated by the Stalinist wing of the Communist movement.

See BULGARIA, CHILE, CHINA, CZECHO-SLOVAKIA, FRANCE, MEXICO, SPAIN, UNION OF SOVIET SOCIALIST REPUBLICS under *History*; UNITED STATES under *Administration*; FASCISM; LABOR, AMERICAN FEDERATION OF.

COMMUNITY CHESTS AND COUNCILS, INC. An association organized in February, 1918, when only 21 cities were using the centralized method of raising philanthropic and charitable funds. It was first known as the American Associa-

tion for Community Organization, a name which it continued to bear until 1927, when the name was changed to the Association of Community Chests and Councils. In 1933 the association was incorporated, and adopted its present name. The Association staff is guided by an Advisory Committee of local chest and council executives in carrying out the policies decided upon by the Board of Directors. The association is financed by dues from its corporate members.

The purpose of Community Chests and Councils is to aid and assist local community chests in their efforts to raise, manage, and dispose of money for social welfare purposes; to encourage and stimulate collective community planning for social welfare, and the development of better standards for community organization, as well as to harmonize and make more efficient the work of all social welfare organizations; to co-operate with nation-wide and other organizations in joint efforts to promote social welfare; to exercise other functions in connection with the achievement of all these purposes.

The Mobilization for Human Needs is a program of national information regarding the social needs of the times, urging citizens to support their local private welfare appeals. It is sponsored by a National Citizens' Committee of public-spirited men and women.

Thirty-six national organizations for social welfare and health co-operate in this effort, with Community Chests and Councils, Inc., acting as administrative agency. The Mobilization for Human Needs arranges public meetings of national significance, secures the donation of nation-wide radio time, and stimulates the publication of articles and editorials in magazines and newspapers. It does not raise a national fund, but throws its strength to local campaigns of chests and welfare funds.

The 25th anniversary of the beginning of the modern chest movement in Cleveland in 1913 was celebrated during 1938.

Of the 484 chests in operation, 469 are in the United States proper, 2 in the territory of Hawaii, and 13 in Canada and other foreign countries. All but six cities of 100,000 population and over in the United States have community chests. Nine million contributors in 475 cities gave \$83,871,576 to community chests to be used for private social work in their communities during 1938.

The officers in 1938-39 were: Honorary and acting president, George E. Vincent, Greenwich, Conn.; vice-presidents, John Stewart Bryan, Richmond, Va., and Geoffrey Smith, Philadelphia, Pa.; treasurer, J. Herbert Case, Plainfield, N. J.; secretary, Pierce Atwater, St. Paul, Minn.; executive vice-president, Allen T. Burns. Headquarters, 155 East 44th St., New York City.

COMORO ISLANDS. See MADAGASCAR.

COMPARATIVE LAW. See LAW.

COMPENSATION. See WORKMEN'S COMPENSATION.

CONCHAS DAM. See DAMS.

CONCRETE BRIDGES. See BRIDGES.

CONGO, BELGIAN. A Belgian colony in Central Africa. Area, estimated at 909,654 square miles; population (Jan. 1, 1937, estimate), 10,066,834, including 20,103 Europeans. The chief towns are Léopoldville (capital), Matadi, Elisabethville, Jadotville, Stanleyville, Coquilhatville. In 1937 the 4270 schools had 208,088 pupils.

Production and Trade. The main products were copper (150,000 metric tons in 1937), cottonseed (68,300 metric tons in 1936), palm oil, palm kernels, woods, cotton, copal gum, coffee, sugar,

tin, corn, zinc, groundnuts, cacao, jute, rice, gold (12,873 kilograms), diamonds, and radium. Cattle thrive only in the districts free from tsetse flies, especially the highlands of Ituri, Katanga, and Kivu. In 1937 imports were valued at 1,137,091,689 francs; exports, 2,486,905,485 francs (5 paper francs were equal to 1 belga which averaged \$0.1688 for 1937).

Communications. The river Congo and its tributaries form an important means of communication. There were 38,010 miles of roads in 1937. During 1938 an international highway was under construction, between Ngdinga and Maquela-Dozombo, to connect the Belgian Congo with Angola. It was announced on Aug. 8, 1938, that the last section of the Congo automobile road forming part of the Cape-to-Cairo route had been finished. Regularly operated air lines extended over 3694 miles in 1938.

Government. Budget estimates for 1938 indicated revenue of 662,800,000 francs, extraordinary receipts from the lottery loan and from the Belgian government were estimated at 104,181,000 francs; expenditure, 766,981,000 francs. The colony is administered by the Minister of the Colonies at Brussels, aided by a colonial council of 14 members (8 appointed by the King, 3 chosen by the senate, and 3 by the chamber of representatives). A governor-general represents the King in the colony. Governor-General, Pierre Ryckmans (appointed, December, 1934).

Ruanda-Urundi, rōō-an'dā ōō-rōōn'dé. Two districts (formerly in German East Africa) mandated to Belgium by the League of Nations. Area, 20,535 square miles; population (1936 estimate), 3,509,094, of whom 932 were Europeans. Capital, Usumbura. Livestock raising is the principal occupation of the people. The production of chief crops, in 1936-37, in metric tons, was: Maize, 37,500; potatoes, 121,000; groundnuts, 1400. In 1936 gold production totaled 422 kilograms. In 1937 the estimated value of imports, including bullion and specie (in old U.S. gold dollars) was \$1,400,000 (1936, \$1,200,000); exports, \$1,800,000 (1936, \$1,500,000). In 1937 there were 1326 miles of national and 2065 miles of local roads. For 1938 ordinary and extraordinary revenue was estimated at 45,859,300 francs; ordinary expenditure, 41,950,400 francs. According to the law of Aug. 21, 1925, both districts were united, for administrative purposes, with the Belgian Congo and placed under the supervision of a vice-governor.

CONGO, FRENCH. See FRENCH EQUATORIAL AFRICA.

CONGREGATIONAL AND CHRISTIAN CHURCHES. THE GENERAL COUNCIL OF THE. A general council was instituted at Seattle, Wash., June 26, 1931, when the National Council of the Congregational Churches in the United States and the General Convention of the Christian Church merged their activities in this new organization. For the early history of these churches consult THE NEW INTERNATIONAL ENCYCLOPÆDIA, vol. v, pp. 285 and 737 ff. and THE NEW INTERNATIONAL YEAR BOOK for 1932.

The officers elected at the biennium in June, 1938, were: Moderator, Rev. Oscar E. Maurer, New Haven, Conn.; assistant moderators, Mr. John V. Sees, Lawrence, Kans., Rev. Rockwell H. Potter, Hartford, Conn., Rev. Hugh Elmer Brown, Evanston, Ill.; secretary emeritus, Rev. Charles E. Burton, Forest Hills, N. Y.; minister and secretary, Rev. Douglas Horton, New York, N. Y.; associate secretary, Rev. Frederick L. Fagley, New

York, N. Y.; assistant secretary, Rev. Warren H. Denison, Dayton, Ohio; treasurer, Mr. Arthur Y. Meeker, Montclair, N. J.

Statistics for the Congregational and Christian churches as of Jan. 1, 1938, showed 6109 churches, 5847 ministers, and a church membership of 1,030,914. There were 3412 young people's societies, with a membership of 208,559. The Sunday School enrollment was 650,862. The total raised for all benevolences was \$2,186,428; and the home expenses of the churches were \$14,534,449.

The American Board of Commissioners for Foreign Missions is the oldest foreign missionary society in the United States, having been organized June 29, 1810. On Jan. 1, 1938, there were 13 missions under 8 different flags. The missionaries holding life appointments numbered 429 and included 95 ordained men, 49 unordained men, 139 wives, 146 single women. There were also 38 associates serving for shorter periods, bringing the total number of missionaries up to 467, while native workers numbered 6608. The places of service numbered 2813. The organized churches numbered 765 with 107,596 communicants. The total Christian community numbered 369,031; Sunday Schools, 1304. There were 31 theological seminaries and training schools with 2193 students; 10 colleges with 4255 students; 61 secondary schools and 956 primary schools and 10 industrial and vocational schools with a total enrollment of 92,706 pupils. There were 23 hospitals and 40 dispensaries with a staff of 35 physicians and 21 foreign nurses.

At the biennial meeting of the Council in 1936 action was taken authorizing the unification of the work of the national societies under a single corporation. Under the name of the Board of Home Missions of the Congregational and Christian Churches it has taken over the work heretofore done by the Church Extension Boards, the American Missionary Association, the Congregational Education Society, the Congregational Publishing Society, and the Board of Ministerial Relief. During 1937-38 this organization helped to maintain 372 home missionary workers serving 470 churches. Grants and loans for church buildings and parsonages were made to the amount of \$339,833.79. The 13 schools maintained had 4121 pupils enrolled. Of these 8 were Negro schools, 5 were Negro colleges, 1 was in the Southern highlands, and 1 in Puerto Rico. Local churches were given assistance in meeting their educational problems through departments of Young People's Work, Children's Work, World Fellowship, and Leadership Education. Ministerial relief was given to 745 ministers, widows, and orphans, the average grant to a minister being \$244 and to a widow \$198. The total expenditures were \$1,251,144.38, of which \$332,901.95 came from current giving and the remainder from endowment and other sources.

The headquarters of the General Council of the Congregational and Christian Churches are at 287 Fourth Avenue, New York City. Those of the Board of Home Missions at the same address, with offices also at 14 Beacon St., Boston, Mass., and those of the American Board at 14 Beacon St., Boston, Mass.

CONGRESS. See UNITED STATES.

CONGRESS OF INDUSTRIAL ORGANIZATIONS. See LABOR UNIONS.

CONNECTICUT. Area and Population. Area, 4965 square miles; included (1930) water, 145 square miles. Population: Apr. 1, 1930 (census), 1,606,903; July 1, 1937 (Federal estimate), 1,741,000; 1920 (census), 1,380,631. Hartford, the

capital, had (1930) 164,072 inhabitants; New Haven, 162,655.

Agriculture. The accompanying table shows the acreage, production, and value of the principal crops of Connecticut for 1938 and 1937.

Crop	Year	Acreage	Prod. Bu.	Value
Hay (tame)	1938	341,000	516,000	\$7,792,000
	1937	335,000	484,000	6,824,000
Tobacco	1938	16,500	16,726,000	4,843,000
	1937	17,400	21,920,000	7,504,000
Potatoes	1938	16,500	2,310,000	1,848,000
	1937	17,000	2,890,000	1,994,000
Corn	1938	49,000	1,764,000	1,200,000
	1937	51,000	1,989,000	1,671,000
Apples	1938	.....	1,659,000	1,659,000
	1937	.....	2,122,000	2,249,000

* Tons. ♢ Pounds.

Finance. Connecticut's State expenditures in the year ended June 30, 1937, as reported by the U.S. Bureau of the Census, were: For maintaining and operating governmental departments, \$40,662,994 (of which \$11,753,676 was for highways, and \$1,857,028 was for local education); for interest on debt, \$291,238; for capital outlay, \$4,963,549. Revenues were \$58,826,576. Of these, property taxes furnished \$1,780,530; sales taxes, \$14,152,174 (including tax on gasoline, \$8,935,399); departmental earnings, \$3,388,762; inheritance taxes, \$3,285,163; sale of licenses, \$13,781,544; unemployment compensation, \$9,403,661; Federal or other grants-in-aid, \$6,573,926. The gross debt outstanding on June 30, 1937, totaled \$4,902,769; all of it but \$1100 was floating debt. On an assessed valuation of \$2,978,739,711 the State levied in the year ad valorem taxes of \$1,630,288.

Education. Inhabitants of school age were accounted, for the year ended June 30, 1938, as 328,806, from 4 to 16 years of age. Those enrolled in public schools totaled 302,970; this comprised 16,626 in kindergartens, 186,958 in elementary schools, 25,444 in junior high schools, and 73,942 in high schools. The year's expenditures for public-school education totaled \$31,177,079. While enrollments fell nearly 3 per cent short of the total for the year before, expenditures showed a moderate rise. This rise conformed with a somewhat higher level of salaries for teachers. Their pay averaged, for the year, \$1608 in kindergartens, \$1535 in elementary positions, \$1929 in junior high schools, and \$2074 in high schools. The Connecticut State Teachers' Association advocated a plan of teachers' tenure, for enactment by the Legislature in 1939.

Charities and Corrections. The State's central authority over the administration of the majority of its institutions for the care and custody of persons was exercised by the Public Welfare Council (a board of five members) and a Commissioner of Welfare. It supervised 10 institutions. These and the numbers of their respective inmates on June 30 were: The State Prison, at Wethersfield, and Osborn Prison Farm, at Enfield, 753 for both; State Farm for Women, Niantic, 206; Connecticut School for Boys (delinquent), Meriden, 283; Long Lane Farm (delinquent girls), Middletown, 188; Connecticut Reformatory, Cheshire, 331; State hospitals for mental illness, at Middletown, 3214; Norwich, 3028; and Newtown, 983; Mansfield State Training School and Hospital (mental defectives), Mansfield, 1192; Mystic Oral School, Mystic, 113; and Fitch's Home for Soldiers, Noroton, 592. The State's five sanatoria for tuberculosis, governed by a Tuberculosis Commission, had 1271 patients. The total of persons kept in all these institutions was 12,154.

Political and Other Events. The New England hurricane, striking the coast to the northeast of Long Island on September 21, devastated it from Martha's Vineyard as far west as New London. The coastal communities in Connecticut's part of this area suffered severely. In New London many buildings were wholly or partly demolished, and fire, starting among ruined buildings, swept away an entire block. Small vessels near the city's waterfront were cast ashore. Damage to property in New London was said to exceed \$4,000,000, including \$1,000,000 by fire. The tidal waters, driven to an unusual height by the wind, increased the ruin caused by the wind itself. Loss of life in the State, said to total about 100, included fatalities in and about Stonington. Wall Street in Stonington was reported to have lost all the fishermen's dwellings that lined it, with apparently considerable loss of life among the occupants. The eastern part of the State in general lacked transportation and electricity for a time after the storm, railroads, highways, and electric transmission having been put out of service. Airplanes dropped supplies of food on Norwich, which could not be reached otherwise. In the valley of the Connecticut River, while the damage from wind was secondary, low-lying areas were flooded, chiefly because of heavy rains that had fallen some days in advance of the gale. About 2000 persons were driven from their homes by water in East Hartford and other communities near Hartford. Railroad service east of New Haven was suspended for several days. The loss to property in the State was thought to approximate \$30,000,000.

The Federal Government, apparently to escape the New England States' objection to altering their compact for works to prevent floods in the chief river valleys, made preparations to proceed with such work entirely at its own expense, under the terms of a flood-control act of 1938, in Connecticut as elsewhere. This involved, within Connecticut, preliminaries to the building of protective works at Hartford and study of possible work on the Housatonic River. See CHILD LABOR.

The prosecution of the Mayor of Waterbury and 26 other persons, for conspiracy to defraud the city of sums in excess of \$1,000,000, was started in May, following an investigation.

Elections. The Republican candidates, retrieving the reverses of the election of 1936, gained almost all the chief offices. Raymond E. Baldwin (Rep.) was elected Governor by 227,572 votes (unofficial count), as against 225,659 for Governor Wilbur L. Cross (Dem.), who unsuccessfully sought a fifth successive term. Cross's defeat was attributed to an unusually great Socialist vote of 163,953 for Jasper McLevy, cast mainly in normally Democratic urban areas. John A. Danaher (Rep.) was elected U.S. Senator, defeating Senator Augustine Lonergan (Dem.) by a margin of about 20,000. Four Republicans and two Democrats were elected to the Federal House of Representatives.

Officers. The chief officers of the State, serving in 1938, were: Governor, Wilbur L. Cross (Dem.); Lieutenant-Governor, T. Frank Hayes; Secretary of State, C. John Satti; Treasurer, Guy B. Holt; Comptroller, Charles C. Swartz; Attorney-General, Charles J. McLaughlin; Commissioner of Education, Ernest W. Butterfield.

Judiciary. Supreme Court of Errors: Chief Justice, W. M. Maltbie; Associate Justices, George E. Hinman, Newell Jennings, Christopher L. Avery, Allyn L. Brown.

CONNECTICUT COLLEGE. A liberal college of arts and sciences for the higher education

of women in New London, Conn., chartered in 1911 by the State of Connecticut and opened for instruction in 1915. The enrollment for the autumn of 1938 was 737. The faculty numbered 74 full-time members. The productive funds amounted to \$1,329,031, and the budget for the year was \$727,879. There were 80,000 volumes in the library. In 1937-38 the college received miscellaneous gifts amounting to \$36,584. Buildings under construction during the year were: The Frank Loomis Palmer Auditorium, a bequest from the will of the late Virginia Palmer of New London, and the Harkness Chapel, a gift of Mrs. Edward S. Harkness of New York. In the fall of 1938, a small Nursery School for 12 children was opened, and a new major in Child Development was added to the curriculum. President, Katharine Blunt, Ph.D., LL.D.

CONSERVATION. See AGRICULTURE; SOILS.

CONSTITUTIONAL CONVENTION. See NEW YORK.

CONSUMER INCOMES. See STATISTICS.

CO-OPERATION. *Growth of the Co-operative Movement.* In recent years there has been a decided increase in the popularity of consumer co-operation, the years of the depression notably showing advances in the growth of societies. According to the U.S. Department of Labor, which had just completed a survey of the movement, the number of consumers' co-operative societies doubled between 1933 and 1936—from 188 to 3600 and from 328,278 members to 677,750 members. Reliable estimates placed the present number of members of such societies at close to a million in 1938. Consumers' co-operatives were particularly strong in Minnesota, Illinois, Nebraska, Iowa, Wisconsin, Kansas, and Michigan. They flourished notably in those regions where Scandinavian settlers located in America to bring with them the long and successful tradition of co-operation in their native lands.

The total volume of business in 1936 of such consumer co-operatives amounted to 182 millions of dollars. According to the Bureau of Labor Statistics, the growth of co-operation was "a record of slow, quiet expansion." It was generally being agreed that the foundation of the co-operative movement in this country rested upon a firm structure, in view of the fact that nearly half of the co-operatives were associated with agriculture. Consumers' co-operation had the support of agricultural societies in America as early as the establishment of the National Grange in the 1870's. It is to be noted also that agricultural co-operation was extended into other fields, including the sale of farm products, purchase of farm supplies, the establishment of insurance societies, etc. In recent years, also, co-operation was receiving the active support of populations from other sectors. In towns and cities white-collar groups and labor unions were carrying on active educational campaigns and co-operative stores were springing up in most of the great urban communities of the country. Also, it is to be noted that the New Deal administrations were actively promoting the co-operative movement. The Federal government sponsored construction of rural electric lines, was experimenting with co-operative communities for marginal farmers, and was supporting co-operative stores in the green-belt towns which the Resettlement Administration had established.

Nevertheless, there was reason to assume that the co-operative movement in America would never take on the large-scale proportions which it at-

tained in the Scandinavian countries and in England and Scotland. Attention must be called to the existence of chain stores and mail-order establishments in this country, which, because of mass purchases and sometimes independent manufacturing, were able to compete successfully and sometimes sell at lower prices than retail establishments purchasing their wares in the open market. In the second place, it should be noted too that the success of co-operation was closely linked with the profound educational conditioning, in view of the fact that the savings afforded members were not very large. In other words, identification with the movement was not on the basis of material gains but on the basis of a psychology that linked co-operation with trade unionism and perhaps as well with an idealistic, non-capitalist society. It has been estimated that savings of a successful co-operative ranged up to only 5 per cent for general purchases and 8 per cent for gasoline and oil. Also, co-operatives must struggle with the same problems which affect private business. The factors of inefficiency, insufficient capital, sudden price declines, and the like, tended to make co-operation somewhat precarious. Private business, while generally opposed to co-operatives, had not yet become greatly alarmed over the movement's growth. The U.S. Chamber of Commerce believed that private business could meet the challenge of the co-operatives through more efficient operations and more direct services. It pointed out that retail business in the United States amounted to 30 billion dollars a year, of which the co-operative movement was responsible for only 200 million dollars. Organized business, however, was opposed to government assistance to the co-operative movement. The tables

TABLE I—ESTIMATED NUMBER, MEMBERSHIP, AND BUSINESS OF CONSUMERS' CO-OPERATIVES, 1936

Type of association	Number of associations	Number of members	Amount of business
<i>Local associations</i>		<i>Individuals</i>	
Retail distributive associations	3,600	677,750	\$182,685,000
Stores and buying clubs	2,400	330,500	107,250,000
Petroleum associations	1,150	325,000	69,985,000
Other distributive associations	50	22,250	5,450,000
Service associations ...	529	155,293	5,015,000
Associations providing rooms or meals or both	60	19,150	1,530,000
Medical-care associations	4 ^a	5,143 ^a	50,000
Burial associations ..	50	31,500	160,000
Housing associations ..	50	3,500	2,525,000 ^b
Electricity associations ..	275	82,500	(^c)
Miscellaneous	90	13,500	750,000
Telephone associations .	5,000	330,000	5,485,000 ^b
Credit unions	5,440 ^a	1,212,127	112,442,297 ^d
Insurance associations .	1,800	6,800,000 ^e	103,375,000 ^f
<i>Federations^g</i>		<i>Associations</i>	
Wholesale associations .	31	(^h)	37,278,032
Interregional	2 ^a	18 ^a	418,000 ^a
Regional	20 ^a	1,900	36,000,000
District	9 ^a	109 ^a	860,032 ^a

^a Actual figure; not an estimate.

^b Gross income.

^c Insufficient data to warrant computation of an estimate.

^d Amount of loans made.

^e Policyholders.

^f Gross premium income.

^g Does not include noncommercial federations, for which data were insufficient to warrant estimates.

^h Items cannot be totaled because subgroups are not mutually exclusive.

presented herewith indicate some of the activities of consumers' co-operation in the United States as collected by the Department of Labor's survey in 1936.

1936 and related to 10,752 associations marketing "everything from onions to oranges and buying virtually every type of farm supply." These associations had an aggregate membership of 3,270,000

TABLE II—SEMICO-OPERATIVE ORGANIZATIONS IN THE UNITED STATES IN 1936

Type of organization	Number of organizations	Members	Amount of business, 1936	Share capital	Total assets	Net worth
Labor banks ^a	4	(b)	\$21,747,423 ^c	\$1,725,000	\$ 24,368,310	\$2,155,221
Building and loan associations ^d	10,256	6,125,971	(b)	(b)	5,741,935,430	(b)
Mutual savings banks ^e	566	13,165,045 ^f	10,059,951 ^g	18,587	5,113,633	1,716,097
Mutual insurance companies ^h	1,279	(b)	276,015,960 ^a	(b)	515,582,733	(b)

^a Data furnished by Industrial Relations Section, Princeton University.

^b No data.

^c Deposits.

^d Data furnished by United States Building and Loan League.

^e From Annual Report of the Comptroller of the Currency for year ended Oct. 31, 1936; data are for June 30, 1936.

^f Depositors.

^g From Directory of Mutual Insurance Companies in the United States (fire and casualty), published by American Mutual Alliance, Chicago, Ill.; figures here given represent remainder after deduction of associations included in Bureau of Labor Statistics study.

^h Premiums written.

Co-operative Wholesale Associations. Co-operative wholesaling was also firmly established in the United States. At the end of 1936 there were in operation 20 regional wholesales with a trading area of one or more States, dealing in consumers' goods. In addition, there were 2 interregional wholesales formed by the regional wholesales and 9 federations of less than State-wide scope and specializing in certain commodities. The 20 regional wholesales were serving more than 1700 member associations and over 600 other co-operatives were making wholesale purchases from them, though not affiliated. A wholesale business in excess of \$40,000,000 was reported by the regional co-operatives, a gain of 24.2 per cent over 1935. Its associations had sales of more than \$3,000,000 each and 3 of these had sales of over \$5,000,000. Increases were also shown in net earnings and refunds made on members' patronage. These societies also reported share capital of nearly \$2,000,000, total assets of nearly \$6,000,000, and net worth in excess of \$3,500,000.

Credit Unions. The credit unions of the United States in 1937 showed substantial increases in membership and assets over previous years. There existed in the country something more than 6000 such societies for which statistical data were available for 5231. These indicated a combined membership of over 1¼ million persons and total assets of more than 100 million dollars. Examination of data for individual States over a period of years indicated that in industrial States like Massachusetts, New Hampshire, New York, and Rhode Island, where credit unions had a long history, the associations showed a drop in membership and in assets early in the depression. However, the year 1934 revealed an upturn which continued throughout 1937. In most of the newer credit-union States, irrespective of whether industrial or agricultural, both membership and resources showed a continuous rise year after year all through the depression and up to the end of 1937. Among the important credit-union States in which this took place were Illinois, Iowa, Michigan, Minnesota, Missouri, Nebraska, and Wisconsin. During the year 1937 the credit unions for which statistical data were available made loans totaling \$71,344,000. Also, the total loans outstanding at the end of the year came to \$77,217,000.

Co-operative Purchasing by Farmers. In 1937 the 12 banks for co-operatives under the Farm Credit Administration made the first door-to-door count of the operations of farmers' co-operatives in the country. The data obtained covered the year

and their business for 1936 amounted to \$2,700,000,000. On this business they realized net gains of \$38,686,000, of which \$25,380,000 was returned to the members on their patronage. It was found that the largest amount of patronage refunds was made by the citrus-fruit marketing co-operatives, which returned a total of \$6,043,000. The associations dealing in petroleum products were also great money savers for their members; 3 of every 4 returned patronage refunds—totaling altogether \$4,294,000 and averaging some \$7 per member.

As a result of a survey covering 3000 farms in January, 1938, the Bureau of the Census reported that the proportion of farmers who were doing co-operative purchasing of their supplies was 17 per cent. Of those surveyed in 1930 less than 7 per cent were in this class. It is interesting to note that tenant farmers showed a much greater increase in co-operative activity than did the farm owners. The proportion of the tenants buying co-operatively rose from 3.9 per cent in 1930 to 13.5 per cent in 1938, whereas the corresponding figures for owners were 9 per cent and 19.5 per cent. See AGRICULTURE.

Labor Banks. The four labor banks now in operation in the United States showed an increase of 14.4 per cent in capital, surplus, and undivided profits on June 30, 1938, as compared with the same date in 1937, but sustained a loss of 3.1 per cent in deposits and of 2.4 per cent in total resources. Compared with 1937, the Union National Bank had increases in both deposits and total resources, but the other three banks showed decreases in these items in 1938.

The following table, supplied by the Industrial Relations Section of Princeton University, shows data for each of the four banks.

TABLE III—CONDITION OF LABOR BANKS AS OF JUNE 30, 1938

Name and location of bank	Capital, surplus and undivided profits	Deposits	Resources
All banks	\$2,503,899	\$21,013,099	\$23,785,086
Amalgamated Trust & Savings Bank, Chicago, Ill.	650,000	7,056,297	7,804,243
Union National Bank, Newark, N. J.	469,743	3,443,320	3,927,852
Amalgamated Bank of New York, New York, N. Y.	681,580	5,893,029	6,698,733
Telegraphers' National Bank, St. Louis, Mo.	702,576	4,620,453	5,354,258

Producers' Co-operatives. Producers' co-operation in the United States continued at a very insignificant level. According to the survey made by the Bureau of Labor Statistics, there were 39 such associations in 1935, 20 in 1929, 18 in 1933, 24 in 1936, and 27 in 1937. In 1937 the total number of persons co-operatively employed in enterprises owned and operated by workers themselves was 2167. There were, in addition, 282 non-member employees. Approximately \$540,000 was paid in wages in 1936 by the associations reporting on this point. In 1936, with a share capital of \$853,000, a net worth of almost \$1,110,000, and business amounting to nearly \$3,000,000, there were aggregate net earnings of nearly \$70,000, or an average of \$5200 per association.

Various types of industry were carried on by workers' productive associations. The industries represented in the Bureau's study were cigar making, the manufacture of clothing (including shoes), shingles and lumber, canning and processing of food and fish, fisheries, printing and publishing, coal mining, sheet-metal works, sign painting, laundries, and handicraft production. Workers had undertaken productive enterprises from various motives. Unemployment in their own industry had been a frequent reason. In a number of cases they became unemployed because of the failure or the transfer to another locality of the plant in which they were employed, and in others because of an unsuccessful strike in which they were engaged. In some instances workers had been assisted by their trade-union in starting a co-operative productive business.

Unemployed miners formed societies to take over and work mines that had closed because they had proved unprofitable. Sign painters, when the firm by which they were employed went out of business, formed a co-operative to take up the business and carry it on. Other unemployed workers associated themselves for the production and marketing of various kinds of handicraft articles. Indians had been aided by the Government in forming associations for this purpose and for carrying on fisheries and fish canning and processing. A society for the manufacture of frozen fish and other products was formed by a group of fishermen and farmers as an outlet for their fish and farm products.

Lack of adequate capital was common among workers' productive enterprises and often meant the difference between success and failure in bad times. Other handicaps of associations of this type were business inexperience and lack of knowledge of salesmanship and of market conditions. A few societies, however, developed a high degree of business management. One society, which was started in 1919 by a few shoe workers, weathered the depression (although with deficits in some years), and had net earnings in 1935 and 1936; in the latter year it paid a 10 per cent dividend. It did a business of approximately a million dollars in 1936, in an industry which was highly competitive and subject to the fluctuations of fashion.

Over \$500,000 was paid in wages in 1936 by the 12 societies which reported on this point. The average annual earnings per employee in the different industries in 1936 ranged from \$258 to \$1406, the general average being \$902. How much part-time work was included in the employment for which these wages were paid was not reported. The fact that a 10-hour week was reported in one instance and a 3½-day week in another suggests that the low average earnings might be due in some meas-

ure to part-time or seasonal employment, especially of nonmember workers. Twelve societies reported that they paid union wages or more, and five that they did not pay the union scale. The other societies did not report on this point. The total and average wages paid in 1936 by workers' productive societies in the different kinds of business are shown in Table IV.

TABLE IV.—WAGES PAID BY WORKERS' PRODUCTIVE ASSOCIATIONS, 1936

Kind of business	Number of employees	Wages paid, 1936	
		Total	Average per employee
Total	597	\$538,237	\$ 902
Cigar factories	10	3,398	340
Clothing factories	119	65,862	553
Fish canning and processing	44	19,631	446
Food factories	100	140,646	1,406
Handicraft production	32	25,091	784
Printing and publishing	2	515	258
Sheet-metal works	7	8,225	1,175
Shingle mills	26	27,962	1,075
Shoe factories	257	246,907	961

COPELAND, ROYAL S (AMUEL). An American physician and Senator, died in Washington, D. C., June 17, 1938. Born in Dexter, Mich., Nov. 7, 1868, he attended the local schools, Michigan State College and the University of Michigan (M.D., 1889). Thereupon he became house surgeon in the University Hospital and assistant professor of ophthalmology and otology at the University during 1889-90, when he entered private practice in Bay City, Mich., and subsequently did postgraduate work abroad. In 1895 he was appointed professor of ophthalmology at the University of Michigan, where he remained until 1908, when he joined the staff of Flower Hospital and New York Homeopathic Medical College, New York, as professor of ophthalmology and dean. He remained there until 1918.

Dr. Copeland's first political ventures were as mayor of Ann Arbor, Mich., during 1901-03, to which he was elected on the Republican ticket, and as president of the Board of Education there in 1907-08. During the presidency of Grover Cleveland he was appointed a member of the U.S. Pension Examining Board. In 1910, Dr. Copeland received his first political appointment in New York City, when Mayor Gaynor named him to the ambulance board. His work at Flower Hospital brought him to the attention of Mayor Hylan and also to that of William Randolph Hearst. The former appointed him Commissioner of Public Health and President of the Board of Health of the City of New York in 1918, and the latter opened the columns of his newspapers to his syndicated medical writings.

Dr. Copeland served as health commissioner until 1923, and during his tenure he coped successfully with an influenza epidemic and promoted a campaign for increased milk consumption. In 1922 the political break between Alfred E. Smith and William Randolph Hearst brought Copeland the nomination for Senator. Little hope was held for his election, but his newspaper health articles and talks throughout the State had made him known to the voters and he was elected, being re-elected for the terms 1929-35 and 1935-41.

One of the hardest working senators on the floor and in committee, his parliamentary technique and astuteness in debate were acknowledged by his co-workers in the Senate. He opposed from the beginning any granting of independence to the Philippine Islands; supported soldiers' bonus leg-

islation; urged the repeal of the 18th Amendment, and at first supported the National Recovery Act. By 1934, however, he had earned the enmity of the "New Deal," and in 1936, although a delegate to the Democratic National Convention he did not attend, refusing to take part in the renomination of Franklin D. Roosevelt. Thereafter he voted against the Agricultural Administration Act, the Supreme Court Bill, the Reorganization Bill, and other important administration legislation.

The crowning achievement of his senatorial service was the new food and drug bill which became a law in June, 1938. From his first day in the Senate he had shown interest in such legislation, and the bill replacing the obsolete one of 1906 became a law only through his continued effort, and it might well be considered his monument. He was chairman of the Committee on Commerce and presided at weeks of hearings on a new maritime law and in 1937, at the National Maritime Observance Day exercises, was awarded the Nolan-Stirling Trophy for his services to the American Merchant Marine. Also, he acted as chairman of a subcommittee which wrote the La Follette bill establishing a Federal program for control of venereal diseases; was chairman of the Senate committee that investigated racketeering, and was chairman of the Senate conferees on the \$375,000,000 Flood Control Bill.

In July, 1938, the Senator entered the New York City campaign for mayor as a candidate in both the Democratic and Republican primaries. In the former he was the Tammany Hall candidate as opposed to the "New Deal" candidate, Jeremiah T. Mahoney; in the latter, he was entered as a Conservative to oppose Fiorello H. La Guardia. Defeated in both primaries, he returned to the Senate more militant than ever in his crusade against the administration.

Senator Copeland was a delegate to the Methodist Ecumenical Conference in London (1900); treasurer of the National Board of Control of the Epworth League (1900-08), and president of the American Ophthalmological and Otological Association (1904-05). His writings, besides those syndicated in the daily press, which he continued throughout his senatorial career, included *Refraction*, a textbook, with A. E. Ibershoff (1899-1905); *The Health Book* (1924), and *Dr. Copeland's Home Medical Book* (1935).

COPPER. Statistics covering certain phases of the copper industry in 1938 indicated a decided drop in activity from the record for 1937, according to surveys by the U.S. Bureau of Mines. A very subnormal rate of consumption in the United States during the early months of 1938 was accompanied by a fairly steady rate of production which caused stocks to mount and prices to fall. By summer several of the large mines were either closed, or operating far below capacity. Consumption began to increase in midyear, the stock situation improved, and many mines were re-opened.

Smelter output from domestic ores for the year, according to preliminary figures, was considerably below 1937; the actual production for 11 months and estimated for December was 1,122,000,000 lb., a decrease of 33 per cent from the output of 1,669,322,278 lb. in 1937.

The production of new refined copper from domestic sources was about 1,087,000,000 lb. compared with 1,644,505,129 of 1937. U.S. output of new refined copper from domestic and foreign sources in 1938 amounted to about 1,569,000,000 lb. compared with 2,133,627,803 in 1937, a decrease of

565,000,000 lb. or 26 per cent. The production of secondary copper by primary refineries decreased from 313,211,103 lb. in 1937 to about 185,000,000 in 1938. Thus the total primary and secondary output of copper by refineries in 1938 was 28 per cent lower than in the preceding year—a production of about 1,754,000,000 lb. being reported for 1938, as compared with 2,446,838,906 in 1937.

Exports of metallic copper during 1938 amounted to 844,027,664 lb. valued at \$86,806,141 compared with 692,458,087 exported during 1937. Imports of unmanufactured copper during 1938 amounted to 411,436,690 lb. valued at \$37,872,300 compared with 559,749,133 for 1937.

Refineries estimated that at the end of 1938 approximately 321,000,000 lb. of refined copper would be in stock, a 10 per cent decrease from the reserve of 358,000,000 at the end of 1937. Stocks of blister copper at the smelters, in transit to refineries, and at refineries, and metal in process of refining would be about 485,000,000 lb. Dec. 31, 1938, compared with 428,000,000 reported on hand at the end of 1937. Total smelter and refinery stocks at the end of 1938, therefore, would be 806,000,000 lb., representing an increase of 20,000,000 or 3 per cent from stocks at the end of 1937.

Mine or smelter output of copper of the world, outside of the United States and custom intake, including scrap, as reported by the Copper Institute, amounted to 1,295,326 tons of 2000 lb., in 1938, against 1,349,138 in 1937. World consumption outside of the United States in 1938 was 1,343,975 tons compared with 1,282,284 of the previous years.

COPYRIGHT. Registrations for the fiscal year 1937-38, according to the report of the U.S. Register of Copyrights, numbered 166,248, as compared with 154,424 for the preceding year. Of these, 57,351 were classed as books, but included pamphlets, leaflets, and contributions in periodicals. Those printed in the United States numbered 52,528, those printed abroad in a foreign language, 3646, while the remainder, 1177, were English books registered for ad interim copyright. The chief classes of the remaining registration in order of numerical importance were: Periodicals (numbers), 39,349; musical compositions, 35,334; dramatic or dramatico-musical compositions, 7369; works of art, models, or designs, 3330; drawings or plastic works of a scientific or technical character, 3309; photographs, 3174; prints and pictorial illustrations, 3010; maps, 1200; lectures, sermons, addresses, 1034; motion pictures not photoplays, 1016; motion-picture photoplays, 873; reproductions of works of art, 59. The renewals numbered 9940 as compared with 8589 in the preceding year. The fees applied during the year amounted to \$298,779. The total number of articles deposited during the fiscal year ended June 30, 1938, was 257,234.

The gross receipts of the Register's office for the fiscal year were \$326,326; the total expenditures for salaries, \$250,322, and for supplies, \$1920.

CORN. Data on the world's production in 1938 were incomplete at the close of the calendar year as only 15 countries had reported yield estimates to the International Institute of Agriculture. The yields of the leading countries among these, not including the United States, were reported as follows: Rumania 208,653,000 bu., Yugoslavia 173,499,000 bu., Italy 108,007,000 bu. (not including the summer planting), Hungary 101,600,000 bu., and Manchoukuo 92,329,000 bu. In 1937 the 33 reporting countries, including the United States and the Soviet Republics, produced 3,819,295,000 bu. on

146,489,000 acres. Canada in 1938 produced 7,690,000 bu., an increase of 42 per cent over the preceding year and 25 per cent above the average for the five years 1932-36. Argentina, the leading corn-growing country south of the equator, reported for the crop-year 1937-38 a yield of 174,166,000 bu., which was nearly 50 per cent below the average yield for the five crop years 1932-33 to 1936-37. The average production of the Soviet Republics for the five years 1932-36 was 146,293,000 bu.

According to estimates published by the U.S. Department of Agriculture, the 1938 corn production for all purposes was 2,542,238,000 bu., which was 4.1 per cent under the 1937 crop and 10.2 per cent above the average production for the 10 years 1927-36. These estimates included the grain equivalent of corn used for silage, forage, and pasturing. The total acreage of corn harvested in 1938 was 91,792,000 acres, compared with 93,741,000 acres in 1937 and the 10-year average of 100,259,000 acres. The average yield per acre, 27.7 bu., compared with 28.3 bu. in 1937, the highest during the past 15 years, and with 22.9 bu., the 10-year average. The crop was generally above average quality, which was in part due to timely harvesting favored by good weather and the increasing use of mechanical corn harvesters. The States leading in the production of corn for grain and their yields were as follows: Iowa 438,438,000 bu., Illinois 363,015,000 bu., Indiana 162,975,000 bu., Ohio 147,400,000 bu., and Minnesota 123,224,000 bu. In these five States, which produced 48.5 per cent of the country's crop, the yields per acre ranged from 6 to 13 bu. above the average, largely due to a favorable season and the increasing acreage of hybrid corn. In the Great Plains area, especially in South Dakota, Nebraska, and Kansas, hot and dry weather in August reduced the yield materially.

The 1938 corn-silage production was estimated at 33,475,000 tons produced on 4,172,000 acres, compared with 35,233,000 tons and 5,156,000 acres in 1937 and 31,830,000 tons and 5,070,000 acres, the 10-year average. Although a reduced acreage was reported in 1938, a favorable season brought a higher-than-average production. The corn-silage production of the leading States was reported as follows: Wisconsin 8,840,000 tons, New York 4,040,000 tons, Minnesota 3,825,000 tons, Iowa 2,470,000 tons, and Pennsylvania 2,375,000 tons. In acreage harvested for silage Wisconsin ranked first, with 1,105,000 acres, followed by Minnesota with 450,000 acres, New York with 404,000 acres, Pennsylvania with 250,000 acres, and Iowa with 247,000 acres. While most of the corn silage was produced in the North Central States, the highest average yields per acre, from 10 to 11 tons, were reported from the Northeastern States and from Utah, Idaho, and Washington. The acreage of corn harvested for forage grazed by livestock in 1938 was reported at 5,514,000 acres as compared with 7,098,000 acres in 1937 and 12,103,000 acres, the 10-year average. The acreage so harvested in the leading States was estimated as follows: North Dakota 706,000 acres, Minnesota 675,000 acres, South Dakota 654,000 acres, Nebraska 483,000 acres, and Iowa 423,000 acres.

During the fiscal year ended June 30, 1938, the United States exported 103,269,000 bu. of corn, 198,000 bbls. of corn meal, 1,719,000 lb. of corn foods ready to eat, 13,064,000 lb. of hominy and corn grits, 215,000 lb. of corn oil, 121,743,000 lb. of corn starch and flour, 9,824,000 lb. of corn sugar, and 37,148,000 of corn sirup and imported 34,440,000 bu. of corn and 23,447,000 lb. of corn oil. As

compared with the preceding fiscal year these figures showed marked increases in the exports of corn meal, corn starch and flour and especially of corn as grain, and significant decreases in the imports of corn and corn oil.

The fifteenth National Corn Husking Contest was held Nov. 3, 1938, at Dell Rapids, So. Dak., and Ted Balko of Redwood Falls, Minn., won the national championship by husking 22.2 bu. in the prescribed 80 minutes. Owing to crop and weather conditions this record was far below the world's record of 41.52 bu. set by Elmer Carlson in Illinois in 1935.

CORN BORER. See ENTOMOLOGY, ECONOMIC.
CORNELL UNIVERSITY. A nonsectarian institution for the higher education of men and women in Ithaca, N. Y., founded in 1865. There were 6890 students enrolled in the autumn of 1938, distributed as follows: Graduate school, 873; law school, 186; medical college, the main division of which is in New York City, 286; arts and sciences, 1850; architecture, landscape architecture, and fine arts, 132; engineering, 1104; veterinary medicine, 163; agriculture, 1577; and home economics, 754, including 280 in hotel administration. Of these students, 1519 were women. The 1938 summer session registration was 2057.

The faculty, composed of 1547 members, had 40 professors emeritus, 316 professors, 239 assistant professors, 30 lecturers and associates, 435 instructors, and 587 assistants. The productive funds on June 30, 1938, amounted to \$31,953,239. The income applicable to current expenses was approximately \$8,988,711, including \$2,801,918 of State and \$815,256 of Federal appropriations. Gifts amounting to \$1,328,911 were received during the fiscal year. The land and buildings were valued at \$19,016,506, and the equipment at \$7,841,343. The library contained 1,010,070 volumes. President, Edmund Ezra Day, Ph.D., LL.D.

CORPORATIVE STATE. See AUSTRIA, BRAZIL, CUBA, DANZIG, CZECHO-SLOVAKIA, ESTONIA, GERMANY, GREECE, ITALY, LATVIA, LITHUANIA, POLAND, PORTUGAL, RUMANIA, and SPAIN under *Government and History*; FASCISM.

CORRIGAN, DOUGLAS. See AERONAUTICS.

CORSICA. A French island department in the Mediterranean, 100 miles southeast of Nice. Area, 3367 square miles; population (March, 1936), 322,854. Ajaccio (capital) had 23,917 inhabitants (1931).

COSMIC RAYS. See CHEMISTRY; PHYSICS.

COSTA RICA, kōs'tā rē'kà. A Central American republic. Capital, San José.

Area and Population. With an area of 23,000 square miles, Costa Rica had a population estimated at 615,000 on June 30, 1938 (471,524 at the 1927 census). The population is largely of Spanish and other European descent, except for some 18,000 Negroes in the Atlantic banana zone and about 3000 Indian aborigines. Estimated populations of the chief cities in 1936 were: San José, 63,635; Limón, 16,540; Cartago, 14,161; Alajuela, 10,282; Heredia, 8926; Puntarenas, 8395.

Education and Religion. Illiteracy is rapidly decreasing and the percentage among persons under 18 is very low. President León Cortés reported to Congress on May 1, 1938, that 41 new schools were opened during the preceding year, making a total of 645 schools with 2533 teachers and 62,455 pupils. There are colleges at Alajuela and Cartago. Roman Catholicism is the state religion but freedom of worship is guaranteed other faiths.

Production. The national economy is based

upon coffee, bananas, and cacao, the chief export crops. Exports of bananas in 1937 totaled 301,413,000 lb.; coffee, 58,466,000 lb.; cacao, 16,105,000 lb. Corn, rice, beans, sugar, fruits, and vegetables are grown for local consumption. Gold (\$466,079 in 1936) and salt are the only minerals produced. Manufacturing is confined to the production of a few articles for domestic use.

Foreign Trade. General imports in 1937 were valued at 66,639,000 colones (47,108,000 in 1936) and general exports at 64,583,000 colones (46,615,000 in 1936). In U.S. current dollars, the 1937 imports were \$11,879,000 (\$8,397,000 in 1936); exports, \$11,512,000 (\$8,309,000). The value of the chief 1937 exports was: Coffee, \$6,106,000; bananas, \$3,050,000; cacao, \$1,342,000; gold bullion, \$461,000. The United States supplied 42.5 per cent of the 1937 imports by value (43.6 in 1936); Germany, 23.1 (23.6); Japan, 8.2 (7.8); United Kingdom, 7.8 (7.7). Of the 1937 exports, the United States took 45.1 per cent (44.3 in 1936); United Kingdom, 20 (26); Germany, 19.5 (16.3); Japan, 0.6 (0.1). United States figures for 1938 showed exports to Costa Rica of \$5,449,329 (\$4,476,840 in 1937); general imports from Costa Rica, \$4,102,263 (\$4,434,488).

Finance. Actual budget receipts for the calendar year 1937 were 38,105,143 colones and expenditures 35,099,753 colones. Taking into account losses by exchange transactions and other deductions, there was a favorable balance of 1,843,743 colones. The 1938 budget estimated receipts at 32,800,000 colones and expenditures at 32,600,000; for 1939, the respective estimates were 30,750,000 and 31,299,000 colones. The external debt on Dec. 31, 1937 was 110,747,404 colones and the internal debt 33,692,330 colones, representing a reduction of 7,267,102 colones in the external and 4,250,540 colones in the internal debt during the preceding year (see *History*). The colon (par value, \$0.7879) had an average value of \$0.178 in the controlled market and \$0.177 in the uncontrolled market for 1937.

Transportation. In 1937 Costa Rica had 413 miles of railway line; about 1830 miles of roads, including about 150 miles of motor highways; 2697 automobiles; and 1412 miles of air routes (1938). A total of 578 vessels of 1,450,148 tons entered and cleared Costa Rican ports in 1936.

Government. Executive power is vested in a president elected for four years and legislative power in a Congress of 44 members, half of whom are elected (for four years) every two years. President in 1938, León Cortés Castro (Republican National party), who assumed office May 8, 1936.

History. In the biennial Congressional elections held Feb. 13, 1938, the Republican National party won 16 seats, the opposition Independent National party 4 and the Communists, who polled about 7000 votes, 2 seats. (One-half of the 44 seats were filled.) The result was to give President Cortés Castro's government a safe majority in Congress, his Republican National party holding 32 seats against 10 Independent Nationals and 2 Communists. A split appeared in the government ranks in September as a result of a statement by Juan Rafael Arias, president of Congress, favoring the election of the 80-year-old former President Ricardo Jiménez Oreamuno for his fourth term in 1940. The majority of the Republican National party representatives favored the election of Dr. Rafael Angel Calderón Guardia. Señor Arias resigned as president of Congress on September 6 and Dr. Calderón was elected his successor. Dr. Jiménez Oreamuno

announced on September 16 that he would not accept a fourth term.

After heated discussion Congress on July 21 approved a contract between the government and the United Fruit Co. for the development of banana plantations in the virtually uninhabited southern districts of the Pacific coast. The company agreed to invest \$10,000,000 in the cultivation of 9880 acres, the construction of wharves at Pantaquepos and Golfitoy, and of a railway from Puerto Cortés to the Panama frontier, a distance of 59 miles. These works were to become national property at the end of 50 years. The government agreed to maintain the export tax on bananas at two cents per bunch for 50 years. The company agreed to extend the government an advance payment of \$1,000,000 on its export taxes. Soon afterwards banana cultivators on the Atlantic coast complained that the United Fruit Co. was abandoning its activities in that zone. President Cortés Castro notified the company on August 19 that it must comply strictly with previous contracts regulating its activities on the Atlantic coast.

Steps were taken during the year toward expropriation of the Costa Rican properties of the American-controlled subsidiary of the Electric Bond and Share system. This subsidiary controlled light, power, transportation, and telephone facilities in San José and 32 adjacent suburbs and communities, its assets totaling \$3,300,000. Friction between the company and the government had been growing for some years. On May 4, 1938, the government ordered the assessment on the company for direct taxes increased from \$1,417,857 to \$3,259,976. By a 40 to 1 vote, Congress on August 10 authorized the government to expropriate the company's properties, the action following a year's fruitless negotiation between the company and the National Electric Board over rates. President Cortés Castro on August 23 signed the decree authorizing the issuance of a loan to pay for the property. Both the law and the Constitution provided for payment in advance of expropriation. Since Costa Rican loans were in default in the United States and Great Britain, there seemed little possibility of securing a foreign loan. The expropriation decree, however, placed the government in a better position to secure rate concessions from the company. The German Government in October offered to construct an electric power plant for the Costa Rican Government to be paid for with Costa Rican coffee.

It was reported on October 13 that the government had refused to permit entrance into the country of any more Jewish refugees from Europe. The government also commenced a study of the growing racial conflict between the largely white population of the interior highlands and the Negroes who were entering that region from the banana districts of the Atlantic coast in growing numbers. To check the commercial exploitation of the country's archaeological treasures, a decree of November 5 established strict government control of their excavation and sale. Negotiations with United States bondholders for a readjustment of the defaulted dollar loans totaling about \$8,000,000 were resumed by the Costa Rican Minister to Washington in August. The country's ability to pay was reduced by the economic depression which struck it following the collapse of coffee prices late in 1937, and the consequent reduction of the coffee export tax. Early in 1938 a Chilean expert was engaged to undertake the reorganization of the taxation and revenue systems.

Foreign Relations. A convention for the settlement of the 400-year-old boundary controversy between Costa Rica and Panama, which provoked a short undeclared war in 1921, was signed by the two governments on September 26. It provided for the division of the disputed territory, with Panama receiving a district bordering the Atlantic coast near the Sixaola River and Costa Rica an equal area in the interior. The treaty was presented to the Costa Rican Congress October 2 but public opposition to it became so violent that the President on the advice of 24 deputies withdrew the treaty on October 8 to prevent bloodshed. President Cortés Castro denounced the opposition to the pact as unjustified and dismissed from the public service those who participated in the protest demonstrations. The defeat of the treaty was followed by the expansion of armaments by both countries. It also offered an additional obstacle to the negotiations for settlement of the boundary dispute between Honduras and Nicaragua that were proceeding in the Costa Rican capital. See HONDURAS and PANAMA under *History*.

Costa Ricans were perturbed during 1938 by the country's increasing unfavorable trade balance with Japan, which was expected to react adversely upon Costa Rica's chief export markets in the United States and Great Britain. Some Japanese fishermen, excluded from Panama by the nationalization of the fishing industry there, transferred their base to Puntarenas. They had been suspected of espionage for Japan in the Canal Zone and adjacent waters. On November 18, President Cortés Castro ordered the Exchange Control Board to give preference in the purchase of foreign exchange to countries with which Costa Rica had a favorable trade balance. The order virtually barred Japanese and Italian goods since Costa Rica had large unfavorable trade balances with both countries.

COSTER, F(RANK) DONALD. See *MUSICA, PHILIP*.

COTTON. The cotton crop of the United States for 1938, as estimated by the Crop Reporting Board of the U.S. Department of Agriculture on Dec. 8, 1938, amounted to 12,008,000 bales of 500 lb., considerably below the record crop of 18,946,000 bales in 1937 and it compared with 12,399,000 in 1936, and 10,638,000 in 1935. The yield of lint per acre was estimated to average 226.8 lb., while the record was 266.9 lb. in 1937 and 179.8 lb. was the average for the period 1927-36. Of 26,144,000 acres in cultivation July 1, 1938, 3.1 per cent was abandoned later, and 25,346,000 acres were left for harvest, 25.5 per cent less than in 1937. The abandonment was greater than average, part being removed in compliance with the 1938 adjustment program.

The world carry-over of American cotton on July 31, 1938, as estimated by the New York Cotton Exchange Service, was about 13,652,000 bales, compared with 6,235,000 at the end of the previous season and 6,998,000 two years ago. The New Orleans Cotton Exchange estimated the 1937-38 carry-over at 13,803,000 bales. The carry-over of American cotton in the United States, estimated at 11,436,358 running bales, together with the above estimate of world total, indicated the carry-over of American cotton in foreign countries on Aug. 1, 1938, at about 2,215,000 bales. The world mill consumption of American cotton during the season ended July 31, 1938, was estimated at 10,930,000 bales compared with 13,093,000 bales in 1936-37, 12,503,000 in 1935-36, and 11,206,000 in 1934-35.

World supply of all cotton for the 1938-39 season

was estimated in December to total about 50,462,000 bales, an increase of about 100,000 bales over 1937-38 and one-fourth larger than the 10-year average, 1927-28 to 1936-37. The world carry-over of all cotton on August 1 was about 22,612,000 bales compared with 13,766,000 bales a year earlier and 14,214,000 bales, the 10-year average.

The prospective world supply of American cotton for the current season, 1938-39, was indicated at about 25,502,000 bales, about 855,000 bales more than in 1937-38 and only about 722,000 bales less than the high record supply of 1932-33. The stocks of spot cotton held as collateral against government loans on Nov. 23, 1938, were indicated at 9,860,000 bales.

Production in 1938 in the countries reporting was estimated currently to be for the United States, 12,008,000 bales; India, 4,014,000; U.S.S.R. (Russia), 3,500,000; China (including Manchuria), 2,300,000; Egypt, 1,523,000; Brazil, 1,950,000 (Northern States, 633,000); Mexico, 260,000; Chosen, 194,000; Turkey, 113,000; Greece, 67,000; Italy, 44,000; Bulgaria, 41,000; and Nyasaland, 10,000 bales. The total world production in 1938-39 was indicated by the U.S. Department of Agriculture at the close of 1938 at 28,400,000 bales, about one-fourth less than the record production of 1937-38, but still about 8 per cent larger than the 1927-36 average and the fourth largest in history. The total world acreage was placed at about 75,500,000 acres in 1938-39 versus 93,400,000 in the 1937-38 season. World production of commercial cotton in 1937 was estimated by the U.S. Bureau of the Census to be 35,591,000 (478 lb.) bales, of which the United States produced 18,252,000 (running) bales; India, 4,800,000; U.S.S.R. (Russia), 3,482,000; Egypt, 2,282,000; China, 1,500,000; Brazil, 2,191,000; Mexico, 350,000; Peru, 360,000; and all other countries, 2,374,000 bales. In 1937-38 Argentina produced 281,000 bales; Uganda, 314,000 bales; and Anglo-Egyptian Sudan, 264,000 bales, and, according to official estimates, India produced 4,942,000 bales.

The United States cotton crop for 1937, as reported by the Bureau of the Census, the estimated crop for 1938, and the quantity reported ginned to Dec. 13, 1938, are shown in the accompanying table.

UNITED STATES COTTON CROP, 1937-38

States	Crop in 1937 500-lb. bales	Estimated crop-1938 500-lb. bales	Reported ginned Dec. 13, 1938, running bales
United States ..	18,945,028	12,008,000	11,413,688
Alabama	1,636,363	1,080,000	1,058,016
Arizona	312,908	196,000	154,771
Arkansas	1,915,206	1,340,000	1,293,334
California	738,700	423,000	353,509
Florida	34,605	25,000	22,010
Georgia	1,505,946	857,000	842,155
Louisiana	1,103,622	676,000	650,944
Mississippi	2,692,427	1,715,000	1,654,190
Missouri	397,226	337,000	324,122
New Mexico ..	156,409	95,000	85,987
North Carolina ..	781,483	400,000	376,678
Oklahoma	763,403	570,000	542,691
South Carolina ..	1,023,319	650,000	631,122
Tennessee	660,394	487,000	466,369
Texas	5,163,895	3,125,000	2,934,758
Virginia	40,379	15,000	9,433
All Others	18,743	17,000	13,599

The table includes for 1938, under the ginning report, 151,324 round bales counted as half bales and also 15,236 bales of American-Egyptian cotton, and 3325 bales of Sea Island cotton. The 1938 crop of Arizona was estimated to include 21,000 bales of American-Egyptian cotton grown on 44,000 acres; and 3100 bales of Sea Island cotton were

grown in Georgia and Florida. The crop of Lower California, Mexico, was estimated at 37,000 bales harvested from 94,000 acres, not included in the totals.

The oil mills in the United States, during the cotton year ended July 31, 1938, crushed 6,325,733 tons of cottonseed. The products of the seed included 1,470,528 bales of linters, 1,625,932 tons of hulls, 2,830,420 tons of cake and meal, and 1,961,485,735 lb. of oil.

Exports of cotton and linters for the year ended July 31, 1938, amounted to 5,598,415 running bales of cotton, and 274,625 bales of linters or a total of 5,873,040 bales. The principal exports of cotton were to United Kingdom, 1,551,843 bales; France, 715,850; Germany, 653,845; Italy, 505,379; Belgium, 189,524; and other European countries, 747,952; Japan, 690,513; China, 22,786; and Canada, 245,955 bales. The United States imported during the same period a total of 159,015 bales; from Egypt, 43,499 bales; India, 48,040; China, 16,491; Mexico, 43,598; Peru, 744; and from other countries, 6643 bales.

The consumption of all cottons in the United States dropped in 1937-38 to 5,747,978 bales from 7,950,079 bales in 1936-37. The cotton used by American mills was consumed largely, nearly 85 per cent, in the cotton-growing States. Of 25,986,620 spindles in place Dec. 31, 1938, 22,444,784 were active during December, of which 17,062,000 were located in Cotton States, 4,780,766 in New England, and 601,218 in other States. The number of active spindle hours averaged in Cotton States 300, in New England 222, and elsewhere 180.

The world consumption of cotton (exclusive of linters in the United States) for the year ended July 31, 1938, according to the U.S. Bureau of the Census, approximated 26,748,000 bales compared with the previous year's record consumption of 30,820,000 bales. The estimates based on reports of the New York Cotton Exchange Service were equivalent to about 27,565,000 bales, around 10 per cent below 1936-37 but 8 per cent above the average for the 10 years ended 1936-37. Of the total consumption in 1937-38, about 16,635,000 bales were foreign cotton and 10,930,000 bales American; in 1936-37, 17,596,000 bales were foreign and 13,093,000 bales were American.

The cotton consumption of 5,748,000 bales in the United States in 1937-38 was 28 per cent less than the unusually large consumption in 1936-37 but only 7 per cent less than the average for the decade ending 1936-37, the decrease under 1936-37 resulting largely from the marked recession in general business conditions and decreased consumer textile buying. The total consumption of all cotton in Europe in 1937-38 was estimated by the U.S. Census Bureau at 11,400,000 bales, compared with 11,559,000 bales during the previous season; in Japan 3,370,000; in China 1,250,000; in India about 2,980,000; and in Canada 264,000 bales. Total mill consumption in foreign countries of 21,817,000 bales in 1937-38 was 5.3 per cent less than in 1936-37 but 12.5 per cent above the 1927-37 average. Consumption of American cotton outside the United States, 5,314,000 bales, was about the same as in 1936-37 but 26.8 per cent less than the 10-year average. In 1937-38 American cotton comprised only 24 per cent of the total consumption of cotton outside the United States, against 23 per cent in 1936-37, 29 in 1935-36, and 37 per cent during the decade 1927-36. Increased competition from rayon reduced the total consumption of cotton, especially in certain important cotton-consuming countries,

but substitution of foreign growths for American accounted for the sharply reduced proportion of American cotton used in foreign mills during recent years.

The price of middling $\frac{7}{8}$ -inch cotton at the 10 spot markets averaged 8.66 cents per lb. during the year ended July 31, 1938, compared with 12.70 in 1936-37, 11.55 in 1935-36, 12.36 in 1934-35, 10.81 in 1933-34, 7.15 in 1932-33, and 12.42 cents, the average of 1927-28 to 1936-37. Prices averaged 8.54 cents in January, 1938, 8.92 in February, and 8.89 in March. They averaged in April 8.75 cents, May 8.51, June 8.39, July 8.83, August 8.37, September 8.10, October 8.55, November 8.65, and closed on December 30 at a range of 8.19 to 9.03 cents, averaging 8.60 in the southern spot markets and at 8.88 cents in New York, 8.65 New Orleans, and 5.25d at Liverpool. Prices received by producers at local farm markets on Dec. 15, 1938, were estimated to average 8.20 cents per lb. for lint and \$23.04 per ton for cottonseed, compared with 7.67 cents and \$18.50, respectively, on Dec. 15, 1937. The cash income from cotton and cottonseed in 1938 was estimated at \$667,235,000 compared with \$883,776,000 in 1937.

An increase of about 53 per cent in the size of the United States crop made gross returns to farmers from cotton and cottonseed in the 1937-38 marketing season slightly larger than in 1936-37, despite the decrease in prices, and about the same as the average for the decade 1927-36. Combined returns to growers from cotton and cottonseed, together with Government payments for cotton, in 1937-38 was slightly less than in 1936-37 and about 9 per cent larger than the 10-year average. Cotton prices, if continued at current levels, together with the greatly reduced 1938 crop, would result in gross farm returns from cotton in 1938-39, including Government loans and payments, being substantially less than in 1937-38. Government loans to co-operating producers on the 1938 crop were on the basis of 8.30 cents per lb. for middling $\frac{7}{8}$ -inch cotton with specified premiums and discount for cotton of other eligible grades and staple lengths. The qualities specified as being eligible for the loan probably would exceed 90 per cent of the 1938 crop. The 1938 Agricultural Conservation payments were at the rate of 2.4 cents per lb. on the normal yield of the co-operating producers' 1938 cotton acreage allotment. In addition, price adjustment payments averaging about 2.9 cents per lb. on 60 per cent of each co-operating producer's 1937 cotton base production were being paid during the 1938-39 marketing season. Total Government payments on cotton during the 1938-39 season were expected to approximate \$265,000,000, compared with \$72,000,000 in 1937-38, and the previous record payments of \$179,700,000 in 1933-34.

Cotton of the 1938 crop ginned up to Dec. 1, 1938, averaged higher in grade and longer in staple length compared to that ginned up to Dec. 1, 1937, according to a report based on the 11,214,266 bales of American upland cotton reported as ginned prior to that date. Estimates were that 22 per cent was white strict middling or better, 33 per cent white middling, about 21 per cent white strict low middling and below, and 21 per cent spotted cotton. About 4 per cent was shorter than $\frac{7}{8}$ in. in staple, 44 per cent ranged from $\frac{7}{8}$ in. to $1\frac{1}{2}$ in., 43 per cent ranged from 1 to $1\frac{1}{2}$ in., and 9 per cent was $1\frac{1}{2}$ in. and longer in staple. About 95 per cent of the cotton ginned up to Dec. 1, 1938, was tenderable, versus 87.5 in 1937.

Bibliography. *Cotton Literature* (vol. viii); *The Cotton Situation* (monthly); *The Farm Out-*

look for 1939; *Crops and Markets* (vol. xv) (monthly); *Report of the Secretary of Agriculture, 1938*; *Agricultural Statistics, 1938* (Cotton, pp. 94-117, 442); *Modernizing Cotton Gins* (F.B., 1802); *Soil Defense in the South* (F.B., 1809); *Facts About Cotton* (Leaflet 167); *The Classification of Cotton* (M.P., 310); *Reports of the Chiefs of the Bureau of Agricultural Economics, Entomology and Plant Quarantine, and Plant Industry, 1938* (all U.S. Department of Agriculture, 1938); *Cotton Production in the United States, Crop of 1937 and Cotton Production and Distribution, Season of 1937-38* (both U.S. Department of Commerce, 1938); *Annual Reports and Bulletins of State Experiment Stations located in the Cotton Belt*; H. B. Brown, *Cotton, History, Species, Varieties, Morphology, Breeding, Culture, Diseases, Marketing and Uses* (2 ed., New York, 1938); M. L. Dantwala, *Marketing of Raw Cotton in India* (London, 1937); G. W. Johnson, *The Wasted Land* (Chapel Hill, N. C., 1937); H. C. Nixon, *Forty Acres and Steel Mules* (Chapel Hill, N. C., 1938); H. H. Willis, G. Gage, and V. B. Moore, *Cotton Clipping Manual* (Washington, D. C., 1938); Association of Southern Agricultural Workers, *Proceedings, 39th Annual Convention, Atlanta, 1938* (Raleigh, N. C., 1938); National Emergency Council, *Report on Economic Conditions in the South* (Washington, 1938); *A Guide to Indian Cottons* (Bombay, 1937); *Cotton Yearbook 1938*, New York Cotton Exchange (New York, 1938); *Annual Cotton Handbook 1938-39*, Comtelburo, Ltd. (London, 1938); Empire Cotton Growing Corporation, *Report of Administrative Council and Progress Reports from Experiment Stations* (both London, 1938); British Cotton Growing Association *Report for 1937* (Manchester, 1938); West Indian Sea Island Cotton Association *Report for 1937* (Trinidad, 1938); Indian Central Cotton Committee *Annual Report* for year ending Aug. 31, 1937 (Bombay, 1938); *Egyptian Cotton Yearbook for 1937-38* (Alexandria, 1938); *Skinner's Cotton Trade Directory of the World, 1938-39* (London, 1938); *Textile Recorder Yearbook, 1938* (Manchester, 1938); *Cotton Trade Journal* (New Orleans, La.); *International Cotton Bulletin* (Manchester); *Empire Cotton Growing Review* (London); *Colon et Culture Cotonnière* (Paris); and *First Conference of Scientific Research Workers on Cotton in India* (Bombay, 1938).

COURT GAMES. See SPORTS.

CREAM. See DAIRYING.

CREDIT. See BANKS AND BANKING.

CREDIT UNIONS. See CO-OPERATION.

CRETE, krēt. An island in the Mediterranean, forming a geographical division of Greece. Area, 3199 square miles; population (1928 census), 386,427. Chief towns: Khania (Canea), the capital, 26,604 inhabitants; Irakleion (Candia), 33,404 (42,057 in 1935). See GREECE under *History*.

CRICHTON-BROWNE, SIR JAMES. A British brain specialist, died in Dumfries, Scotland, Jan. 31, 1938. Born in Edinburgh, Apr. 20, 1840, he was educated at the University of Edinburgh (M.D., 1862) and at the University of Paris. He served as medical officer in the Derby, Devon, and Warwick county asylums, and in 1865 was appointed medical superintendent of the Newcastle-on-Tyne Boro Asylum and lecturer in psychological medicine at the College of Science there. In the following year he became medical superintendent at West Riding Asylum at Wakefield, which institution under his management became noted for its excellence and also a great training

center in mental diseases. At this time he started a research laboratory, established and edited the West Riding Asylum Medical Reports, and was co-editor of *Brain*. Dr. Crichton-Browne left Wakefield in 1875 when he became a Visitor in Lunacy, from which office he retired in 1922.

A bulwark of British medicine, he was made a fellow of the Royal Society in 1883, was knighted in 1886, and from 1889 to 1926 served as treasurer of the Royal Institution of Great Britain. Sir James was the author of *Education and the Nervous System* (1884); *Overpressure in Schools*, a translation from the Danish of Kestals (1885); *What We Owe to Alcohol* (1918); and other works on mental and nervous diseases. He was one of the editors of the *New Standard Dictionary* (1913) and of the *Standard Family Physician* (1908). Also, he was the author of several delightful books of reminiscence, *Victorian Jottings* (1926); *Stray Leaves from a Physician's Portfolio* (1927); *What the Doctor Thought* (1930); *The Doctor's Second Thoughts* (1931), and *The Doctor's After-Thoughts* (1932).

CRICKET. See SPORTS.

CRIME. The Problem of Crime. Analyses made by the U.S. Federal Bureau of Investigation indicated that there were fully 4,000,000 criminals operating in the United States today, of whom a quarter of a million were murderers. According to J. Edgar Hoover, the Director of the Bureau, the crime bill for the country was approximately \$15,000,000,000 annually, or about \$120 for every man, woman, and child. Mr. Hoover estimated that every 22 seconds saw a serious crime committed in the United States. There was a death by criminal violence every 39 minutes. During 1937 his figures showed nearly 1,500,000 major crimes were committed, of which 7859 were murders, 5705 were manslaughter cases, 59,786 were robberies, 45,478 were assault cases, 292,870 were burglaries, 780,031 were larceny cases, and 215,569 were auto thefts. The grand total exceeded the figures for 1936 by 6 per cent.

The Bureau of Investigation had an enviable record in coping with those crimes that fell within its purview. During 1937 its operations cost the government \$6,200,000 but on the other hand it turned back to the taxpayers over \$47,000,000 in total value of recoveries of stolen property, fines, and savings in cases which it had handled. Its successes in the handling of kidnaping cases were also outstanding. Since the passage of the Federal Kidnaping Statute in 1932, 130 kidnaping cases occurred, of which 127 were solved by the F.B.I. Also, as a result of its activities and the co-operation it was receiving from State agencies, bank robberies decreased 75 per cent in the past few years. Mr. Hoover reported that his Bureau, to quote him, "was able to make progress in our campaign to uproot crime in taking action against the crooked lawyers, the unethical doctors who try to mutilate the fingerprints of criminals, the hideout owners, the go-betweens, the 'fixers' who front for criminals, the fences, and all the rest of the slimy crew that feeds upon crime."

The causes of crime by this time are familiar to the American population. In the first place there is no question that one of the primary causes was the existence of poverty. It has been shown statistically that the great majority of crimes were committed by persons who lived in slum areas, who had no employment or were under-employed, and who were malnourished. In the second place, slum areas were undoubtedly breeding places of crimi-

nals because these were located in the most crowded and unsanitary sections of cities, because homes in such places afforded no adequate opportunities for decent social living, and because recreational facilities were inadequate. As a result, young men gathered on street corners and in poolrooms and easily became the prey and tools of professional criminals. In the third place, sociologists were pointing recently to the fact that great disparities in income and notably the existence of plenty and poverty side by side succeeded in breaking down the resistances of many weak persons. On this point Dr. Leverett S. Lyon of the Brookings Institution made the following interesting observation:

While it is true that people's wants are more or less boundless, the really keen desires of most persons for certain goods at any given time are typically for those which are but a little beyond their reach. Most persons of modest incomes do not yearn ardently for yachts and racing stables. It is the addition to their standard of living of much simpler things with which they are concerned; for example, a radio phonograph instead of a radio, a second automobile, a college education for their children, or even just more clothes and more money for amusements. It is probable, therefore, that if society is able to make a more or less consistent, even though not a great, advance in the standards of living of most of its members, that the impelling desires of most of them for the goods which they do not have, tends to be gratified.

In the fourth place, it is to be noted that organized crime had become more and more a characteristic of our modern social organization. As Thomas E. Dewey, District Attorney of New York, pointed out, up to 30 years ago the American criminal was a free lance who operated as a small-time burglar or pickpocket. It is true that from time to time organized gangs appeared, but these were for the purposes of carrying on depredations against small tradespeople. In recent years, however, it may almost be said that criminal syndicates were operating with ramified interests in many cities. To quote Mr. Dewey: "They are rich and powerful, and have brains even more than brawn. There are few illegal enterprises which have not become a part of the empire of organized crime. . . . Every large criminal organization which my office has prosecuted has been set up like an industrial enterprise, with department heads and a strong-arm squad and lawyers who advise in every act."

Sociologists were prepared to admit that the attack on crime represented no simple problem. The solutions necessitated wide-sweeping changes in our social structure as well as the elimination of a number of more obvious evils which had come to cluster about our legal and penal systems. The *American Observer*, in an analysis of the question, pointed out that there were a number of issues that had to be faced in conjunction with the problem. (1) Unemployment would have to be solved, for not only did unemployment serve as an economic motivation but it contributed to a decline of moral stamina on the part of those who were habitually out of work. (2) Standards of living would have to be raised for a large portion of the population. (3) The slums would have to go. (4) Community programs would have to be devised for the purposes of arousing the whole citizenry to the serious nature of this situation. (5) An extended program enlisting all the educational forces of the country, the schools, the churches, the press, the radio, and motion pictures, would have to be created for the study of the causes and the cure of crime. (6) A recreational program was of the first importance. (7) Dishonesty among public officials would have to be eliminated. Everywhere there was agreement that there was an intimate and direct connection

between politicians and criminals. (8) Improvements were necessary in the training of policemen and in their better selection and surveillance. (9) A more intelligent approach to the punishment aspects of the problem was imperative. The *American Observer* believed that there was a good deal of truth in the statement of William J. Quinn, Chief of Police of San Francisco, that: "Penal institutions at present are the worst places for fostering crime."

Mr. Hoover was particularly outspoken in his insistence that the whole parole system required re-examination. He pointed out that there was little point in apprehending desperate criminals, often with serious loss of life, if such criminals were soon released to prey upon society. Said he, on the question of parole:

I am a friend of parole. I cannot, however, justify at any time the senseless, super-sentimental application of misguided sympathy for depraved and unreformed criminals. I have always held, and will continue to hold, that our jails are created for the purpose of protecting society from those who, by reason of their criminalistic tendencies, constitute a permanent menace to the law-abiding citizens of our country. I have seen too many examples of the folly of releasing confirmed criminals to continue to prey upon our country's citizenry, to pillage and slay until again incarcerated, then to be confined for a comparatively short period and again released.

Prison Labor. The Bureau of Labor Statistics, which has been studying prison labor for a long period of time, came to the interesting conclusion, as a result of its statistical analyses, that the past half century had seen a steady decrease in the proportion of prison inmates employed at productive labor. During the period 1923-36, the prison population, in the institutions of 14 jurisdictions covered by its examinations, nearly doubled, but the number of prisoners assigned to productive labor increased only 21.7 per cent. The value of goods produced by such labor also decreased sharply so that the value of output in 1936 was only 44.3 per cent of that in 1923. According to the Bureau, prison labor had been utilized under six systems. The *Lease system*, by which the State entered into a contract with the lessee, who agreed to receive the prisoners, paying the State a specified amount per man per day, had completely disappeared, although it had been very popular up to 1923. The *Contract system*, which had been very popular in 1923 and in 1932, when earlier surveys had been made, was declining in significance in recent years. Under this system an outside contractor arranged with the institution for the labor of the prisoners at a stipulated amount per capita per day. The State assumed no risk of loss as the contractor usually furnished his own raw materials and provided his own foremen, inspectors, machinery, and tools. The State, however, housed, fed, clothed, and guarded the prisoners. The *Piece-price system* was also declining. This system was nearly the same as the *Contract system* except that under it the contractor, instead of paying a stated amount per day, contracted with the institution for the labor of the prisoners at an agreed price per unit of output. The *State-account system* was becoming more popular in recent years. Under it the institution carried on a productive enterprise and disposed of the product on the general market and in competition with the goods produced by free labor. The institution assumed all the business risks. If the business was associated with manufacturing, the institution bought the raw materials and sold the finished product in the same way as would be done by any manufacturing concern, except that frequently it retained part of the product for use in the prison.

The *State-use system*, which was beginning to supplant the earlier types, also put the institution into the business of production. However, the use or the sale of the goods it produced was limited to the institutions in which they were produced or to other State or Federal institutions. The purpose here, of course, was to make prison products available to public institutions while avoiding direct competition with free-labor products. The *Public works and ways system*, which was becoming most frequently employed in recent years, was very much like the *State-use system* with the emphasis upon production not of consumer goods, but upon public works. Those prisoners employed in such activities were engaged in the constructive repair of prison buildings, other public buildings, roads, parks, and bridges, and for flood control, reforestation, clearing land, and the like.

The Bureau's studies indicated a definite increase in those systems which got prison-made goods out of the open market where they competed with the products of free labor. Whereas in 1923 prisoners employed under the *State-use* and the *Public works and ways systems* formed only 29.2 per cent of the total working at productive processes, in 1936 they formed 60.5 per cent. The proportion employed under the *Contract system* fell from 33.4 per cent to 6.1 per cent. This movement was facilitated by the Hawes-Cooper Act of 1929 which came into effect in 1934 and which forbade the movement of prison-made goods into interstate commerce. When the *Contract* and *Piece-price systems* flourished, manufactured articles formed the largest part of prison output. By 1936, however, the principal manufactures in the 14 jurisdictions covered by the Bureau's studies formed only 43 per cent of the value of output as compared to 82.5 per cent in 1923. There was a decided decrease in the manufacture of such articles as brooms, hosiery, pants, shoes, furniture, and castings, all formerly made largely under the *Contract system*. The articles which have shown an increase, like automobile license plates, were being manufactured for State use only.

This movement away from contract production of goods competing with free labor placed squarely before prison authorities the necessity for providing work for inmates in order to prevent the demoralizing effects of idleness. The spreading of

work among inmates resulted in a sharp decrease in the value of goods produced per prisoner. In 1923 the annual average value of goods so produced was \$1850 as contrasted with \$900 in 1932 and \$650 in 1936. Tables I and II indicate some of the aspects of this very interesting problem.

Federal Prison Industries Corporation. In 1934 Federal Prison Industries Corporation was established to determine the manner and extent of industrial operations in Federal prisons and to diversify the work so that no single industry should bear an undue burden of competition from prison-made goods. In 1937 the ratio of industrial employees to total prison population was 18.3 per cent, which was a slight increase from the 17.6 per cent in 1936. In 1937, also, the net sale of prison goods aggregated \$3,777,000, of which \$2,557,000 represented cost of material and \$207,000 labor costs, leaving a net profit of surplus on the year's work of \$568,000. The Board also gave attention to the importance of correlating vocational training in the institutions with the work opportunities. Industrial counselors were employed in the major institutions to advise with the officials in planning for the training and retraining of prisoners. It is interesting to note, too, that accident compensation was made to prisoners for the first time in 1937. While in the institution, the prisoner received during incapacity only his average monthly wage. He received, however, compensation for his injury after his release. This was based upon the idea that the amount of compensation should be linked with the economic position of the inmate after he had become a free member of society once more.

Regulation of Prison-Made Goods. The Prison Industries Reorganization Administration indicated that 12 States prohibited altogether the sale or distribution of prison-made goods on the open market, that 16 additional States enacted general prohibitions with certain exemptions, and that 8 States, including 3 of the foregoing, had legislation specifically prohibiting the sale of imported prison-made goods. In other words, 33 States had placed some restriction on the sale of prison products. Practically all States permit the use of prisoners on roadwork and 28 provide for the use of prisoners on public works. According to the Administration, Colorado, Illinois, Kentucky, Montana, New York, and Ohio had complete legislation

TABLE I—PER CENT OF PRISONERS EMPLOYED AT PRODUCTIVE LABOR UNDER DIFFERENT SYSTEMS IN SPECIFIED YEARS

System	All State and Federal institutions				State institutions in 13 States and institutions in the District of Columbia		
	1885	1895	1905	1914	1923	1932	1936
State-use system	26.0 *	33.0 *	18.0	22.0	21.2	24.7	38.8
Public works and ways system			8.0	11.0	8.0	14.4	21.7
State-account system			21.0	31.0	22.9	20.1	21.5
Piece-price system	8.0	14.0	8.0	6.0	14.5	21.1	11.9
Contract system	40.0	34.0	36.0	26.0	33.4	19.7	6.1
Lease system	26.0	19.0	9.0	4.0	...	...	...
Per cent prisoners employed at productive labor formed of all prisoners	75.0	72.0	65.0	(^b)	70.5	56.9	44.6

* No separation made of State-account, State-use, and public works and ways systems in this year. ^b Not reported.

TABLE II—PRODUCTION UNDER SPECIFIED SYSTEMS OF PRISON LABOR, BY YEARS *

System	Value of commodities			Per cent		
	1923	1932	1936	1923	1932	1936
All systems	\$21,750,622	\$15,111,096	\$9,438,347	100.0	100.0	100.0
State-use system	1,481,862	1,584,829	2,157,226	6.8	10.5	22.8
Public works and ways system	1,280,100	3,874,252	3,257,285	5.9	25.6	34.5
State-account system	1,342,778	1,068,568	1,440,566	6.2	7.1	15.3
Piece-price system	5,141,882	3,711,757	1,765,543	23.6	24.6	18.7
Contract system	12,504,000	4,871,690	817,727	57.5	32.2	8.7

* Data relate to State institutions in 13 States and institutions in the District of Columbia.

covering prison labor and sale of prison-made goods. Their laws specifically prohibited sale of prison goods on the open market (including imported products), regulated the use of prison labor and the manufacture and consumption of the products, and provided for the use of prison labor on roads and in the construction of public works. As has already been pointed out, the Hawes-Cooper Act so divested prison-made goods of their interstate character as to permit States to regulate the sale of such goods within their borders, even though produced in penal systems of other States. The Ashurst-Sumners Act of 1935 strengthened the arm of those States seeking to cope with the problem of prison-made goods by giving Federal aid in the enforcement of any State law through declaring it a Federal offense if prison-made goods were transported to a State in violation of its laws.

CRIMEAN AUTONOMOUS SOVIET SOCIALIST REPUBLIC. See RUSSIAN SOVIET FEDERATED SOCIALIST REPUBLIC.

CRIMINAL LAW. See LAW.

CROATIA (krô-ă'shi-a) and **SLAVONIA.** Formerly a crownland of Austria-Hungary, now incorporated in Yugoslavia (q.v.).

CROATS. See YUGOSLAVIA.

CROP INSURANCE CORPORATION. See UNITED STATES under *Administration*.

CROPS. See AGRICULTURE; UNITED STATES under *Administration*, and articles on various crops, such as CORN, TOBACCO, WHEAT, etc.; also paragraphs on *Agriculture* under various States and on *Production* under countries.

CROSS-COUNTRY RUNNING. See SPORTS.

CRUSTACEA. See ZOOLOGY.

CUBA. An island republic of the West Indies. Capital, Havana.

Area and Population. With an area of 44,164 square miles, Cuba had a population estimated at 4,164,994 on Dec. 31, 1937 (3,962,344 at the 1931 census). The estimated racial classification of the population in 1935 was: White, 2,956,446; colored, 1,114,635. The estimated populations of the chief cities, with suburbs, on Dec. 31, 1936, were: Havana (Habana), 552,133; Holguin, 137,016; Camagüey, 135,126; Santiago de Cuba, 104,729; Santa Clara, 98,183; Marianao, 84,357; Moron, 83,291; Matanzas, 80,954.

Education and Religion. According to the 1931 census, 39 per cent of the population 10 years of age and over were illiterate. For the 1937-38 school year, there were 4115 primary schools with a total enrollment of 423,420 pupils (312,972 white and 110,478 colored), and an average daily attendance of 293,193. It was estimated that 4000 more classrooms were needed to house all children of primary school age; there were 8300 classrooms in 1938. In 1936-37 there were 94 night schools, with 7383 pupils; 323 private schools, with 29,736 pupils. Special government institutes for secondary education are maintained in each province. The University of Havana, reopened in 1937, had about 6000 students. Most Cubans profess the Roman Catholic faith but there is no state church.

Production. Agriculture is the chief support of the population. Sugar and cane products accounted for 80 per cent of the value of all exports in 1937. Sugar exports totaled 2,525,441 long Spanish tons in 1938 (2,650,611 in 1937). For the production, price, and total value of raw sugar output in previous years, see 1937 YEAR BOOK, p. 195. Tobacco production in 1937 was 54,615,000 lb.; coffee, in 1937-38, about 31,000 metric tons. Corn, cacao, rice,

fruits, and vegetables were other leading crops. Cuba in 1936 had 4,964,000 head of cattle and 695,000 horses, mules, and asses; in 1934 there were 952,000 swine, 42,000 sheep and 9000 goats. Mineral production in 1937 was: Iron ore, 212,161 tons (409,629 in 1936); chrome ore, 97,766 tons (70,388); manganese, including sintered, sorted, and low-grade ore, 104,842 tons (47,706); copper ore, 341,184 tons (301,310). The principal branches of industry are vegetable oils, meat products, clothing, footwear, furniture, textiles, paints, paper, glass, cement, and pharmaceuticals. During 1938 foreign tourists and excursionists calling at the Port of Havana numbered 68,667 and 89,346, respectively, as compared with 62,344 and 116,152 in 1937.

Foreign Trade. General imports in 1938 were valued at 106,007,325 Cuban pesos and exports at 142,677,752 pesos (preliminary), as compared with 129,572,000 and 186,071,000 pesos, respectively, in 1937. The United States supplied imports to the value of 75,152,388 pesos (70.8 per cent of the total) and took exports valued at 108,362,605 pesos (75.9 per cent) in 1938, as compared with 88,847,000 pesos (68.6 per cent) and 150,158,000 pesos (80.7 per cent), respectively, in 1937. The leading 1937 imports, in order of value, were cotton manufactures, rice, iron and steel manufactures, machinery, chemical and pharmaceutical products, and wheat flour. The chief 1937 exports were: Raw sugar, 104,845,000 pesos; refined sugar, 22,440,000 pesos; molasses, 18,175,000 pesos; tobacco, 11,235,000 pesos; cigars, 3,655,000 pesos; bananas, 3,352,000 pesos.

Finance. Budget estimates for the fiscal year ended June 30, 1939, placed receipts at 83,250,000 pesos and expenditures at 83,174,000 pesos. However, by the law of Nov. 2, 1938, the original 1938-39 budget continued in effect only until Dec. 31, 1938. The fiscal year was changed to coincide with the calendar year, effective Jan. 1, 1939, and the budget was scaled down to accord with the estimated budgetary income of 75,000,000 pesos. As Congress failed to act on the proposed 1939 budget, the President extended with minor changes the re-adjusted budget in effect during the last quarter of 1938. This anticipated revenues of 76,000,000 pesos in 1939 and expenditures of 75,992,000 pesos.

Exclusive of a floating debt estimated late in 1938 at 60,000,000 pesos, the public debt on Dec. 31, 1937, totaled 134,468,000 pesos (external funded, 42,504,000; internal funded, 7,567,000; special public works debt, 80,867,000; sugar bonds, 3,530,000). The Cuban peso, par value \$1 U.S. currency, exchanged practically at par throughout 1937 and 1938.

Transportation. Cuba has 3079 miles of privately owned railway line, which in 1936-37 carried 9,980,000 passengers and 18,320,000 long tons of freight, the gross operating revenues totaling \$17,663,000. Roads and highways in 1937 extended 2214 miles; number of automobiles, 39,752. Air service is provided by both the Cuban National Aviation Co., with 701 miles of local routes in 1938, and Pan American Airways. During 1938, 1013 planes of the latter system arrived at Cuban airports with 15,335 passengers, 46,010 lb. of mail and 49,236 lb. of express. Pan American Airways planes leaving the island totaled 1032, with 14,906 passengers, 38,867 lb. of mail, and 11,338 lb. of express. During 1937, 4479 vessels of 11,238,000 net registered tons entered Cuban ports with 2,278,000 metric tons of cargo.

Government. Following the revolutionary over-

throw of President Machado on Aug. 12, 1933, the Constitutions of 1901 and 1928 were declared null and void and a series of provisional governments followed. A decree of June 12, 1935, restored the 1901 Constitution with certain modifications. Elections for a constitutional President, Vice-President, and Congress and for provincial and municipal officers were then held Jan. 10, 1936, with the newer and more radical parties boycotting the polls. The new Congress adopted another Constitution (finally approved, Dec. 14, 1936), establishing a semi-parliamentary form of government, with a premier and cabinet appointed by the President but removable by Congress. Before this Constitution was proclaimed the constitutional President, Dr. Miguel Mariano Gómez, was impeached and ousted by Congress at the behest of Col. Fulgencio Batista, chief of staff of the Cuban Army and unofficial dictator. Dr. Gómez was replaced by Dr. Federico Laredo Bru, effective Dec. 24, 1936. On June 9, 1937, Congress enacted a law providing for elections in 1938 for a Constituent Assembly to draft a new Constitution. Meanwhile, the 1935 Constitution remained in force. At the beginning of 1938, Congress consisted of a Senate of 36 members, of whom the Laredo Bru Government controlled 27, and a House of Representatives of 162 members, in which the government's working majority was about 60 per cent. For developments in 1938, see *History*.

HISTORY

Political Developments. Elections to replace one-half of the membership of the House of Representatives were held Mar. 5, 1938, in accordance with the arrangements made in 1937 (see 1937 YEAR BOOK, pp. 196 f.). The voting returned a larger pro-government majority to the House as the parties opposing Colonel Batista's domination of the government boycotted the polls. They included the Republican party led by ex-President Miguel Mariano Gómez, the Democratic Republicans under former President Mario G. Menocal, and the Cuban Revolutionary party led by former President Ramón Grau San Martín. Less than 40 per cent of the eligible voters cast their ballots. The legal opposition parties, charging that the election was the "most shameful" in the republic's history, joined with various outlawed political groups in demanding impartial elections for a Constituent Assembly to draw up a new Constitution.

Responding to the growing popular demand, Colonel Batista announced on May 4 that he would suspend further application of his much-criticized Three-Year Plan pending the election of a Constituent Assembly some time in 1939. His Three-Year Plan for the economic and social reconstruction of the nation had been issued July 25, 1937, (see 1937 YEAR BOOK for details). In many quarters it aroused fear that Batista aimed at the establishment of a corporative state on the Italian or German model. The revival of anti-government conspiracies among radical and liberal groups early in 1938 was attributed to this fear.

The Army's secret police announced on Feb. 26, 1938, that they had broken up an "anti-Fascist plot" to overthrow the government through a revolutionary strike. More than a score of Cuban and Spanish Communist leaders were arrested as the ringleaders. On the night of March 7, Batista's soldiers raided a meeting of conspirators plotting his overthrow, at which members of the military forces were present along with known political enemies of the regime. Four persons were killed

and one wounded in the ensuing clash. Four sergeants, one corporal, and two privates were sentenced to jail terms by a military court on April 20 in connection with the plot.

Batista's suspension of his Three-Year Plan, his pledge to permit elections for a Constituent Assembly, and the swing to the Left that marked his policy during the remainder of the year were all taken to indicate a desire to run for President when elections were held under the projected new Constitution. Under army pressure, Congress on July 13 passed an electoral census bill as a preliminary to the forthcoming elections. Opposition parties protested that the measure failed to guarantee the fair registration of voters. But the hostility of these groups was eliminated in large part by Batista's subsequent conciliatory gestures.

Meanwhile the public's slight confidence in the existing Congress was further weakened by the scandal accompanying the passage in February of a law for the partial settlement of Cuba's Public Works debt. The law authorized an issue of \$85,000,000 in new bonds, of which \$44,953,700 was allotted to cover the principal and past-due (adjusted) interest on Public Works serial certificates and gold bonds and \$20,000,000 for the retirement of the so-called "Bankers' Credit." Congress also included a provision authorizing the delivery of \$10,147,000 of the new bond issue to certain Cuban railroads to cover the government's debt to these carriers. It was widely charged that large-scale bribery of Congressmen by the railroads brought about the inclusion of the latter provision in the bill at the last moment. President Laredo Bru vetoed the measure because of the inclusion of the payment to the railways but Congress repassed it over his veto. A deficit of \$200,000 in the accounts of the House of Representatives was also attributed to corruption among House officials. Colonel Batista as well as the public was reported displeased with the subordination of legislative action to partisan struggles among the four parties represented in Congress for political sinecures and favors.

Criticism on all these counts led to the resignation of Antonio Martínez Fraga, president of the House, on August 2, of the entire Cabinet on August 8, and of Guillermo Alonso Pujol, president of the Senate, on August 30. The new cabinet announced by President Laredo Bru on August 10 included seven holdovers from the previous cabinet and six new members. Three of the latter were classified as sympathizers with Dr. Grau San Martín's Cuban Revolutionary party, a circumstance viewed as a rebuff by Batista to the older political parties. Batista meanwhile held conferences with leaders of the outlawed revolutionary groups and won their promise to abandon their militant opposition in return for permission to participate on an equal basis in the forthcoming Constituent Assembly elections. To the surprise and dismay of the older political parties and conservative elements, the provincial government of Havana Province on September 13 authorized the legal registration of the previously outlawed Communist party. Registration of a Cuban Nazi party, pledged to fight communism, followed on September 29. On October 20 the government granted legal status to *Joven Cuba*, the radical revolutionary group responsible for widespread anti-government terrorism in preceding years, and also a National Fascist party, newly organized on the Italian model.

On December 9 Former President Ramón Grau San Martín, who had been in exile at Miami, Fla., for four years, returned to Cuba to lead his Cuban

Revolutionary party in the forthcoming elections. He was followed on December 24 by Orestes Ferrara, Secretary of State in the deposed Machado Government, who had been in exile since Machado's overthrow. Ferrara said he would resume his political career as head of the Liberal party.

Batista also expressed his Leftist policy by an outspoken advocacy of democracy, repeated manifestations of sympathy and fraternity toward the Cárdenas regime in Mexico, and his support of advanced labor legislation. These tendencies by the island's "strong man" aroused alarm among conservatives, an alarm expressed in a series of questions addressed to Colonel Batista by José I. Rivero, director of the *Diario de la Marina*. Batista answered them at length in a letter published October 21, in which he flatly repudiated "Stalinism" and declared that his regime had no intention of following the Mexican policy of confiscating foreign properties or of weakening Cuba's many ties with the United States.

Despite his new Leftist policy, Batista displayed his unwillingness to tolerate criticism of his regime. *La Prensa*, official organ of the opposition Republican party, was closed by army authorities September 1 for announcing that Batista planned to dissolve Congress and head a provisional government. The Senate on September 6 passed a resolution protesting this action as "contrary to the Constitution and the laws in force." Batista promptly got around this legal difficulty by having President Laredo Bru sign a decree establishing a legal procedure for closing publications in case they attacked "the honor of persons, the social order or public tranquillity." Regulations for censorship of radio commentaries of all kinds were established by the decree of April 11.

Legislation, etc. The amnesty bill for common criminals approved by Congress late in 1937 was vetoed by President Laredo Bru on Jan. 10, 1938, as being too broad in scope. A second bill was passed by the House on July 5 and by the Senate on August 4. It freed about half of the prisoners convicted and awaiting trial and provided substantial reductions in sentences of the remainder. The division of state lands among peasants, approved by Congress on Dec. 17, 1937, was carried forward on a small scale during 1938 under the supervision of the military authorities. A decree regulating contracts between employers and employees indirectly excluded labor union officials from participating in the negotiations on such contracts. A law approved May 4 provided for rigid state control over the exploration and exploitation of petroleum and other hydro-carbons.

There was a steady deterioration in economic conditions during the summer and fall, reflected in growing political unrest and intensification of the government's financial difficulties. Despite protests by commercial and industrial concerns, a series of new or increased taxes were laid in a budget-balancing bill passed by Congress June 23. The government on August 18 announced a 17-point program to check the economic crisis. It included a \$6,000,000 public works program to be financed through a 10 per cent reduction in governmental expenditures; the deportation to their places of origin of 50,000 laborers from other West Indian islands; restriction of further immigration; further regulation of wages and of employer-worker relations; prosecution of tax evaders and profiteers; elimination of illegal commercial competition; and the regulation of prices of basic commodities. Other government measures were necessary to check the

decline in the peso exchange rate caused mainly by a proposed 20,000,000 peso expansion in currency circulation.

Foreign Relations. The close relations developed between Cuba and Mexico during 1938 were marked by the open sympathy expressed by the Cuban laboring masses and radical elements for Mexico's socialistic program and expropriation of foreign-owned oil properties. A Mexican Cultural Mission visited Cuba in June. The Mexican Minister to Cuba seized the opportunity presented by the attending ceremonies to urge the nationalization of foreign-owned sugar mills, railroads, and public utilities in Cuba. This proposal was seconded by many Cuban labor and Left-wing organizations.

Batista's sympathetic response to the Mexican overtures was indicated by his action in sending a large mission representing both the civil government and the military, naval, and air forces to Mexico City to take part in the Mexican Independence Day celebration. A resolution characterizing the sending of this mission as an affront to the United States and asking the President to explain the reason for the gesture and to define his government's ideology was rejected by the House of Representatives on October 4, 57 to 54. On October 31, shortly after Colonel Batista had accepted an invitation to attend the Armistice Day ceremonies in Washington, it was announced that he had also accepted an official Mexican invitation to visit that country in January, 1939.

The sympathy displayed toward Mexico did not prevent sincere expressions of Cuban friendship for the United States, although it was significant that these expressions came more from the conservative middle class and business interests than from the laboring masses. A decree making July 4 an official holiday in Cuba was signed by the President July 1 and on the American Independence Day a great celebration was organized in Havana by cultural, social, economic, and patriotic groups. A pro-American group, the *Acera del Louvre* Committee, which sponsored the July 4 parade, also launched a campaign for the modification of nationalistic legislation that served to restrict American political, cultural, and economic contacts with Cuba. As a step in this direction President Laredo Bru on September 6 signed a decree exempting United States citizens who were members of the American Legion from the effects of the Labor Nationalization Law of 1933.

During the September crisis over Czecho-Slovakia, Colonel Batista told an Associated Press correspondent that "if war cannot be avoided, Cuba will be at the side of the United States, whatever the policy of that great nation." During his visit to Washington and New York, Batista reiterated his support of President Roosevelt's "good neighbor" policy and his friendship for the United States. He arrived in Washington November 10, participated in the Armistice Day ceremonies, talked with President Roosevelt and Secretary Hull, and then visited New York City and West Point, where he was honored and entertained by official and private agencies and organizations. He promised the Committee for Political Refugees in New York that Cuba would aid in providing a haven for Jewish refugees from Germany. This pledge was fulfilled in a decree issued by President Laredo Bru, November 22, facilitating the entrance of Jewish refugees into Cuba.

Upon his return to Havana on November 25, Batista received a tremendous ovation. He an-

nounced that the reciprocity treaty with the United States would be modified to benefit certain Cuban products and indicated that he had received promises of financial assistance for the island and arranged for closer military co-operation. On November 29 he stated that an oral agreement reached at Washington called for the reduction of the United States duty on Cuban sugar. In return, he said, Cuba was to eliminate her tariffs on Louisiana rice and other United States agricultural and manufactured products. Certain exemptions were also to be granted American citizens in Cuba from the republic's nationalistic labor legislation. The State Department at Washington announced that no promise of a reduction of the sugar tariff had been given. However, it fixed Jan. 3, 1939, as the date for opening hearings on a revision of the Cuban-United States reciprocal treaty to give Cuba additional concessions on sugar, rum, tobacco and tobacco products, and potatoes. It was learned on December 2 that the United States Navy had extended the area of the base at Guantanamo Bay. On December 5 the Cuban Ambassador at Washington announced that the Export-Import Bank would lend Cuba \$50,000,000, apparently for public works.

CUMBERLAND PRESBYTERIAN CHURCH. One of the Presbyterian bodies whose chief strength is in the Southern States. It was formed in 1810 when the so-called anti-revival party of the Presbyterian Church in the United States of America objected to the admission into the ministry of men who were not up to the usual literary and theological standards, and to the doctrine of fatality as taught in the third and tenth chapters of the Westminster Confession of Faith.

A general assembly which meets annually is the supreme judiciary; its 1939 meeting will be held in Marshall, Mo., June 15-21, 1939. In 1938 there were 1096 churches reporting 790 ministers and a church membership of 70,539, in the denomination's 10 synods and 64 presbyteries. The Sunday school enrollment was approximately 55,000. The property of the church was valued at \$4,152,000, not including a \$500,000 endowment for education.

Missionary work is carried on among the Indians in the United States, in China, and South America. The denomination maintains Bethel College and the Cumberland Presbyterian Theological Seminary, both in McKenzie, Tenn. Its official organ is the *Cumberland Presbyterian*. Judge D. D. Dowell, Hardinsburg, Ky., was moderator of the general assembly in 1938 and the Rev. D. W. Fooks, of Nashville, Tenn., was stated clerk, treasurer, and general secretary.

CURLING. See SPORTS.

CURRENCY. See COINS, VALUE OF; FINANCIAL REVIEW; INTERNATIONAL BANKING; MONEY; UNITED STATES.

CURAÇAO, kōō'ra-sā'ō; kūr'a-sō'. A colony of the Netherlands comprising two groups of islands about 500 miles apart: (1) Curaçao, Bonaire, Aruba, just north of Venezuela; (2) St. Martin (southern part), St. Eustatius, Saba, just west of the Virgin Islands. Total area, 403 square miles; population (Dec. 31, 1936), 90,870. Willemstad (capital) on Curaçao had 28,350 inhabitants.

The chief products are maize, beans, pulse, salt, phosphate of lime, and cattle. Oil refining is the main industry. In 1938 enlargement programs of oil refineries in Curaçao and Aruba, costing over \$30,000,000, were inaugurated. In 1937 exports of natural phosphates totaled 102,000 metric tons. In 1937 the estimated value of general imports (in old U.S. gold dollars) was \$96,400,000 (1936, \$75,-

200,000); exports, \$89,500,000 (1936, \$76,900,000).

In 1937 there were the following airplane services in operation: (1) From Aruba to Curaçao; (2) from Aruba and Curaçao to Maracaibo, Venezuela; (3) from Curaçao to Guaira and Caracas, Venezuela. In 1936, 12,057 vessels (57,924,179 cubic meters) entered the ports of Curaçao. In 1937 there were 316 miles of roads. The budget for 1936 indicated revenue of 7,969,000 guilders and expenditure of 7,964,000 guilders (guilder averaged \$0.6448 for 1936). The colony is administered by a governor, aided by a privy council of 4 members and a colonial council of 13 members all nominated by the Queen. Governor, G. J. J. Wouters (appointed, Apr. 7, 1936).

CYCLING. See SPORTS.

CYCLOTRONS. See PHYSICS.

CYPRUS. A British crown colony in the eastern Mediterranean. Area, 3572 square miles; population (1937 estimate), 370,935 as compared with 347,959 (1931 census). The larger part of the inhabitants are of the Orthodox Greek-Christian faith, and a little more than one-fifth are Mohammedans. During 1937 there were 10,954 births, 6334 deaths, and 3012 marriages. The chief towns are Nicosia (capital), 23,677; Limassol, 15,349; Larnaca, 11,872; Famagusta and Varosha, 9979; Paphos, 4517; Kyrenia, 2137. For primary education there were 716 schools with a total of 45,161 pupils enrolled in the school years 1936-37. Secondary education was given in 24 schools.

Production and Trade. The principal agricultural products (with 1937 production figures) are wheat (2,139,687 kilés; kilé equals 8 Imperial gallons), barley (2,147,919 kilés), carobs (63,011 tons), olives and olive oil (estimate, 16,148,559 okes; oke equals 2.8 pounds), cotton (50,041 cwt.), tobacco (26,739 okes), potatoes (estimate, 608,634 cwt.), cumin seed, citrus fruit, grapes (estimate, 24,000,000 okes).

Livestock in the colony (1937) totaled 641,536 including horses, mules, donkeys, camels, oxen, pigs, cattle, sheep, and goats, but excluding lambs and kids. Sponge fishing is a minor industry. Pyrites (cupriferous), asbestos, chromite, gypsum, and terra umbra are the chief minerals. In 1937 there were 2562 miles of roads. In the same year, 11,546 tourists visited Cyprus. Imports in 1937 (exclusive of specie) were valued at £2,219,429; exports, £2,180,048, of which minerals accounted for £1,128,000.

Government. For 1937 revenue (exclusive of grant-in-aid, £92,800) totaled £967,960; expenditure (exclusive of £92,800, the Cyprus share of the Turkish Debt charge), £845,038; public debt, £615,000. Expenditure for 1938 was estimated at £908,888. Because of the riots of 1931 (see NEW INTERNATIONAL YEAR BOOK, 1931), the legislative council (but not the executive council) was abolished by Letters Patent of Nov. 12, 1931, and the governor was granted the power to legislate. During October of 1933 an advisory council, on an informal basis, was established. This advisory council includes the executive council (of six members) and members annually selected from the unofficial community (six members in 1937). Governor, Sir Herbert Richmond Palmer (appointed, October, 1933).

History. In 1938 a button factory was opened at Limassol, cut dom nuts from the Sudan being used in the manufacturing process. An airport at Larnaca was in course of construction during the year.

CYRENAICA. See LIBYA.

CYRIL VLADIMOROVITCH. A Russian Grand Duke and pretender to the throne of Rus-

sia, died in Paris, Oct. 12, 1938. Born at Tsarskoïe-Sela, Russia, Sept. 30, 1876, the son of the Grand Duke Vladimir Alexandrovitch and of Marie Pavlovna, the Duchess of Mecklenburg-Schwerin, he was educated for the navy at the Naval Cadet College and rose to the rank of captain. He was a staff officer on the battleship *Petropavlovsk* when it was torpedoed on Apr. 13, 1904, during the Russo-Japanese War, and he and his brother Boris were among the few survivors.

His marriage, in 1905, to the Grand Duchess Victoria, a granddaughter of Queen Victoria of England, sister of Queen Marie of Rumania (q.v.), and divorced wife of the Grand Duke of Hesse Darmstadt, the brother of the Czarina, led to his being stripped of his commands and titles and banished from the Court. In 1908 a reconciliation between him and the Royal Family was effected and he returned to Russia.

Cyril belonged to the so-called liberal branch of the Romanoff family, and in 1916 he advised the Czar to rid himself of Rasputin's influence and to make certain reforms. When the Revolution broke out on Mar. 12, 1917, and the Czar abdicated, Cyril, who was an admiral and commander-in-chief of the Imperial Maritime Guard, pledged his loyalty to the new government. After the downfall of the Kerensky provisional government, however, he and his family fled to Germany and settled at Coburg. There on Aug. 8, 1922, he issued a manifesto proclaiming himself head of the Romanoff dynasty and, although this met with opposition by many of the White Russians who contended that he was not the rightful heir to the throne, two years later, Aug. 31, 1924, he proclaimed himself "Emperor of all the Russias." He removed his "court" to France in 1930.

CYTOLOGY. See BOTANY.

CZECHO-SLOVAKIA, čěč'k'ò-slò-và'k'ì-à.

A Central European republic, established Oct. 28, 1918. Capital, Praha (Prague).

Area and Population. The area and population, by Provinces, at the census of 1930 and as estimated on Jan. 1, 1938, are shown in the accompanying table.

CZECHO-SLOVAKIA: AREA AND POPULATION

Province	Area, sq. miles	Population	
		1930	1938
Bohemia	20,101	7,109,376	7,252,000
Moravia and Silesia	10,351	3,565,010	3,645,000
Slovakia	18,921	3,329,793	3,551,800
Ruthenia	4,871	725,357	814,600
Total	54,244	14,729,536	15,263,400

By the territorial cessions made to Germany under the Munich accord of Sept. 29, 1938, and to Poland and Hungary under subsequent agreements (see *History*), the area of Czecho-Slovakia was reduced to 38,180 square miles and the population to 9,807,096. The racial division of the 1930 population was: Czecho-Slovaks, 9,756,604; Germans, 3,318,455; Magyars, 719,569; Ruthenians, 568,941; Jews, 204,779; Poles, 100,322; others, 60,876. Estimated populations of the chief cities were: Praha (Prague), 962,200 in 1937; Brno (Brünn), 291,800 in 1937; Moravská Ostrava, 178,099 in 1935; Bratislava (Pressburg), 170,668 in 1935; Plzeň (Pilsen), 124,353 in 1935; Liberec (Reichenberg), 68,808 in 1935; Košice (Kaschau), 81,400 in 1937; Olomouc (Olmütz), 69,900 in 1937; Usti nad Labem (Aussig), 72,393 in 1935. Living births in 1937 numbered 262,526 (17.2 per 1000); deaths, 202,359 (13.3); marriages, 126,298 (8.3).

Education and Religion. About 3.2 per cent of the adult population are illiterate. School attendance is compulsory for children from 6 to 14 years of age. The school attendance in 1936-37 was: Primary, 2,343,655; secondary (1935-36), 417,830; advanced technical schools and universities, 28,257. The division of the population by religious faiths at the 1930 census was: Roman Catholics, 10,831,696; Greek and Armenian Catholics, 585,041; Protestants, 1,129,758; Orthodox, 145,598; Jews, 356,830; Old Catholics, 22,712; other faiths, 9878; professing no religion, 854,638.

Production. At the 1930 census 34.6 per cent of the working population was engaged in agriculture, forestry, and fishing; 34.9 per cent in industries and small trades; 13 per cent in commerce, banking, and transportation; 5.4 per cent in the public service and the army; and 10.7 per cent in miscellaneous occupations. Arable land in 1937 comprised 41.7 per cent of the total area; 16.6 per cent was permanent meadow and pasture and 32.6 per cent forests. The wholesale value of agricultural production in 1935 was 17,913,000,000 crowns. Yields of the chief cereals in 1938 were (in metric tons): Wheat, 1,788,300; barley, 1,298,000; rye, 1,680,000; oats, 1,270,000; corn, about 250,000. The sugar-beet harvest in 1937 was 5,987,000 metric tons; beet-sugar production (1937-38), 727,000 metric tons; hops, 25,852,000 lb.; wine, 14,403,000 gal.; hemp, 10,594,000 lb.; flax, 24,361,000 lb.; tobacco 32,871,000 lb.; fodder beets, 5,166,000 metric tons; alfalfa, clover, and esparcet, 3,732,000 metric tons. Livestock statistics for Jan. 1, 1938, were: Cattle, 4,930,000; swine, 3,611,000; sheep, 642,000; goats, 1,115,000; horses, 704,000 (1937).

Industrial production for 1937 was (in metric tons): Coal, 16,952,000; lignite, 18,046,000; coke (from coal), 3,272,000; iron ore, 1,817,000; pig iron, 1,675,000; steel ingots and castings, 2,317,000; manganese ore, 106,294; salt, 181,483. The output of beer in 1937 was 216,839,000 gal.; alcohol (1936-37), 26,426,000 gal.; rayon, 8,693,000 lb. The net imports of raw cotton in 1937 were 242,874,000 lb. Textiles, shoes, glass, leather goods, and many other articles are produced on a large scale.

Foreign Trade. Imports for consumption were valued at 10,965,334,000 crowns in 1937 (7,894,444,000 in 1936) and exports of Czecho-Slovak products at 11,952,693,000 crowns (7,996,516,000 in 1936). The chief 1937 imports in order of value were raw cotton, wool, machinery, iron ores, petroleum products, and oilseeds. The principal exports were iron and steel manufactures, machinery, iron and steel (forged, rolled, drawn), glass and glassware, cotton and wool textile fabrics, knit goods, arms and explosives, and wheat. Of the direct consignments received by Czecho-Slovakia in 1937, Germany supplied 15.5 per cent, United States 8.8, United Kingdom 6.4, France 5.2, and Austria 4.2 per cent. Of the 1937 domestic exports, Germany purchased 13.7 per cent, United States 9.3, United Kingdom 8.6, Austria 7.3, and Yugoslavia 5 per cent.

Finance. For the calendar year 1937 actual budget receipts totaled 13,928,768,843 crowns (ordinary, 8,962,808,435; extraordinary, 4,965,960,408) and actual expenditures were 13,919,892,763 crowns (ordinary, 8,835,376,680; extraordinary, 5,084,516,083). The surplus was 8,876,080 crowns, as against a deficit of 1,398,714,380 crowns in 1936. The 1938 budget estimated total receipts at 10,120,000,000 and expenditures at 10,117,000,000 crowns. The public debt on Dec. 31, 1937, amounted to 47,094,400,000 crowns (preliminary), of which 38,-

842,800,000 crowns represented the domestic and 8,251,600,000 crowns the foreign debt. The average exchange rate of the crown was \$0.0401 in 1936, \$0.0346 in 1937, and \$0.0347 in 1938.

Transportation. On Jan. 1, 1936, there were 6968 miles of state-owned railways, 1266 miles of privately owned lines operated by the state, and 140 miles privately owned and operated. In 1937 railways owned or operated by the state carried 268,738,000 passengers and 72,501,000 metric tons of freight. The gross receipts totaled 4,296,000,000 crowns. Highways of all descriptions in 1937 extended 43,564 miles; number of automobiles, 107,629. Civil aviation statistics for 1937 were: Miles of line, 10,706; miles flown, 2,267,000; passengers carried, 45,871; mail carried, 193,659 lb.; freight carried, 2,584,000 lb. There was a heavy freight traffic on the Danube, Vltava (Moldau), and Elbe rivers.

Government. The Constitution of Feb. 29, 1920, established a democratic republic with executive power vested in a President, elected for seven years by the two chambers of Parliament in joint session. The cabinet was appointed and recalled by the President but was responsible to Parliament. Legislative authority rested in a Senate of 150 members elected for eight years and a Chamber of Deputies of 300 members, elected for six years. President at the beginning of 1938, Dr. Eduard Beneš, elected Dec. 18, 1935. Premier, Dr. Milan Hodza (Czecho-Slovak Agrarian), heading a coalition government including the Czecho-Slovak Agrarian, Czecho-Slovak People's Catholic, Czecho-Slovak Social Democratic, German Agrarian, German Social Democratic, German Christian Socialist, Czecho-Slovak Trades, and Czecho-Slovak National Socialist parties. For developments during 1938, see *History*.

HISTORY

The German drive to eliminate Czecho-Slovakia as a barrier to the Reich's eastward expansion, launched in 1937 (see 1937 YEAR BOOK, pp. 201-202), attained phenomenal success in 1938. Deserted by her allies and threatened with immediate invasion, despairing Czecho-Slovakia capitulated to German armed might on September 30 and surrendered German-speaking Sudetenland. With it went the historic Bohemian frontier, the strategic mountain bastions and chain of expensive fortifications defending the republic, and a large proportion of its natural resources and industries. Cession of the Sudetenland was followed by the forced transfer of other extensive frontier territories to Poland and Hungary, likewise under threat of immediate military invasion.

In all, Czecho-Slovakia lost 16,056 square miles of territory with 4,922,440 inhabitants, or nearly one-third of her total area and population. According to the official Czech compilation, Germany obtained 11,071 square miles of territory with 3,653,292 inhabitants, Poland 419 square miles with 241,698 inhabitants, and Hungary 4566 square miles with 1,027,450 inhabitants. Czecho-Slovakia ceded 1,161,616 Czechs and Slovaks and 36,880 Ruthenians as well as 2,853,858 Germans, 591,544 Hungarians, 77,580 Poles, 60,332 Jews, and 17,587 others. Incapable of defense, with her main railways and roads cut and her economic structure disrupted, Czecho-Slovakia became a vassal of Germany, both politically and economically. The former centralized democratic republic was transformed into a Federation of three largely autonomous quasi-totalitarian regions, all controlled from

Berlin. Bitterly disillusioned by what they considered their gross betrayal by France and Britain, the Czecho-Slovaks renounced the policies of Masaryk and Beneš and proclaimed "selfishness" as the guiding principle of their mutilated state.

Hitler's Threat. The opening of 1938 found President Beneš and Premier Hodza engaged in negotiations for a settlement of the grievances voiced by the pro-Nazi Sudeten German party led by Konrad Henlein (see 1937 YEAR BOOK, p. 201). The German press was continuing its violent attacks upon the Prague Government for its alleged "barbarous provocation" of the Sudeten Germans. In his Reichstag speech of February 20, Chancellor Hitler forecast the more active intervention of the German Government in the Sudeten question by declaring that "present-day Germany will know how to represent and protect . . . those German racial comrades on our borders who are not in a position by themselves to secure general human, political, and *weltanschaulichen* freedom." Field Marshal Goering made a more pointed threat on March 1 when he called upon his air force to support to the end Hitler's "proud statement that we would no longer tolerate that 10 million of our German brothers across the frontier should be oppressed."

However, this implied threat to Czecho-Slovakia was disclaimed during the subsequent European crisis precipitated by Germany's absorption of Austria (q.v.). On the eve of the Austrian invasion of March 12, the Reich Government inquired whether Czecho-Slovakia would mobilize and was informed that it would not. At that time the Nazis disclaimed any intention of attacking Czecho-Slovakia or mixing in her internal affairs. But once Austria was safely in the German fold, Hitler's attitude toward Czecho-Slovakia again became threatening.

Effects of Anschluss. Czecho-Slovakia's position was greatly weakened as a result of Austro-German union. The republic was now open to German attack from the south, where its frontier defense system was weak. Germany was in a position to bring great economic pressure upon the republic now that it controlled Czecho-Slovak trade outlets into Austria. More important still, the Nazi triumph in Austria greatly stimulated Nazi sentiment among the Sudeten Germans, producing a virtual stampede into Henlein's Sudeten German party. The German Agrarian League and the German Christian Socialist party merged with Henlein's movement on March 22-23, making it the largest single group in the Czecho-Slovak Parliament, with 55 seats in the Chamber of Deputies. To check the defection of its supporters to Henlein, the German Social Democratic party withdrew from the government coalition but remained an independent movement.

Henlein, who now claimed to represent about 90 per cent of the German-speaking voters, called for new elections. At the same time (March 29) his deputy leader in the Chamber of Deputies, Ernst Kundt, warned the government to grant full autonomy to all minorities. This demand was echoed by the United Magyar (Hungarian) parties, the Slovak People's party, and the representative of the Polish minority.

Reich's Intervention Rejected. Meanwhile, Premier Hodza on March 4 had announced that his government would regard German intervention in the Sudeten question as an unwarranted intervention in its domestic affairs and that if attacked Czecho-Slovakia would defend herself. In response to inquiries, the French Government on February

27 and March 14 gave Czecho-Slovakia assurances that it would fulfill its obligation under the treaty of Oct. 16, 1925, by going to Czecho-Slovakia's aid in case of unprovoked aggression by Germany. On March 16 the Soviet Government pledged its aid under the Soviet-Czech mutual assistance treaty of May 16, 1935, which made such aid conditional upon simultaneous French assistance to Prague.

The weak link in this international opposition to German aggression upon Czecho-Slovakia was revealed by Prime Minister Chamberlain's statement of British foreign policy in the House of Commons on March 24. He refused to pledge British aid to Czecho-Slovakia in case of a German attack or to guarantee support of France if she went to Czecho-Slovakia's aid in fulfillment of her treaty obligation. At the same time he warned Germany that Britain might intervene as a League member. This speech confirmed the Nazi leaders in their belief that Britain would not intervene. It also encouraged the campaign launched by a section of the French press demanding repudiation of the Czecho-Slovak alliance. At the London conference between Premier Daladier and Foreign Minister Bonnet, of France, and British Cabinet officials on April 28-29, the British apparently influenced the French to reduce their commitments to Czecho-Slovakia in return for a closer Franco-British defensive alliance. Chamberlain recommended concessions by Prague to the Sudeten Germans and stated that Britain could undertake no further economic and political commitments on the continent until Czecho-Slovakia's minority problems had been solved. Britain and France then joined in urging Prague to make all concessions "compatible with the security of the state."

Czech-Sudeten Negotiations. Fully alive to the danger from Germany, the Prague Government had already sought to check the Nazi agitation by offering to grant further concessions to the German and other minorities. On March 18 the Cabinet decided to grant the Sudeten districts further economic benefits and political rights in accordance with the principle of "proportionalism" among the various racial groups adopted in 1937. In particular, the privileged status of the Czech language as against German was modified. On March 28 the government announced its intention to codify in a single "nationalities statute" all of the legal provisions in force affecting minorities, and to grant additional powers to local administrative bodies.

On March 31 Premier Hodza agreed that the municipal elections, postponed due to Nazi demonstrations and disorders the previous October, should be held in May and June. At the same time he prohibited for a month the Nazi political demonstrations that were stirring up growing disorders in the German districts. At Karlsbad on April 24, Henlein declared that the Czechs could achieve friendly relations with the German nation only by "revising" the foreign policy based on pacts with the Soviet Union and France, and "the unfortunate conception that it is the duty of the Czech nation to be the Slav bulwark against the so-called German *Drang nach Osten*." Moreover, he laid down eight conditions, known as the Karlsbad demands, necessary to insure "a peaceful development in the Czecho-Slovak state." They included home rule for the Sudeten Germans in their own territory; new safeguards against their denationalization; full restitution for injustice done to Germans by Czechs since 1918; and full liberty for Sudeten Germans to express the "fundamental

National Socialist view of life." The Reich Government immediately made known its support of these demands.

The Prague Government flatly rejected the demand for territorial autonomy and for restitution for post-war injustices, which it considered equivalent to handing over part of its territory to Germany and accepting German domination of Czech-Slovak foreign policy. Henlein and his adherents, strengthened by German support, refused to discuss a settlement of their grievances on any other basis. The British and French intervened to break this deadlock, which already threatened Europe's peace. They pressed Prague to make more concessions. At the same time they warned the Reich that "rough handling" of the Sudeten issue might precipitate war and urged moderation of Henlein's demands.

The May Crisis. The Anglo-French representations had little if any effect. Nazi propaganda, apparently directed from Berlin, raged throughout the Sudetenland. On May 7 the Prague Government lifted the ban on political meetings and demonstrations to permit the holding of municipal elections on May 22, May 29, and June 12. This was the signal for Nazi attacks upon Czech troops and gendarmes in the Sudeten regions, a tactic apparently designed to force their removal from "German soil." Henlein on May 13 organized a party militia, similar to the Hitler Storm Troops, which took part in the rising campaign of intimidation against both Czechs and German Social Democrats in the Sudeten regions. On May 17 German workers at Liebig appealed to President Beneš for protection against Nazi excesses.

At this juncture reports of German troop concentrations along the Czecho-Slovak frontier aroused apprehension throughout Europe. The German Government described them as routine. On May 20 the Czech Minister at Berlin inquired whether they were directed against his country. He was informed that they were not but that if Czecho-Slovak policy was not altered Germany would march to "rescue" the Sudeten Germans. This threat, coupled with growing disorders in Sudetenland, led the Prague Government on the night of May 20 to mobilize one class of reserves along the German frontier and to announce that it would suppress every attempt at coercion or disorder. This action restored Prague's authority in the Sudeten regions and gave emphatic notice that the republic was prepared to defend itself against invasion.

The accompanying war scare was marked by renewed British efforts to avert an armed clash. The French Government again declared it would aid Czecho-Slovakia if the latter were attacked but pressed Prague to make further concessions to the German minority. Hitler, on May 29, ordered a drastic increase in the army and air force and rapid completion of fortifications along the French frontier. The crisis apparently convinced him that his aims in Czecho-Slovakia could not be achieved without war or a more serious threat of war.

Czech-Sudeten Negotiations Renewed. Henlein's Sudeten German party won from 82 to 85 per cent of the German vote in the communal elections, according to Czech estimates, and over 90 per cent according to its own claims. It delayed further negotiations with Prague on the Karlsbad demands pending the withdrawal of Czech troops from the Sudetenland, but was finally induced through British efforts to submit concrete proposals to the Czech authorities for the settlement

of its grievances. The Henleinist memorandum of June 7 demanded that Czecho-Slovakia be subdivided into virtually independent racial areas, each having an equal voice in the affairs of the central government.

To the Czechs, this meant the establishment within the republic of a Nazi state directed from Berlin. Premier Hodza rejected territorial autonomy but accepted part of the Henlein proposals as a basis for discussion. Round-table conferences between members of the Prague Cabinet and Sudeten German representatives began on June 23. The autonomist Slovak People's party and the United Magyar parties associated themselves with the Sudeten German demand for larger powers of self government, although not with the specific Sudeten German proposals. On June 30 the Prague Government made public bills granting the minorities greater language rights and proportionality in state employment. No agreement could be reached on the crucial issue of home rule, however, and Prague authorities intimated that they would put their own home-rule proposals into effect if the impasse was not broken.

The Runciman Mission. On July 9 Henlein went to Germany to confer with Hitler. Immediately afterward the German attitude toward Czecho-Slovakia again became threatening. The Nazi press and radio unleashed a torrent of abuse and denunciation of alleged Czech and Bolshevik atrocities against innocent and defenseless Germans in the Sudetenland. British Cabinet officials began to display fear of a new European crisis. Premier Daladier on July 12 again stated that France would honor her solemn obligation to Czecho-Slovakia if the latter were attacked. But in European chancellories the belief spread that in the approaching show-down Britain would refuse to support France and that the Paris Government would feel too weak to act alone.

Hitler's personal aide, Captain Wiedemann, interviewed the British Foreign Secretary, Lord Halifax, in London on July 18, the eve of the visit of the British King and Queen to France. Lord Halifax immediately afterward asked the Prague Government to accept British mediation in the Sudeten question, the implication being that if the offer was rejected Britain would wash her hands of the whole Czecho-Slovak question. Prague accepted, and on July 26 Prime Minister Chamberlain announced that he was sending Lord Runciman to Czecho-Slovakia in an unofficial capacity to investigate, and, if possible, to mediate the minorities issue.

Before Lord Runciman's arrival on August 3, the Prague Government announced its preliminary program for settlement of the minorities' grievances. This called for considerable transfer of power from Prague to the provincial assemblies, which were to become Diets, and to local administrative bodies. Representatives of each nationality in each provincial Diet were authorized to deal with certain affairs of their respective national groups. But in none of the Diets could the Germans, Hungarians, or Poles hope to control a voting majority. Negotiations on the basis of this program proceeded slowly during July and August. There were differences of opinion within both the Hodza Cabinet and the Sudeten German party as to the extent of the concessions to be made. The Prague Government at the same time attempted to deal separately with the demands of the Slovak and Ruthenian autonomists.

When the Czech-Sudeten German negotiations

broke down on August 17, Lord Runciman persuaded President Beneš on August 21 to agree to further concessions. A scheme for cantonal self-government was worked out by Lord Runciman and his advisers in consultation with the President and submitted to Henlein on August 28. By this time the German-Czech quarrel had again assumed critical proportions. Early in August the Reich had begun military measures that aroused new fear throughout Europe. Reservists were called up for annual army maneuvers on an unprecedented scale, beginning August 15. The regular term of recruits expiring October 1 was extended. Thousands of laborers were conscripted for work on the western fortifications. Decrees for the conscription of civilian goods and services were issued.

In the middle of August the British Ambassador at Berlin inquired as to the purpose of these measures and pointed out that they might not only prevent successful mediation by Lord Runciman but "perhaps endanger the peace of every one of the Great Powers of Europe." Refusing to discuss the military measures, Foreign Minister Ribbentrop declared that Lord Runciman's efforts at Prague "had only served to increase Czech intransigence." It became evident that Hitler was preparing for a show-down and that Henlein was merely his intermediary in the negotiations at Prague.

In these circumstances, Lord Runciman wrote a letter urging Hitler to approve the Czech plan of August 28 for cantonal self-government which Henlein delivered to the Chancellor at Berchtesgaden on September 1. Henlein returned with an unfavorable reply, but stated his conviction that Hitler desired "a peaceful solution." The Czech authorities then submitted a final proposal to the Sudeten German party on September 6. This went far toward meeting the Sudeten demand for self-government. It called for the division of the republic into cantons delimited by nationality frontiers, each having a legislature elected by proportional representation. The cantons were to be autonomous in all matters not affecting the unity and security of the state and national sections were to be created in administrative departments of the central government. The proportionality principle was to be observed in state employment, education, social welfare, public health, and state contracts. In addition a billion-crown loan was to be raised for relief of the distressed regions, of which 70 per cent would go to German districts, and the minority languages were to enjoy complete equality with Czecho-Slovak in official matters.

Lord Runciman declared that this plan "embodied almost all the requirements of the Karlsbad eight points." But it was immediately rejected by the German press and Czech efforts to continue the negotiations were foiled by further incidents in the Sudetenland which, according to Lord Runciman, were provoked by Sudeten extremists.

The Sudeten Revolt. The extremely violent Nazi and anti-Czech propaganda that had raged for months throughout the Sudeten districts came to a climax with Hitler's speech before the closing session of the Nazi Congress at Nuremberg on September 12. He denounced President Beneš and the Czecho-Slovak Government for "persecutions" of the Sudeten Germans and went on to declare "that if these tortured creatures can find no rights and no help themselves, they will get both from us. . . ."

Hitler's speech was followed immediately by fighting between Henleinists, armed with modern German weapons, and Czech police in many Sude-

ten towns. Correspondents reported that these outbreaks were planned in advance in expectation of German intervention. But the Prague Government acted with firmness. Reinforcements were rushed to the Sudeten towns and on September 13 modified martial law was proclaimed. Henlein then demanded that Prague revoke martial law and turn over most of its authority in the German districts to his party. He broke off negotiations when the government asked that a representative be sent to the capital to discuss his terms.

Fleeing to Germany, Henlein on September 15 issued a proclamation declaring that Germans and Czechs could no longer live side by side in the same state and demanding cession of the Sudetenland to the Reich. The Prague authorities responded with a warrant for his arrest and dissolved the Sudeten German party as a subversive organization. On September 17 Henleinists who had fled across the border into Germany organized a Free Corps which, supplied with German arms, made occasional forays across the frontier and engaged in sporadic minor clashes with Czech gendarmes and troops. Lord Runciman, his mission at an end, returned to London.

Chamberlain at Berchtesgaden. Within two days after Hitler's Nuremberg speech large numbers of German troops were concentrated along the Czecho-Slovak frontier and Europe lived in fear of an immediate attack that was expected to plunge the continent into war. As early as August 26 the growing crisis had led the British to send their Home Fleet to its war base in North Scotland. After being called home for consultation on August 30, the British Ambassador at Berlin early in September repeatedly warned leading Nazi officials that Britain would probably become involved in a Central European war. The French Foreign Minister on September 4 again declared that France would remain faithful to all its pacts and treaties and on September 7 sufficient reservists were called to the colors to man the Maginot Line defenses.

Unable to obtain an unqualified pledge of support from Britain in case it went to the aid of the Czecho-Slovak army, the French Cabinet hesitated to take the strong stand against German policy dictated by French military commitments. Instead, Premier Daladier appealed to the British Government to use its influence directly with Hitler. This set Prime Minister Chamberlain free to carry out the plan he had had in mind "for a considerable period as a last resort." On September 15 he flew to Munich and went from there by train to Hitler's mountain retreat at Berchtesgaden to find out "whether there was any hope yet of saving peace."

Hitler told him that he had made up his mind the Sudeten Germans must have the right of self-determination and of joining the Reich if they wished. The Chancellor declared that if they could not achieve this by their own efforts, he would assist them. He flatly stated that rather than wait he was prepared to risk a world war. If the British Government would accept the principle of self-determination for the Sudeten Germans, Hitler said he was ready to discuss ways and means of carrying it out. Otherwise there was no use continuing the conversation. He finally agreed to postpone hostilities until Chamberlain could talk with his Cabinet, provided nothing happened in Czecho-Slovakia to force his hand.

Anglo-French Proposals. The British Prime Minister returned to London on September 16, convinced that the only hope of peace lay in the immediate cession of the Sudeten German districts of

Czecho-Slovakia to the Reich. He so informed the Cabinet meeting held September 17 and his view was supported by the report and recommendations submitted by Lord Runciman. Conferences between Chamberlain, Lord Halifax, Premier Daladier, and Foreign Minister Bonnet of France followed in London on September 18-19. There a policy of capitulation to Hitler's Berchtesgaden demands was agreed upon. On September 19 France and Britain jointly presented their proposals to the Prague authorities.

They declared that "the maintenance of peace and the safety of Czecho-Slovakia's vital interests cannot effectively be assured" without cession of those Sudeten German areas with over 50 per cent German inhabitants. It was proposed that the transfer take place without a plebiscite, that minority populations should then be exchanged, and that an international commission on which Czecho-Slovakia would be represented should delimit the new frontier. The British Government offered, in addition, to join in an international guarantee of the new boundaries of Czecho-Slovakia provided the republic terminated its military alliances with France, the Soviet Union, and the other Little Entente states. A reply to these proposals was requested at the earliest possible moment.

The Czecho-Slovak reply of September 20 was a plea for reconsideration of the Anglo-French position. It declared that the proposed partition of the republic endangered the interests not only of the republic but of its friends, its allies, and of peace in general. Such mutilation would place Czecho-Slovakia "sooner or later under the absolute influence of Germany." The resulting upset of Europe's equilibrium would have serious consequences for all other states. "In these crucial moments it is not merely the fate of Czecho-Slovakia which is at stake, but that of other nations as well, and notably that of France," the reply pointed out. It asked for application of the Czech-German arbitration treaty of Oct. 16, 1925, which Hitler had recognized as being still in effect. Finally it declared that as Czecho-Slovakia was an organized democracy, the government must consult parliament before reaching a decision.

Early on the morning of September 21 the British and French Ministers in Prague called on President Beneš and told him that if his government did not unconditionally accept the Anglo-French plan, neither Britain nor France would aid the republic against a German attack. President Beneš immediately convoked the Cabinet to consider whether the republic should face German armed might unaided. The masses of the Czech and Slovak people showed unflinching willingness to resist. The Soviet Minister at Prague and Foreign Minister Litvinov, speaking at Geneva, gave assurances that Russia would aid if France fulfilled her pledges. However, Premier Hodza's Czech Agrarian party, the largest in Parliament, favored surrender rather than the acceptance of Soviet aid.

After weighing their fateful decision all that day, the Cabinet late in the evening of September 21 announced their acceptance of the Anglo-French proposals "under extraordinary pressure" and with the belief "that the two Governments will do everything to apply them with every safeguard for the vital interests of the Czecho-Slovak state." The written reply accepted the proposals "as a whole," with the understanding that the two governments would not tolerate German invasion of the regions to be ceded until the suggested international commission had fixed the new frontiers. The Prague



© International

DR. EMIL HACHA

President of Czechoslovakia, elected Nov. 30, 1938



© International

GEN. JAN SYROVÝ

Premier of Czechoslovakia, Sept. 22-Dec. 1, 1938



Brown Brothers

HENLEINIST AGITATION IN THE SUDETENLAND

Nazis in Moravská Ostrava (Mährisch-Ostrau), Czechoslovakia, protesting Czech martial law edict (Sept. 7, 1938). Police fatally injured a Sudeten German deputy in this demonstration, and Sudeten-Czech negotiations were suspended.



© *International*

HUNGARY ANNEXES SOUTHERN SLOVAKIA

Hungarian gendarmes crossing the Danube bridge into Komarom, Slovakia, to occupy territory ceded under the Italo-German arbitral award of Nov. 2, 1938



© *International*

POLAND TAKES TESCHEN

Polish troops commencing occupation of Teschen-Silesia under the Polish-Czech agreement of Oct. 1, 1938

Government's acceptance of the Anglo-French ultimatum so embittered the Czech public that the Hodza Cabinet was forced to resign on September 22, but the new government, formed by Gen. Jan Syrový, Inspector General of the Army, did not repudiate the Hodza Government's capitulation.

Hitler's Godesberg Terms. Having obtained Czecho-Slovakia's acceptance, Prime Minister Chamberlain on September 22 flew back to Germany and met Hitler at Godesberg to discuss the technical details regarding transfer of Sudeten territory and delimitation of the new frontier. Hitler, however, declared that the Anglo-French proposals offered "too many opportunities for evasion." He demanded the immediate transfer of the predominantly German areas and refused to participate in an international guarantee of Czecho-Slovakia's new frontiers until the minority claims of Poland and Hungary had been satisfied.

Chamberlain balked at Hitler's demand that German troops should immediately occupy parts of the Czecho-Slovak republic. The following morning he wrote the Chancellor a note suggesting the postponement of the military occupation and that the Sudeten Germans be entrusted with the maintenance of law and order in the predominantly German regions until formal delimitation of the new frontier permitted "an orderly settlement of this question rather than a settlement by the use of force." Hitler replied that the existing situation in Czecho-Slovakia was "unbearable and will be terminated by me." He demanded "an end in the shortest time to the sufferings of the unhappy victims of Czech tyranny" and declared that only the withdrawal of Czech troops and German military occupation of the evacuated areas would remove grounds for "forcible action."

On September 23 Chamberlain in a second letter asked Hitler to submit his proposals in a memorandum and map, which he offered to transmit to the Prague Government at once. He received them that night during another extended conference with Hitler. They called for German military occupation of the predominantly German areas of Czecho-Slovakia on October 1. All Czech military, police, and administrative officials were to withdraw before the Germans entered, without destroying or removing existing establishments, foodstuffs, goods, cattle, raw materials, and railway rolling stock. In certain designated Sudeten areas, Hitler agreed to permit a plebiscite before Nov. 25, 1938, under control of an international commission, but Czechs who had moved into these areas since 1918 were to be excluded from voting. The Prague Government was to discharge immediately all Sudeten Germans in its military forces and to liberate all German-speaking political prisoners. A German-Czech commission was to settle all other details of the transfer. The memorandum contained no mention of the international guarantee of the new Czecho-Slovak frontiers proposed in the Anglo-French plan. Before Chamberlain left to return to London, Hitler told him that the Sudetenland was the last territorial claim he had to make in Europe and that he had no desire to include non-German peoples in the Reich.

A few hours before Hitler presented his Godesberg memorandum, the British and French Governments advised the Czechs that they "could no longer take the responsibility of advising" Czecho-Slovakia for or against mobilization. (They had previously urged Prague not to aggravate the situation by mobilizing.) Immediately afterward the Prague authorities ordered general mobilization.

Reaction to Godesberg Ultimatum. Publication of the Godesberg terms on September 25 provoked the Czechs to desperation and aroused deep indignation in Britain and France. On the same day the Prague Government "absolutely and unconditionally" rejected Hitler's demands. It announced that it would resist to the utmost, and would rely upon France and Britain to stand by it in its hour of trial. The French Cabinet on September 25 likewise decided to oppose Hitler's ultimatum. Mobilization, which had begun in part the previous day, was speeded up. That afternoon Premier Daladier and Foreign Minister Bonnet again flew to London to consult British cabinet officials. They declared that if Czecho-Slovakia was attacked France would fulfill her treaty obligations. Prime Minister Chamberlain then gave the French assurance—long sought but never before obtained—that Britain would join forces with France if hostilities with Germany ensued. Both governments rushed preparations for war.

With Hitler scheduled to make an important speech at the Berlin Sports Palace on the night of September 26, Chamberlain that afternoon sent Sir Horace Wilson by airplane to the German Chancellor with a letter asking him to agree to a German-Czech conference in the presence of a British representative regarding the method of transferring Sudeten territory. "Surely the tragic consequences of a conflict ought not to be incurred over differences in method," he wrote. Hitler told Sir Horace and the British Ambassador that he could accept no departure from his Godesberg terms. The same day Hitler received a message from President Roosevelt appealing for continuance of the negotiations with Czecho-Slovakia. But immediately before the Chancellor's Sports Palace speech, the Italian Ambassador at Berlin was informed that Germany had decided not to wait until October 1 but would march on September 28 at 2 p.m.

In his speech that evening Hitler declared his Godesberg demands were final and that if the Czechs did not yield the Sudetenland by October 1 there would be war. He gave his listeners no inkling of the danger that if war came it would involve France and Britain as well as Czecho-Slovakia. He promised to guarantee the integrity of the Czech state when the claims of other minorities had been satisfied, reiterated that "after the Sudeten German question is regulated we have no further territorial claims to make in Europe," and guaranteed the territorial inviolability against German attack of France, Poland, and all Germany's other neighbors.

On the morning after this speech, the British Prime Minister issued a statement assuring Hitler that the British Government would undertake to see the Czecho-Slovak agreement for territorial cessions "carried out with all reasonable promptitude, provided that the German government will agree to the settlement of terms and conditions of transfer by discussion and not by force." At the same time Sir Horace Wilson saw Hitler again in Berlin. Advised that Germany would march against the Czechs if they did not accept the Godesberg terms by 2 p.m. the next day, he told the Chancellor "in precise terms" that this would cause French and British military intervention. He then returned to London with a note to Chamberlain from Hitler declaring that immediate German occupation of the areas to be ceded by Czecho-Slovakia was an indispensable security measure and urging him to

"bring the government in Prague to reason at the very last hour."

September 27 also witnessed the mobilization of the British Home Fleet and of Italian armed forces. In Germany and France mobilization was already virtually completed. The same day Hitler replied to President Roosevelt, asserting that the issue of peace or war rested with Prague. That night the American President sent a second appeal to Hitler pointing out that negotiations for a peaceful settlement could be continued if the German Chancellor gave the word.

The Munich Conference. On the morning of September 28 Chamberlain sent another message to Hitler expressing certainty "that you can get all essentials without war and without delay." He offered to go to Berlin for a conference with Hitler and representatives of the Czecho-Slovak, French, and Italian governments. Again offering to see that Prague's promises were carried out, he added: "I cannot believe that you will take responsibility of starting a world war which may end civilization for the sake of a few days' delay in settling this long-standing problem." At the same time the British Prime Minister telegraphed Mussolini urging him to communicate with Hitler and support the conference proposal.

Later in the day Chamberlain gave a detailed account of the crisis to Parliament. He said he had just received word from Rome that Mussolini had persuaded Hitler to postpone action for another 24 hours. While he was speaking an invitation arrived from Hitler to confer with him, Mussolini, and Daladier at Munich the next morning. Chamberlain, Daladier, and Mussolini accepted the invitation, without objection to Hitler's exclusion of a Czecho-Slovak representative from the conference.

At 1 p.m. on September 29 the four statesmen met in the Fuehrerhaus in Munich and at 1 a.m. the following morning they signed the famous Munich accord, dated September 29, which follows:

Germany, the United Kingdom, France, and Italy, taking into consideration the agreement which has already been reached in principle for cession to Germany of the Sudeten German territory, have agreed on the following terms and conditions governing the said cession and the measures consequent thereon and by this agreement they each hold themselves responsible for the steps necessary to secure its fulfillment:

I. The evacuation will begin on October 1.

II. The United Kingdom, France, and Italy agree that the evacuation of the territory shall be completed by October 10 without any existing installations having been destroyed and that the Czecho-Slovak Government will be held responsible for carrying out the evacuation without damage to the said installations.

III. The conditions governing the evacuation will be laid down in detail by an international commission composed of representatives of Germany, the United Kingdom, France, Italy, and Czecho-Slovakia.

Occupation by stages of the predominantly German territories by German troops will begin on October 1. The four territories marked on the attached map will be occupied by German troops in the following order:

Territory marked No. 1 on the 1st and 2d of October; territory marked No. 2 on the 2d and 3d of October; territory marked No. 3 on the 3d, 4th, and 5th of October; territory marked No. 4 on the 6th and 7th of October.

The remaining territory of preponderantly German character will be ascertained by the aforesaid international commission forthwith and be occupied by German troops by the 10th of October.

The international commission referred to in Paragraph III will determine the territories in which a plebiscite is to be held. These territories will be occupied by international bodies until the plebiscite has been completed. The same commission will fix the conditions in which the plebiscite is to be held, taking as a basis the conditions of the Saar plebiscite. The commission will also fix a date, not later than the end of November, on which the plebiscite will be held.

There will be a right of option into and out of the trans-

ferred territories, the option to be exercised within six months from the date of this agreement.

A German-Czecho-Slovak commission shall determine details of the option, consider ways for facilitating the transfer of population, and settle questions of principle arising out of the said transfer.

The final determination of the frontiers will be carried out by the international commission. This commission will also be entitled to recommend to the four powers, Germany, the United Kingdom, France, and Italy, in certain exceptional cases minor modifications in strictly ethnographical determination of the zones which are to be transferred without plebiscite.

The Czecho-Slovak Government will within a period of four weeks from the date of this agreement release from their military and police forces any Sudeten Germans who may wish to be released and the Czecho-Slovak Government will within the same period release Sudeten German prisoners who are serving terms of imprisonment for political offences.

ANNEX TO THE AGREEMENT

His Majesty's Government in the United Kingdom and the French Government have entered into the above agreement on the basis that they stand by the offer contained in Paragraph VI of the Anglo-French proposals of September 19 relating to an international guarantee of the new boundaries of the Czecho-Slovak State against unprovoked aggression.

[The paragraph referred to reads: "Accordingly His Majesty's government in the United Kingdom would be prepared as a contribution to the pacification of Europe to join in an international guarantee of the new boundaries of the Czecho-Slovak State against unprovoked aggression. One of the principal conditions of such a guarantee would be the safeguarding of the independence of Czecho-Slovakia by the substitution of a general guarantee against unprovoked aggression in place of the existing treaties which involve reciprocal obligations of a military character."]

When the question of the Polish and Hungarian minorities in Czecho-Slovakia has been settled, Germany and Italy, for their part, will give a guarantee to Czecho-Slovakia.

The heads of the governments of the four powers declare that the problems of the Polish and Hungarian minorities in Czecho-Slovakia if not settled within three months by agreement between the respective governments shall form the subject of another meeting of the heads of governments of the four powers here present.

SUPPLEMENTARY DECLARATION

All questions which may arise out of the transfer of territory shall be considered as coming within the terms of reference to the international commission.

Munich, 29 September, 1938.

Application of Munich Accord. The Munich accord gave Hitler all of the demands he presented at Godesberg with the exception of minor modifications as to the time-limit for the Czech evacuation and an added provision for exchange of population. The Czecho-Slovak Government was refused an opportunity to present its views during the conference or to make observations regarding the signed accord. The Prague authorities were asked by Prime Minister Chamberlain to give their reply by noon of September 30. With no recourse but to yield, Premier Syrový announced over the radio that afternoon: "I have taken the decision to save life and save the nation. Superior force has compelled us to accept."

The flight of Czechs, Jews, German Social Democrats, and other anti-Nazi elements from the Sudetenland began immediately. As the Czech police and troops withdrew, the Free Corps and other Nazi groups began to mop up their political opponents who had not escaped. The grim work proceeded under Henlein's instructions to show no mercy. There were some clashes between the retiring Czechs and the triumphant Henleinists. On October 1 at 2 p.m. German troops marched into the first of the ceded zones amid the welcoming cheers of the pro-Nazi population. On October 3 Hitler rode in triumph with the army into the third zone. The occupation was completed October 10 as scheduled.

The Munich accord proved to be even more drastic in actual application than in the original terms.

The international commission charged with determining the conditions of evacuation and the territories in which plebiscites were to be held was organized at Berlin. It consisted of representatives of the German Foreign Office and the Prague Government and the French, British, and Italian ambassadors. They accepted the terms dictated by Germany to Czecho-Slovakia, acquiescing in substantial modification of the Munich accord. The Czechs were "persuaded" on October 13 to dispense with plebiscites in certain areas, thus doing away with the necessity for supervision of the exchange of these territories by the international police force called for under the Munich settlement.

On November 21 the commission approved a final Czech-German frontier that gave the Reich territory additional to that agreed upon at Munich. In some of these districts the Czech residents formed a large majority. At Germany's insistence, the frontier was drawn on the basis of the Austro-Hungarian census of 1910 instead of the Czecho-Slovak census of 1930. The Czechs claimed that the new frontier gave Germany 251 communes that were predominantly Czech even in 1910. No less than 738,502 Czechs and Slovaks were handed over to the Reich, while some 400,000 Germans and German-speaking Jews remained within the new Czecho-Slovak state. In some sections of the frontier, the ethnic line was disregarded in favor of German economic and strategic interests. The new boundary completely disrupted the Czecho-Slovak transportation systems and the economic equilibrium. The Anglo-French guarantee of Czecho-Slovakia against unprovoked aggression remained wholly ineffective up to the end of 1938. Polish and Hungarian territorial claims were settled by Germany and Italy and not by another four-power conference, as provided in the Munich accord. Nor was the "right of option into and out of the transferred territories," called for in the accord, provided to those Jews and anti-Nazi Germans who wished to escape Nazi rule. Many of those who fled before the Henleinists and German troops were turned back at the new Czech frontier. Furthermore, a German-Czech agreement of November 28 authorized the Reich to expel Czechs who had settled in the annexed territories after Jan. 1, 1910, while Czecho-Slovakia was empowered to expel Germans who entered the republic after Jan. 1, 1910.

The Munich settlement also failed to relieve the new Czecho-Slovak state of the German minority problem. The 400,000 Germans remaining were given until Mar. 29, 1939, to decide whether to become German citizens. Under Nazi pressure, most of them opted to do so. On November 7 a new German Nazi movement in Czecho-Slovakia was organized under Dr. Ernst Kundt, former chairman of the Henleinist group in Parliament. In an article published late in December, Dr. Kundt declared:

We Germans of Czecho-Slovakia declare openly our allegiance not only to Germanism but also to the German Commonwealth and German National Socialism. It is the business not only of Czech politicians but the whole Czech people to recognize this fact. It is we who form a great problem for Czecho-Slovakia because behind us stand Germany and National Socialism.

Czechs remaining in the Sudetenland were permitted to opt for citizenship in Czecho-Slovakia but anti-Nazi Sudeten Germans were forbidden to do so.

German Domination. The German minority's Nazi propaganda and activities reinforced the steady diplomatic and economic pressure by which the

Reich Government converted what was left of the Czecho-Slovak republic into an economic appendage and political satellite of Germany. The Czechs, Slovaks, and Ruthenians were pushed rapidly toward fascism, anti-Semitism, and a customs union with the Reich. On October 25 the Prague authorities leveled all tariffs on products from the ceded Sudeten areas. The duty-free transport of railway passengers and freight between Austria and German Silesia through Czecho-Slovakia was agreed upon October 29. On November 21 the Prague Government gave the Reich an extraterritorial corridor to Austria through Czecho-Slovakia in which to build a military highway controlled by German police and customs guards (see the accompanying map). The two countries also agreed jointly to construct an Oder-Danube canal, supplementing the Rhine-Main-Danube canal already under construction by the German Government (see map). A tariff agreement closely linking Czecho-Slovakia with the German economic system was reported on December 16.

On December 22 the Czech authorities agreed that in return for occasional German broadcasts of Czech music, the Prague radio station would broadcast daily a four-hour German program directed by Dr. Kundt, the German Nazi leader in Czecho-Slovakia, and also rebroadcast a program from the Reich once a week. French interests on December 28 sold their 50 per cent interest in the noted Skoda munitions works to the Czecho-Slovak Government for 300,000,000 Czech crowns. Berlin sources forecast the early absorption of the Skoda factories by the German Krupp concern. The French military mission at Prague was sent home in December also. This testified to the collapse of the Franco-Czech alliance. On October 21 the Prague Government had informed the Soviet Minister that it had no further interest in maintaining the mutual assistance pact with the Soviet Union.

Poland Takes Teschen. The partition of Czecho-Slovakia at Munich was the signal for Poland and Hungary to demand immediate cession of other Czecho-Slovak territories long claimed by them. Poland had never accepted as final the division of the Teschen district in southeastern Silesia fixed by the Conference of Ambassadors on July 28, 1920. There had been growing friction between the two countries in the years preceding 1938 and when the Czech-German crisis began in September of that year, the Polish Government demanded the same treatment for the Polish minority in Czecho-Slovakia as that accorded the Sudeten Germans. Upon publication of the Anglo-French plan of September 18 for settlement of the Sudeten question, Poland announced that if Czecho-Slovakia accepted the plan, Poland would demand part of Teschen.

Polish troops were then concentrated on the Czecho-Slovak frontier, which was closed by the Prague Government. There were anti-Czech demonstrations and sporadic clashes between Polish and Czech troops and civilians. Immediately after the Munich accord became known Poland presented an ultimatum to Prague, demanding evacuation of Teschen and adjacent areas by noon of October 1 and the surrender by October 10 of the districts of Bohumin, Frýstat, and Jablunkov. Under the threat of an immediate invasion, Prague capitulated on October 1 and by October 10 the Poles were in possession of all the territory they had demanded (see the map). The district included rich hard coal mines and coking ovens and the strategically important railway center of Bohumin.

The new Polish-Czech frontier was regulated by an exchange of notes on November 1. The notes gave Poland two additional districts along the northern frontier of Slovakia, in return for which Poland declared she had no further territorial claims to make on Czecho-Slovakia. The Polish occupation of the latter districts late in November was marked by further fighting between Polish and Czech troops. During November and December there were frequent reports of serious disorders in the districts newly occupied by Poland. The Czechs alleged that 30,000 of their nationals were expelled from the districts by Poland and that those remaining were subjected to a reign of terror. The Poles, on the other hand, declared that Ukrainian and Czech organizations were terrorizing Poles in the districts and disseminating anti-Polish propaganda among the minorities in Poland proper.

Annexations by Hungary. The emasculation of Czecho-Slovakia by Germany and Poland offered Hungary an opportunity to recover part of the territories lost in the World War. Slovakia and Ruthenia had been under Hungarian rule for nearly a thousand years previous to 1918 and about 750,000 Magyar-speaking people lived along their southern borders. In an effort to forestall armed action by Hungary to recover her lost territories, Czecho-Slovakia and the other Little Entente states on August 23 concluded a non-aggression agreement with the Budapest Government. They recognized Hungary's right to rearm in return for Hungarian acceptance of a reciprocal agreement to abstain from settling their mutual disputes by force.

Nevertheless, with the development of the Czech-German crisis Hungary partially mobilized and on September 22 demanded that her minority receive the same treatment as that accorded the Sudeten Germans. On September 25 Yugoslavia and Rumania warned Budapest that they would aid Czecho-Slovakia if Hungary attacked her and on September 26 the Czechs rejected Hungary's demand for territorial cessions. The Prague authorities charged the newly constituted Slovak Government with the task of reaching a settlement with Hungary and negotiations were opened October 8 at Komarom in the disputed frontier region. The Hungarian Government demanded outright cession of the districts in Slovakia and Ruthenia having Magyar majorities and a plebiscite to determine the fate of the rest of Slovakia. When a deadlock was reached Hungary broke off the negotiations, appealed to the Munich powers, and mobilized five army classes along the Slovak and Ruthenian frontiers. At the same time armed bands of Hungarian irregulars invaded Slovak and Ruthenian frontier districts and attacked local police and administrative authorities.

Italy and Poland supported Hungary's claim to all of Slovakia and Ruthenia, while Rumania and Yugoslavia protested at this projected violation of the principle of self-determination. The Czech, Slovak, and Ruthenian authorities had meanwhile appealed to Berlin. Hitler, desirous of holding his newly opened corridor through Czecho-Slovakia to the Soviet Ukraine, opposed the Hungarian demands for non-Magyar territories and his influence was decisive. On October 26 the Czecho-Slovak Government agreed to submit the Hungarian minority problem to arbitration by Italy and Germany.

The arbitral award, announced by the German and Italian Foreign Ministers at Vienna on November 2, gave Hungary about 4566 square miles of territory in southern Slovakia and Ruthenia (see

map), with a population estimated at 1,027,450. Hungary obtained Uzhorod, the Ruthenian capital, and practically all the other important cities of southern Slovakia and Ruthenia except Bratislava and Nitra. The ceded territory contained most of the fertile agricultural land of Ruthenia and some of Slovakia's best farming districts. The new frontier severed the strategic railway connecting Czecho-Slovakia with Rumania and cut Bratislava's rail connections with the rest of Slovakia. The award created a joint Czech-Hungarian commission to delimit the frontier, determine details of evacuation and occupation, and formulate measures for the protection of Magyars remaining in Czecho-Slovakia and Czechoslovaks placed under Hungarian rule. Occupation of the ceded territory was carried out by Hungarian troops between November 5 and 10.

The Minorities Problem. The partition of Czecho-Slovakia, far from calming the national and racial hatreds in Central Europe, served greatly to intensify them. Despite their sacrifices to Germany, the Czechs found themselves saddled with an aggressive German minority which had been instructed to remain in Czecho-Slovakia "as an outpost of Great Germany" instead of exercising its right under the Munich accord to opt for return to Germany.

Neither Poland nor Hungary were satisfied with their territorial gains. Despite a warning from both Germany and Italy that they must accept the Vienna award, the Hungarians worked with Polish support to obtain all of Slovakia and Ruthenia. Poland hoped in this way to block the German advance toward the Soviet Ukraine and at the same time to eliminate the anti-Polish agitation centering in Ruthenia. The Slovaks and Ruthenians, on the other hand, resented the loss of substantial blocs of their own nationals to Poland and Hungary. They were roused to deep indignation by Hungarian and Polish efforts to denationalize the Slovaks and Ruthenians in the ceded territories by forbidding the use of their language, closing their schools, and expelling many of them from their ancestral homes. Hungarian irregulars continued their forays into Czecho-Slovak territories. Between the Vienna Award and the year end there were 19 or more armed clashes between Hungarian and Czecho-Slovak forces along the new frontiers. Late in December Hungarian gendarmes fired on Slovaks in the ceded village of Surany, killing one and wounding others. Many Slovaks were rounded up and beaten by the gendarmes. Numerous incidents of this character prompted an agitation among the Slovaks and Ruthenians for the recovery of the ceded districts. This agitation appeared to have Berlin's support.

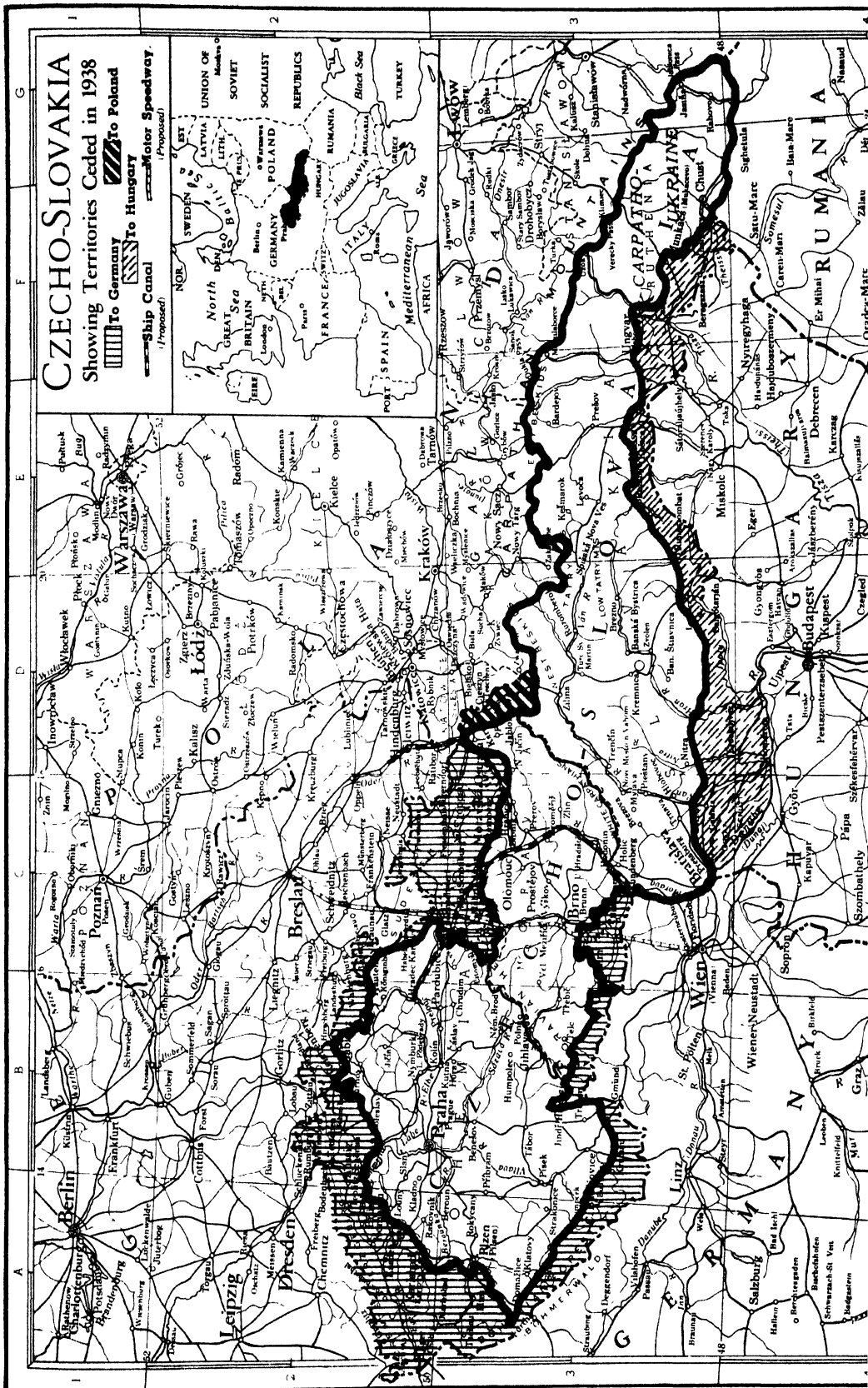
Political Reorganization. The partition of Czecho-Slovakia was followed by complete revision of the governmental system. The trend toward dictatorship commenced with the appointment of the Syrový Cabinet, containing two generals, on September 23. On October 5 President Beneš resigned under pressure from Berlin, which had threatened to partition Slovakia between Poland and Hungary if he remained in office. The man who, with former President Masaryk, had founded and guided the state through two decades, left his country secretly for England late in October, to escape possible arrest.

On October 4 the Syrový Cabinet was reorganized on a basis more acceptable to Berlin, the main change being the appointment of Dr. Frantisek Chvalkovský as Minister of Foreign Affairs. Two

CZECHO-SLOVAKIA

Showing Territories Ceded in 1938

- ▨ To Germany
- ▨ To Poland
- ▨ To Hungary
- Ship Canal (Proposed)
- Motor Speedway (Proposed)



days later it announced an agreement with Slovak leaders for the extension of autonomy to Slovakia. With the departure of Dr. Beneš, the swing away from democracy and toward fascism gained momentum under constant Nazi pressure. All Masonic lodges in the country disbanded on October 13 to forestall dissolution by the government. Persons of democratic sympathies were weeded out of the government and diplomatic service. The press censorship instituted during the September crisis was made permanent. The reactionary elements now in control began to denounce Dr. Beneš and even the revered Masaryk, father of the republic, whose busts and pictures were removed from public buildings. The independent anti-Nazi German-language press was liquidated. Anti-Semitism developed rapidly, particularly in Slovakia. There was a complete reshuffling of political parties. The now dominant nationalist and pro-Fascist elements merged most of the former conservative and Center groups into a new government Party of National Unity, while many adherents of former radical and liberal movements united in an opposition group called the National Labor Party.

Revision of Constitution. The administrative reorganization of the republic was undertaken by Parliament, which met for the first time since before the September crisis on November 17. The state was changed from a unitary to a Federal republic, with a President having greatly enlarged powers. The Czech, Slovak, and Ruthenian provinces became "autonomous components" of the republic, each having a separate Diet elected by universal suffrage of all persons over 21 and a separate Premier named by the President of the republic. The three Diets were to elect representatives to a National Assembly, which elected the Federal President. The latter could be elected only with the approval of three-fifths of the Slovak representatives in the National Assembly. The National Assembly retained control of legislation covering the Constitution, foreign affairs, citizenship, emigration, transport, postal affairs, national debts, state loans and taxation, and general economic and financial matters. The Federal Government was responsible not only to the National Assembly but to the Slovak Diet. The provincial governments were placed in charge of all local affairs, including their own police and military forces.

New Officials Chosen. Parliament was convoked as the National Assembly on November 30 and elected as the new President Dr. Emil Hacha, President of the Supreme Court. A joint committee of Czechs and Slovaks had agreed upon Dr. Hacha on November 22 and his election was a matter of form. He received 272 votes of the 312 members. The German Nazi deputies, the representatives of the Hungarian minority, and some of the former Cabinet officials voted for Hacha but stayed away from the session while the 39 Communists abstained from voting. Immediately after his election, President Hacha entrusted the formation of a new Federal Government to Rudolf Beran, a strong personal enemy of former President Beneš who had been named chairman of the Party of National Unity. His cabinet, formed December 1, included Karl Sidor, leader of the Slovak Fascist Hlinka Guard as Deputy Premier, Dr. Chvalkovsky as Foreign Minister, Joseph Kalfus as Minister of Finance, and General Syrový as Minister of Defense.

Premier Beran committed his government to the gradual establishment of a completely totalitarian regime closely co-operating with Berlin in a speech

before the National Assembly on December 13. At the same time the emergency measures proclaimed during the September crisis were extended for three months. On December 14 the Chamber of Deputies by a vote of 148 to 16 conferred authoritarian powers on the Cabinet and President. The bill empowered the government to change the Constitution at will by unanimous resolution to the President and to rule by decree for two years. The Slovak and Ruthenian Governments were given similar powers in revising their provincial Constitutions. At Slovak insistence, however, the Federal Government was denied the right to change Slovakia's autonomous constitution. Federal constitutional decrees affecting the entire republic required the approval of a majority of the Slovak Government and the signatures of Slovak and Ruthenian cabinet members.

At the insistence of Berlin and in line with Premier Beran's policy, Jewish professors and teachers were suspended from all German universities and high-schools on December 22. Further anti-Semitic measures were pending. On December 24 the Cabinet forbade the formation of new political parties without government approval. Dissolution of the Communist party was decreed on December 28. Cancellation of the Communist mandates and of those representing severed territories reduced the number of seats in the Chamber of Deputies from 312 to 200 and of Senators from 150 to 99. Despite all these pro-Fascist measures, the Nazi faction of the National Unity party declared that the progress toward a completely Fascist and anti-Jewish policy was too slow and threatened violent action against the Prague Government.

Situation in Slovakia. The paralyzing of Czech authority by Germany enabled the ultra-conservative Slovak People's Party to obtain the autonomy for which it had struggled under the leadership of Father Andrej Hlinka for two decades. Hlinka (q.v.) died on August 16 and his place as chairman of the party was taken by Dr. Jozef Tiso. On October 6 an agreement was reached with Czech authorities for the appointment of Dr. Tiso as Minister for Slovakia in the Prague Cabinet and Premier of the autonomous Slovak government. The new Slovak government was formed on October 9 and the Slovak People's party and its military adjunct, the Hlinka Guard, immediately inaugurated a pro-Fascist, totalitarian drive. In the Czech provinces of Bohemia and Moravia fascism was partly the result of German pressure. In Slovakia it was adopted voluntarily by the Slovak People's party, which had previously controlled only about 32 per cent of the votes in the province and adopted authoritarianism partly as a means of consolidating its position.

The Communist party was suppressed in Slovakia on October 9. On November 8 the Slovak People's party absorbed all the other Slovak conservative groups. While the Tiso Government showed a disposition to collaborate with the Czechs, strong elements within the party and the Hlinka Guard demanded complete independence and displayed hostility toward Prague. They worked in close collaboration with Berlin and with the German Nazis in Slovakia. Toward the end of November the government dissolved the opposition National Labor Party, formed by the Slovak Social Democrats, and announced that Slovakia would henceforth be a one-party state. In the elections of December 18 to the Slovak Diet, only government candidates were permitted to stand for office. Concentration camps were established for opposition elements,

freedom of the press and the right of assembly were abolished, and the judiciary was made a tool of the government.

Carpatho-Ukraine. The new autonomous regime in Ruthenia, or Carpatho-Ukraine as it was officially known, fell even more completely under German domination. The Prague correspondent of the *New York Times* reported on December 3 that "Carpatho-Ukraine is now overrun with German agents, working energetically with Ukrainian emigrants from Poland now living there and arriving in ever-increasing numbers from Berlin, where a Ukrainian bureau has long been maintained. . . . The German schemes are based on making Carpatho-Ukraine 'the Piedmont of the Ukraine,' stirring up Ukrainian nationalism to a point where, with German assistance, the Ukrainians in Poland and Russia may be induced to revolt, and form either a German vassal state of between 40,000,000 and 50,000,000 inhabitants or a province in the German world imperium now dreamt of in Berlin."

The first Premier of Carpatho-Ukraine, Andrew Brody, was removed and arrested by the Prague Government on October 27 on charges of accepting money from Hungary to permit a plebiscite designed to restore Ruthenia to Hungary. This plan was in line with the Polish-Hungarian scheme for a common Hungarian-Polish frontier interposing a barrier to Germany's eastward expansion. Brody was succeeded by Father Augustin Volosin, who played a prominent part in the organization of a Ruthenian Fascist movement, SIC, dedicated to the greater Ukraine program. Elections for the Carpatho-Ukrainian Diet were to be held early in 1939.

See FRANCE, GERMANY, GREAT BRITAIN, HUNGARY, ITALY, POLAND, RUMANIA, UNION OF SOVIET SOCIALIST REPUBLICS, and YUGOSLAVIA under *History*; JEWS; LITTLE ENTENTE.

DAGHESTAN AUTONOMOUS SOVIET SOCIALIST REPUBLIC. See RUSSIAN SOVIET FEDERATED SOCIALIST REPUBLIC.

DAHOMY. See FRENCH WEST AFRICA.

DAIRYING. The decline in milk cow numbers, which began in 1934 as a result of drought and unfavorable economic conditions, was checked in 1938. The number of heifers on hand, and the heifer calves being raised, were more than sufficient for normal replacements in 1939 and 1940. Feed supplies were generally abundant and the increase in milk cows may tend to reduce cattle prices, which were relatively high as compared with other agricultural products.

Milk production during 1938 was large, and even on a per capita basis, was the highest in the 14 years of record. Milk production was estimated at 4 to 5 per cent above the 103 billion lb. produced in 1937, and was expected to continue heavy into 1939.

Feed-grain production was heavy in 1938 and there was a large carry-over from the 1937 crop. Although protein by-product feeds, especially cottonseed cake and meal, were reduced, feed supplies per animal unit were larger than in any of the 10 years prior to 1934.

Butterfat prices were unusually low in relation to the prices of meat animals, but were 30 per cent higher in relation to feed-grain prices than in the period 1910-14.

The production of the principal manufactured dairy products was about 10 per cent larger in 1938 than a year earlier, even though the 1937 production was 2 per cent larger than the 1924-29 average. The largest increases in the production of the manufactured products were 12 per cent in cheese and 11 per cent in evaporated milk. The per capita

production of these products reached new high records.

The unfortunate part of the situation was that consumer demand did not keep pace with the increased production, and prices declined sharply during the first half of 1938 with the increasing seriousness of the depression. Too heavy surpluses were avoided by purchases of 140,000,000 lb. of butter by the Federal Surplus Commodities Corporation and the Dairy Products Marketing Association, Inc. As a result, butter prices were maintained. This butter was held for resale if prices should rise or for relief distribution. In December butter prices were above the level at which the Government purchases were made.

Butter consumption continued at about the same levels as in 1937 when 16.7 lb. were consumed per capita. The steady increase in the consumption of cheese, which amounted to 5.32 lb. per capita in 1937, and evaporated milk continued.

The heavy production resulted in unusually large storage stocks of dairy products toward the close of the year. In the fall months of 1938, approximately 200,000,000 lb. of butter in storage, about half of which was held by the Dairy Products Marketing Association, Inc., was nearly double the cold storage holdings at the corresponding periods of 1937. Cheese storage of 140,000,000 lb. on October 1 was about 20 per cent greater than in 1937 and the largest on record. Evaporated milk in manufacturers' hands of about 400,000,000 lb. was nearly twice as great as in 1937. Any improvement in business conditions and a rise in consumer incomes may be expected to be directly reflected in an improvement in the dairy situation.

International Conditions. The increased production and rising storage stocks of dairy products during the last half of the year resulted in exports of dairy products that were generally heavier than in 1937. During the five months' period, July to November, there were 1,160,000 lb. of butter exported, as compared with about 700,000 lb. during the entire year of 1937. There were larger amounts of cheese exported in 1938 than in 1937, but not so much greater proportionately as compared with butter exports.

Imports of dairy products were at low levels except for cheese. Cheese imports, consisting mostly of foreign makes, especially Swiss and Italian types, continued rather uniformly at approximately 60,000 lb. during the year. Imports of casein dropped to low levels. During much of the year, London prices of Danish and New Zealand butter were higher than 92-score butter in New York.

Exports of dried and evaporated milk increased materially over 1937. Dried-milk exports in 1938 were about 3 times as heavy as in 1937. Evaporated-milk exports also increased. Imports of butter into Great Britain and Germany were heavy. During the first 6 months of the year, 552,832,000 lb. of butter were imported into Great Britain, an increase of about 2 per cent over the corresponding period of 1937. Imports into Germany of 94,427,000 lb. were 23 per cent heavier than during the first half of 1937. The combined butter imports of these two countries were nearly 30,000,000 lb. greater during the first half of 1938 than in the preceding year.

Curtailed feed production in New Zealand reduced the production of dairy products. Butter graded in New Zealand during the year ended July 31 totaled 310,257,000 lb., as compared with 335,445,000 lb. in the preceding season. However, in Australia, the amount of butter graded was 213,-

499,000 lb., as compared with 182,309,000 lb. in the season of 1936-37.

Estimates for production in Canada indicated a decrease of 12 per cent in cheese and an increase of 9 per cent in butter production for the first 8 months of 1938, as compared with 1937. Butter stocks in storage in Canada on September 1 were 61,462,000 lb., as compared with 49,525,000 lb. on the corresponding date of the preceding year.

Research. Feeding roughages attracts the interest of the dairy farmer because of its economy, in addition to the special nutritive properties found in good pasture and good quality hay and silage.

In a study of the possibilities of feeding dairy cows on alfalfa hay alone, 15 Holstein-Friesian cows were fed through 26 complete lactation periods, at four of the field experiment stations of the U.S. Bureau of Dairy Industry, on good quality alfalfa hay with salt and bone meal as the only supplements. It was estimated that the milk and fat production of these cows was about 60 per cent of the production expected on a liberal grain ration. The nutrients in the alfalfa hay were efficiently utilized and the alfalfa apparently furnished ample amounts of calcium and phosphorus, as but little bone meal was consumed and there were no symptoms of lack of appetite or depraved appetite. There were no detrimental effects on fertility, breeding, or calving condition of the cows as a result of continuous feeding of alfalfa as a sole ration over two or three lactation periods.

Studies at the U.S. Bureau of Dairy Industry and the New Jersey and Vermont Agricultural Experiment Stations found that grasses and legumes made excellent silage and could be very satisfactorily preserved if firmly packed. This was facilitated by chopping and maintaining a moisture content over 50 per cent. A survey of practices on nearly 400 dairy farms showed that grass silage proved an excellent feed, especially when molasses was added to stimulate the best type of fermentation process during storage.

An essential nutritive factor found in green plants and largely preserved in well-cured green hay is vitamin A. Studies at the Kansas Agricultural Experiment Station were concerned with the relative amounts of the vitamin A in the feed that could be recovered in the butter. Under conditions in which large amounts of vitamin A were consumed, only 24 per cent was found in the butterfat, the portion of the milk containing most of this factor. It seems more economical to supply additional vitamin A to humans by other methods than by feeding cows high vitamin A rations. The Ohio State University found that the vitamin A value of winter butter was made nearly equivalent to that of summer butter by the addition of a small amount of butter color (carotene in oil).

Numerous problems, many of a fundamental physiological nature, were undertaken and solved at the Agricultural Experiment Stations. For example, the Wisconsin Agricultural Experiment Station found that calves could gain weight on forms of nitrogen heretofore supposed to be not digestible and assimilable by animals. Supplements of ammonium carbonate and urea fed with other feeds produced increased gains over those from the other feeds alone. It was thought that bacteria, acting in some part of the calf's multiple stomach may have transformed the simple nitrogenous compounds into more complex substances assimilable by the animal. These results offer leads toward the partial replacement of some of the higher-priced proteins in the dairy ration by more simple and cheaper ni-

trogenous compounds and, therefore, may have practical economic significance.

The results of an experiment in feeding raw and pasteurized milk to calves at the Hannah Dairy Research Institute, England, showed that calves grew as well on the pasteurized as on raw milk during the 12-week feeding period. Further, 70 per cent of the raw samples were found to carry viable tubercle bacilli, and 38 per cent contained abortion organisms which cause undulant fever in man. The pasteurized samples did not carry these pathogens. Two-thirds of the calves on raw milk and none on pasteurized milk contracted tuberculosis. Thus, although pasteurization of the milk did not modify its nutritive value, the process protected against contracting diseases transmitted in the milk.

A condition in cattle known locally as "neck ail" was diagnosed by the Massachusetts Agricultural Experiment Station as a type of nutritional anemia. The soils, and plants grown in the area where this condition occurred, were found to be very low in iron. Spectacular recovery followed the administration of iron compounds to affected animals. The feeding of roughage grown on other soils where there were adequate amounts of iron prevented the appearance of the anemia.

Investigations of the physiology of lactation and factors influencing the amount and character of the secretion were conducted at a number of institutions in several countries, including among others the Missouri Agricultural Experiment Station, and institutions in Germany, Poland, and in Russia. Two hormones produced by the pituitary gland, as well as a hormone produced by the ovary, are necessary to properly condition the mammary gland and bring about the secretion of milk of normal amounts and quality. Injections of an extract of the pituitary gland into milking cows resulted in marked increases of as much as seven liters per day in the amount of milk produced, without changing the composition of the product, except for a small increase in the butterfat content. The rapidity and frequency of milking were found to be important factors in milk production.

Milk from certain cows has a greater tendency to produce so-called oxidized flavors than milk from other cows. It was found by the Pennsylvania Agricultural Experiment Station that green feeds, such as pasture, clover, and alfalfa, tended to inhibit the development of such objectionable flavors. The addition of vitamin C, hydroquinone, and oat flour, although illegal as a commercial practice, prevented the development of the oxidized flavors in the milk. The Massachusetts Agricultural Experiment Station also found that the addition of small amounts of oat flour, .25, 0.5, and 0.75 per cent, to ice cream mixes exerted a stabilizing effect and delayed the development of off-flavors during storage.

A method of freeing cream, separated from onion-flavored milk, of the onion flavor was developed at the Central Swedish Experiment Station by passing the cream through a vacuum at 85° to 90° C, after which it was aerated over a surface cooler. It was necessary to repeat the treatment (generally three times) until onion flavor could no longer be detected. Fresh butter from such cream was free of onion flavor but after being stored for two to three weeks it developed a low degree of onion flavor.

One of the most important phases of Cheddar cheese production is the ripening process. The Pennsylvania Agricultural Experiment Station made a study of the development of desirable fla-

vor in cheese made from several lots of milk. It was found from this study that the rapidity of ripening was closely related to the numbers of bacteria initially present in the cheese and the ripening temperature. Acidity and the ferments present also played an important role in the flavor of the ripened cheese.

Changes in Personnel. Prof. L. W. Ingham, in charge of dairy cattle teaching and research in the Animal Husbandry Department at the University of Maryland, resigned on July 1 to accept a similar position with the National Farm School at Doylestown, Pennsylvania. He was succeeded by Dr. K. L. Turk from Cornell University. Prof. M. Mortensen, head of the Dairy Industry Department at Iowa State College since 1909, retired on September 15. He was succeeded by Prof. C. A. Iverson of the same institution. Dr. Edwin E. Heizer of the Ohio State University, and associated with the genetic work of the American Guernsey Cattle Club and the Holstein Friesian Association of America, was appointed head of the new Department of Dairy Industry of the University of Wisconsin. Drs. M. H. Friedman and E. T. Gomez respectively were appointed senior physiologist and assistant physiologist in the U.S. Bureau of Dairy Industry to conduct research on the physiology of lactation. Dr. J. A. Nelson was appointed head of the newly formed Dairy department at Montana State College.

Necrology. Dr. H. E. Van Norman, associated with various phases of the dairy industry for about 40 years and President of the World's Dairy Congress in 1924, died on July 28, 1938. Malcolm H. Gardner, Superintendent of the Advanced Registry of the Holstein Friesian Association of America for more than 20 years, died on June 30, 1938. Prof. T. L. Haecker, a pioneer organizer of co-operative creameries and cheese factories, well known investigator in animal nutrition problems, and former head of the Dairy Department of the University of Minnesota, died on Aug. 12, 1938, at the age of 92.

Bibliography. Recent publications representative of various phases of dairying are cited as follows: Wissenschaftliche Berichte des XI. Milchwirtschaftlichen Weltkongresses, 1937. Berlin: Reichsmin. Ernähr. u. Landw. [1937], vols. 1, pp. 506, 2, pp. 569, 3, pp. 496; *Proceedings of the 33rd Annual Meeting of the American Dairy Science Association* (Jour. Dairy Science 21 [1938], No. 8, pp. 497-528, and No. 5, pp. 79-174); *Dairy Cattle Feeding and Management*, C. W. Larson, H. O. Henderson, and F. S. Putney (New York, Wiley, 1938); *Feeding Dairy Cows on Alfalfa Hay Alone*, R. R. Graves, J. R. Dawson, D. V. Kopland, A. L. Watt, and A. G. Van Horn (U.S. Dept. Agr., Tech. Bul. 610 [1938], pp. 47); *Methods of Making Silage from Grasses and Legumes*, T. E. Woodward and J. B. Shepherd (U.S. Dept. Agr., Tech. Bul. 611 [1938], pp. 34); *Recovery of Carotene and Vitamin A from Butter When Cows Were Fed Unlimited Quantities of Green Rye*, F. W. Atkeson, J. S. Hughes, B. L. Kunerth, W. J. Peterson, and M. Kramer (Jour. Nutr., 14 [1937], No. 6, pp. 621-629); *Secretion of Milk*, Dwight Espe (Collegiate Press, Inc., Ames, Iowa [1938], pp. 282); *Milk Products*, W. C. Harvey and H. Hill (London: H. K. Lewis & Co. [1937], pp. 387); *Dairy Bacteriology*, B. W. Hammer (New York, Wiley [1938], Ed. 2, pp. 482); *Rate of Ripening in Cheddar Cheese*, T. R. Freeman and C. D. Dahle (Pennsylvania Sta. Bul. 362, 1938); *Laine Artificielle de*

Caséine, P. Diatchenko (Le Lait 18, 173, [1938], p. 233).

DAKAR. See FRENCH WEST AFRICA.

DAMAN. See PORTUGUESE INDIA.

DAMS. As in the case of bridges, the notable dams for several years past have been government constructions. The forces of the U.S. Bureau of Reclamation and the Corps of Engineers of the Army, augmented by a large number of engineers drawn from civil life, have been busy building structures which, year by year, have added new records in size or height for various types of dams. Much of this work has, of course, constituted a valuable and permanent addition to the economic development of the nation. Much also, unfortunately, must be classed as more in the nature of relief employment than of economic construction. See ELECTRICAL MACHINERY.

Dedications. With the closure of the two 29-ft. diversion tunnels on July 1, the Parker Dam, which, located 155 miles below Boulder Dam on the Colorado River, forms the headworks of the famous Los Angeles-Colorado River Aqueduct (see AQUEDUCTS, TUNNELS), was placed in operation. It will be recalled that this structure is remarkable in that 235 of its 340 ft. of height are submerged below stream level. (See 1937 YEAR BOOK.)

One month later the Imperial Dam, below Parker on the Colorado and at the head of the All-American Canal, was completed. This dam, together with the elaborate desilting works, was dedicated on October 18.

The completion of another interesting work was marked by the dedication on June 12 of the roller-crest dam at Gallipolis on the Ohio. This, the first roller-crest dam on the Ohio, marks a step in the modernization of the canalization works on this river—a project on which U.S. Army Engineers have been engaged for many years and which was dedicated by President Hoover in 1929. The roller gates on the new dam, 125 ft. long, are of record size.

Great Dams. The foundation cementing for the Grand Coulee Dam on the Upper Columbia was completed on January 10, and the contract was awarded for the completion of the structure on the 28th. By October, the construction of a steel trestle, which will be used to carry the dam up to the full height of 553 ft., had been completed and work was ready to go forward in placing the 5¼-million yards of concrete needed to complete the dam. The contract was let at about 34½-million dollars.

Bids were opened June 1 for building Shasta Dam and power plant as part of the Central Valley project of California under the U.S. Bureau of Reclamation. This dam is to be the second largest concrete dam in the world. To contain over 5½-million cu. yd. of concrete, it will greatly exceed Boulder Dam (3¼) in volume and will be exceeded only by the 9¼-million yards of the Grand Coulee. The height record of these three giant constructions will be in the reverse ratio with Shasta (560 ft.), less than Boulder, but greater than Grand Coulee. Twelve construction firms form the syndicate to which the contract for this 36-million dollar project was awarded.

Work on the great arched-gravity Ruby Dam (see 1937 YEAR BOOK) went rapidly forward during the year and it is expected that the preliminary unit, 250 ft. high, will be completed in 1939. The ultimate height planned for this structure is 640 ft.

Around the world, in Russia, a huge dam is also under construction for the Rybinsk Power Station

on the Volga River. The scale of the construction is similar to that of the famous earlier Dneiper River development. Dam No. 2 is to be followed by four more dams which are expected to give a final total development of from 50 to 60 billion kw-hr. per year.

TVA Dams. Satisfactory progress has been made in the various dams which are building on the Tennessee River to provide flood control, a navigable depth, and, incidentally, power. The Chickamauga Dam, near Chattanooga, is in the last cofferdam stage and foundations will be completed in 1939. Congress has, however, been unable to make up its mind on the most recent proposal for a new dam in this area—Gilbertsville. Since the construction of the Wilson Dam at Muscle Shoals on the Tennessee River and the creation of the TVA, six dams have been built, or are building, and three additional structures are proposed. The Gilbertsville Dam is planned to be the first in the series which will produce a 9-ft. depth of canalization from the Ohio up the Tennessee to Knoxville. Its location is about 20 miles above the junction of the rivers and it will flood up to the Pickwick Landing Dam now practically completed. As proposed, Gilbertsville Dam will be an earth structure, with concrete spillway and locks, of about 8600 ft. total length and a maximum height of about 145 ft.

Salt River Dams. The work of the U.S. Bureau of Reclamation in the Salt River area in Arizona makes this one of the most notable great dam centers in the world. In a 40-mile reach of the river there is the Roosevelt Dam (1911), 284 ft. high, the Horse Mesa (1927), 305 ft., the Mormon Flat (1925), 229 ft., and the Stewart Mountain (1930), 212 ft. Now to this imposing list is to be added the Bartlett Dam on the Verdi River which is to be a multiple-arch dam 297 ft. high—the highest dam of its type in the world. The U.S.B.R., acting as engineers for the Salt River Valley Water Users' Association, is rebuilding the spillways on the older dams, in the light of modern model studies, to provide the full flood capacities for which they were designed. The Bartlett Dam, about 50 miles north of Phoenix, under similar auspices, will also serve in part the Salt River Indian Reservation which is to meet 20 per cent of its cost.

Among other U.S.B.R. dams, the progress on the Seminole Dam of the Caspar-Alcova project in Wyoming (noted in previous YEAR BOOKS) should be recorded. Foundations were completed and the draft tubes for the power plant set in May, the project being already over one-third completed.

Colorado-Big Thompson Project. This project of the Bureau is also notable in that it will divert water from the Upper Colorado eastward to supply irrigation on the east slopes of the Continental Divide. The project involves several dams, canals, a 13-mile tunnel, and power plants. Work was started on November 16 when the contract for the 270-ft. high earth and rock-fill Green Mountain Dam was awarded. This project is the result of a seven-State compact which allocated to the upper basin areas $7\frac{1}{2}$ million acre-ft. of water per year.

Conchas Dam. This \$16,000,000 project, located at the South Canadian River, 30 miles northwest of Tucumcari, New Mexico, involves a concrete gravity-type dam 235 ft. high as well as a long spillway, each with long flanking earth embankments and an earth dike one mile long. The founda-

tion material is described as canyon and artesian sandstone but the dam abutments are in a dangerous shale formation. In October, a slide at the north abutment required additional excavation and construction, although the U.S. Engineers in charge of this irrigation- and flood-control project had attempted to stabilize the shale by painting the exposed surface with an asphaltic mixture.

Earth Dams. The past year has not been an entirely satisfactory period in earth-dam construction. Stretching 9000 ft. across the valley of the upper Missouri, the Ft. Peck Dam was nearing completion—95 million yards of fill had been placed by the dredges—the fill was 95 per cent completed. Water storage in the reservoir had begun, when, on September 21, some 8 million yards of fill, followed by the wash of the core pool, slumped off into the reservoir, burying track, equipment, and eight men. No official decision as to the cause of failure has been announced—core drillings in the fill have been under way to determine its character, but it appears that the material available at the site is far from ideal for earth-dam construction.

It will be recalled that in September, 1937, the Marshall Creek earth dam in Wyandotte Co., Kansas, failed when the embankment was within 10 ft. of its final height. The slip in this case was due to overloading of the foundation, resulting in a plastic movement of the underlying soil which was deficient in shearing strength. A redesign and relocation 160 ft. upstream was required. Following this failure it was found that the Prairie Lee Dam, located about 25 miles from the above in Jackson Co., Missouri, was built on unsafe foundations and would have to be removed.

A fine cohesionless sand is the only local material available for a proposed flood-control dam on the Merrimack River in New England. Tests have been made to determine what can be done to compact this material.

El Azucar. This great Mexican Dam, which will bring about a quarter of a million acres under irrigation just south of the Rio Grande, is $3\frac{3}{4}$ miles long, 138 ft. high, and requires over $5\frac{1}{2}$ -million yards of fill. In contrast to the hydraulic methods employed at Ft. Peck and in building many other earth dams, this work is being carried out by the rolled-fill process, using sheep's-foot rollers to compact the material. The technique of this method and its control have been rapidly developed in recent years and its use has been rapidly extending. This dam is being built for the Comision Nacional de Irrigacion of Mexico.

Proposed Dams. The Hansen Dam, an earth structure 9000 ft. long and 110 ft. high, is planned to be added to the Los Angeles flood-control works.

A third dam, the Marshall Ford, is to be built by the U.S.B.R., for the Lower Colorado (Texas) Authority which was created in 1934 to undertake flood-control works. The remarkable Buchanan multiple-arch dam, located about 100 miles above Austin, was completed in 1937. The Marshall Ford Dam, about 20 miles above Austin, although it is to rise 150 ft. above riverbed (with provision for a later increase of 74 ft.), is referred to in the technical press as a "low" dam. Twenty-five years ago it would have been considered in the top class.

DANISH LITERATURE. See SCANDINAVIAN LITERATURE.

D'ANNUNZIO, GABRIELE. See ANNUNZIO, GABRIELE D'.

DANZIG, dän'ts'ik, FREE CITY OF. A former German Baltic port at the mouth of the Vistula

River, which, with the surrounding territory, was constituted a Free City by Article 102 of the Treaty of Versailles. Area, 754 square miles; estimated population on June 30, 1936, 405,000, including 258,000 in the city proper. The inhabitants are predominantly German-speaking, with a Polish minority of about 10,000. Births in 1936 numbered 9072; deaths, 4816; marriages, 3349. In May, 1937, there were 52,088 pupils in primary schools, 3758 in middle schools, and 5042 in high schools. The Technical University had 1250 students in 1936-37.

Trade and Shipping. Danzig formerly handled most of the trade of Poland and a large adjoining sector of north central Europe. It is now forced to share this trade with the newly developed Polish port of Gdynia. Merchandise imports into Danzig in 1937 were valued at 141,840,000 gulden (98,640,000 in 1936) and merchandise exports at 356,520,000 gulden (325,080,000 in 1936). The average exchange rate of the gulden was \$0.1115 in 1936 and \$0.1117 in 1937. The tonnage of goods imported through Danzig harbor in 1937 was 1,515,929 metric tons (972,695 in 1936) and the tonnage of goods exported was 5,684,850 metric tons (4,675,000 in 1936). Coal, grain, and sawn timber are leading overseas exports and salt herrings, coffee, cocoa, tea, and ores are the main imports. A total of 5404 vessels of 3,294,611 tons entered the port in 1936 and 5398 vessels of 3,293,097 tons cleared.

Finance and Communications. Excluding transitory receipts and expenditures, the budget estimates of the Free City balanced at 77,500,000 gulden for the fiscal year ended Mar. 31, 1937 (81,100,000 in 1935-36). The foreign consolidated debt was 41,700,000 gulden on Mar. 31, 1936. Four main railway lines connect Danzig with Germany and three main lines with Poland. Airlines radiate from the Free City to Berlin, Königsberg, and Warsaw. There are shipping services to the principal world ports.

Government. Article 102 of the Versailles Treaty placed Danzig under the protection of the League of Nations, which is represented by a High Commissioner. The same treaty placed the Free City within the Polish customs administration and authorized Poland to control its foreign relations. The harbor is administered by a board of five Danzigers and five Poles, under a neutral chairman. The territory was granted a large measure of self-government through a Diet of 72 members elected by universal secret suffrage. The Diet in turn elects the President, Vice-President, and 10 Senators for an indefinite period. The Senate, including the President and Vice-President, is the executive and administrative arm of the government. President in 1938, Arthur Greiser (National Socialist), elected Nov. 28, 1934. High Commissioner of the League of Nations, Dr. Karl Burckhardt, of Switzerland, appointed Feb. 18, 1937. Polish High Commissioner, Marian Chovacki.

History. Having succeeded during 1937 in imposing a full-fledged totalitarian regime upon the Free City of Danzig (see 1937 YEAR BOOK, p. 207), the German National Socialist Party in 1938 proceeded to stamp out the remaining opposition and to apply all Nazi laws and principles in force in Germany. Jews were subjected to growing persecution and many of them fled from the Free City. Danzig became a part of the Third Reich in all except name and the Danzig Nazis waited with ill-concealed impatience for the formal incorporation of the Free City in Germany. Yielding to Nazi pressure, 10 Social Democratic and Catholic members of the Diet applied for "guest membership" in

the Nazi parliamentary ranks late in January, 1938. On May 29 the leader of the Danzig Nazis, Albert Foerster, was able to announce that his party had absorbed the remaining opposition deputies in the Diet with the exception of two representatives of the Polish minority. Opposition deputies who refused to become Nazi "guest members" were either in prison or had disappeared.

Meanwhile friction between Poles and Germans in Danzig grew in intensity, provoking anti-German demonstrations in adjoining Polish regions. The Senate on March 22 prohibited the free circulation of Polish currency in Danzig. Poles in Danzig were subjected to increasing Nazi pressure and violence. Many were beaten on the streets and forced to salute the swastika banner. Polish newspapers were frequently confiscated by the Danzig police. The Polish Government registered a formal protest against these developments late in August, but the Danzig Government countered with a protest against anti-Danzig demonstrations in Poland. About the same time Polish sources charged that the Nazi storm troops and other military organizations in Danzig were being secretly armed from Germany and that German army officers were training young Germans in Danzig for military service, although Danzig was formally under Polish military protection. A decree issued in the middle of October required all men from 18 to 25 years of age to undergo military training for service in the police force and made men up to 50 years of age liable for periodical military training. On October 24 the Polish Commissioner protested this decree as disguised military conscription in violation of Danzig's status as a demilitarized zone. See *POLAND under History*.

The anti-Jewish reprisals initiated in the Reich on November 10 led to the expropriation of synagogues and much other Jewish property in Danzig, the arrest of many Jews, and the flight of others to the nearby Polish port of Gdynia. Herr Foerster declared that soon there would not be a Jewish shop left in Danzig.

DARROW, CLARENCE. An American lawyer, died in Chicago, Ill., Mar. 13, 1938. Born in Kinsman, Ohio, Apr. 18, 1857, he was educated in the local schools and during 1872-73 attended Allegheny College. He taught school for three years and entered the University of Michigan to study law, but left after a year to read law in an office. He was admitted to the bar in 1877. During 1887-88 he was city attorney of Ashtabula, Ohio, when he removed to Chicago. There he became special assessment attorney, assistant corporation counsel, and acting corporation counsel, and in 1892 he became associated with the Chicago and North-Western R.R., until 1894.

In that year he assisted in the defense of the Socialist leader, Eugene Debs, who was indicted for conspiracy in the American Railroad Union case. He became chief counsel for labor in the anthracite strike arbitrations at Scranton, Pa. (1902-03), and served on a labor arbitration commission appointed by Theodore Roosevelt. Previously (1896) he ran unsuccessfully for Congress, but in 1902 he was elected to the Illinois State Legislature for a two-year term. During 1907-09 he defended William ("Big Bill") Haywood and others against the charge of murdering ex-Governor Steunenberg of Idaho and won their acquittal; in 1911 he undertook the defense of the McNamara Brothers charged with the bombing of the Los Angeles Times Building. Although not acquitted they es-

caped the death penalty and were sentenced to life imprisonment.

In 1924 Darrow undertook what was his most famous criminal case, the defense of Nathan Leopold and Richard Loeb for the killing of Bobbie Franks. Again his clients escaped the death penalty although sentenced to life imprisonment. In the following year (1925) he undertook the defense of John Thomas Scopes of Dayton, Tenn., who was charged with violating a State law forbidding the teaching of evolution in schools and colleges receiving support from the State. With Darrow leading the defense and William Jennings Bryan the prosecution, the case became a *cause célèbre*. After a month or two the trial came to a close, Mr. Scopes was found guilty and fined \$100.

Other well-known cases in which Mr. Darrow was interested were: The Kidd conspiracy case in Oshkosh, Wis. (1898); the O. Sweet case in Detroit, Mich. (1927); the Massie Case in Honolulu (1932), and the Scottsboro Case (1932). He retired from the active practice of law in 1927 and devoted himself to lecturing and writing. An opponent of capital punishment, he was for many years president of the American League to Abolish Capital Punishment, and it was his proud boast that no client of his ever received the death sentence.

Besides numerous pamphlets and magazine articles he was the author of *Persian Pearls*, essays (1902); *Resist Not Evil* (1903); *Farmington*, a novel (1904); *Crime and Criminals* (1907); *Russia's Message* (1908); *How Voltaire Fooled Priest and King* (1921); *Crime, Its Cause and Treatment* (1922); *The Story of My Life* (1932), and *Infidels and Heretics*, with Wallace Rice (1933).

DARTMOUTH COLLEGE. A nonsectarian institution for the higher education of men in Hanover, N. H., founded in 1769. The 1938 autumn session had an enrollment of 2473 students. There were 259 members on the faculty. The endowment amounted to \$17,293,500, while the total income for the year was \$1,908,170. The Fisher Ames Baker Memorial Library contained 454,005 volumes. President, Ernest Martin Hopkins, LL.D.

DAVEY, Gov. MARTIN L. See OHIO.

DEBTS, PUBLIC. See articles on the various countries under *Finance*; **PUBLIC FINANCE**; **REPARATIONS** and **WAR DEBTS**.

DEFICIENCY RELIEF APPROPRIATION ACT. See UNITED STATES under *Congress*.

DE FOREST, HENRY WHEELER. An American lawyer, died at Cold Spring Harbor, L. I., N. Y., May 28, 1938. Born in New York City, Oct. 29, 1855, he was educated at Yale University (A.B., 1876) and Columbia University (LL.B., 1877). Admitted to the bar in 1877 he joined the firm of De Forest & Weeks, but in 1893, with his brother Robert Weeks De Forest, established his own firm.

Actively identifying himself with railroad interests, when the Union Pacific R.R. acquired an interest in the Southern Pacific Co., in 1901, he became a director and member of the executive committee, and in 1913, when the properties were separated, he became vice-president of the Southern Pacific with control of its fiscal affairs. Elected chairman of the executive committee and executive head of the line in 1925 and chairman of the board of directors in 1928, he retired as chairman in 1932 but continued as a director and a member of the executive committee. Also, he had a close association with the Wells Fargo Express Co. that lasted until its absorption by the railroads.

During the E. H. Harriman-Stuyvesant Fish contest for the control of the Illinois Central R.R.

Co., in 1907, he was selected as a director for both parties, and for many years served on the executive committee of the railroad. Also in that same year, with Elihu Root, he was trustee of the majority of the capital stock of the Equitable Life Assurance Society during the joint stock control fight by E. H. Harriman and Thomas Fortune Ryan, and took a leading part in the mutualization of this company. He aided in the organization of the Pacific Oil Co., and became chairman of the board, and in 1925 was active in the consolidation of this company with the Standard Oil Co. of California. In addition, he was a director and member of the executive committee of the Bank of Commerce and when it was merged with the Guaranty Trust Co., he continued in the same positions.

Outside of business, Mr. De Forest's interests were mainly centered in conservation and hospitalization. He was one of the founders of the Sage and Rockefeller bird sanctuaries on the Louisiana Gulf Coast, and for almost ten years (January, 1928–November, 1937) was president of the New York Botanical Gardens. During his tenure, the buildings of the Gardens were renovated and rebuilt, and one of the largest collections of herbarium specimens in the world was acquired. Also, during 1924–35, he was a director and a member of the executive committee of the National Parks Association. A founder of the Columbia Presbyterian Medical Center, he was a governor of the New York Hospital and a trustee of the Presbyterian Hospital.

DEGOUTTE, GEN. JEAN MARIE JOSEPH. A French army officer, died at Charney, Rhone, France, Oct. 31, 1938, where he was born, Apr. 18, 1866. Educated at the Lycée de Bourg, the Collège Rollin, and the Lycée Charlemagne, in 1887 he volunteered for service with the 30th Regiment of Artillery, and in the following year entered the military school at Saint-Cyr.

A sub-lieutenant in the 4th Zouaves in 1890, in 1895 he saw service in Madagascar, and in 1899 entered the École de Guerre for further military studies. He took part in the China Expedition of 1900, and was appointed director of the military office at Casablanca, with the title of lieutenant-colonel in 1911. At the outbreak of the World War in 1914 he was promoted to a colonelcy and appointed chief of staff of the 4th Army Corps. Placed in command of the Moroccan Division of the 21st Army Corps in 1916, he was promoted to brigadier general. In the Champagne offensive of April, 1917, this division won renown. Given command of the 6th Army, he further distinguished himself when, with General Mangin, he staged the counter-offensive of July 18, 1918, against the German Château-Thierry pocket. The crushing defeat administered by Degoutte won for him the title "Liberator of Château-Thierry."

After the Armistice he became commander of the 3d Army, and then replaced Mangin as commander of the French Rhineland Army of Occupation. Because of the failure of Germany to pay her reparations, the French Army was ordered to move farther into the Rhineland, and in 1923 he advanced into the Ruhr, taking over coal and iron mines, administering the railroads, and placing the section under virtual martial law. He himself opposed the military occupancy of the Ruhr and in 1924 was replaced in command, being transferred to the 1st Army Corps and then to the 6th Corps. General Degoutte was given special permission to remain on active service after he had passed the age limit.

Shortly before the Armistice he had been appointed major general to the King of the Belgians, and for his war work had been rewarded with the Grand Cross of the Legion of Honor, the Croix de Guerre (three citations), and was made a chevalier-commander of the Order of the Bath by Great Britain.

DELAWARE. Area and Population. Area (1930, revised to include a later gain of 64 square miles of water through a revision of the New Jersey boundary), 2434 square miles; included water, 469 square miles. Population: Apr. 1, 1930 (census), 238,380; July 1, 1937 (Federal estimate), 261,000; 1920 (census), 223,003. Wilmington had (1930) 106,597 inhabitants; Dover, the capital, 4800.

Agriculture. The accompanying table shows acreage, production, and value of the chief crops of Delaware for 1938 and 1937.

Crop	Year	Acreage	Prod. Bu.	Value
Corn	1938	143,000	4,147,000	\$2,156,000
	1937	143,000	4,147,000	2,364,000
Wheat	1938	83,000	1,660,000	1,062,000
	1937	86,000	1,376,000	1,376,000
Hay (tame)	1938	64,000	91,000 ^a	928,000
	1937	64,000	85,000 ^a	986,000
Apples	1938	.....	1,771,000	1,151,000
	1937	.....	2,750,000	1,805,000
Sweet potatoes ..	1938	5,000	500,000	350,000
	1937	6,000	780,000	491,000

^a Tons.

Finance. Delaware's State expenditures in the year ended June 30, 1937, as reported by the U.S. Bureau of the Census, were: For maintaining and operating governmental departments, \$9,322,146 (of which \$1,375,431 was for highways and \$2,438,780 was for local education); for interest on debt, \$88,416; for capital outlay, \$2,627,107. Revenues were \$12,080,191. Of these, property taxes furnished no part; sales taxes brought \$2,531,475 (including tax on gasoline, \$1,984,067); departmental earnings, \$538,606; sale of licenses, \$1,806,778; Federal or other grants-in-aid, \$2,023,377. Funded debt outstanding on June 30, 1937, totaled \$3,181,000. Net of sinking-fund assets, the funded debt was \$3,118,115. The State did not levy in the year 1937 any general ad-valorem tax on property.

Education. Inhabitants of school age, as estimated for the academic year 1937-38, numbered 52,500. Enrollments of pupils in the public schools totaled 44,515; this comprised 26,685 in the elementary group and 17,830 in high schools. In addition, there was an enrollment of 663 in kindergartens. The year's expenditure for public-school education totaled \$4,413,751, of which \$4,147,998 was current expenditure. The 1664 teachers were paid, for the year, salaries averaging \$1538. Over 6000 persons attended classes to educate adults.

Political and Other Events. The tercentennial of the coming of the Swedish first colonists to Delaware was celebrated, June 27-30. A memorial in the form of a representation, in bronze, of the *Kalmar Nyckel*, the vessel that brought the settlers, was set up at the spot on the waterfront of Wilmington at which the party landed. This memorial, a gift of the people of Sweden to the United States, was to have been presented by the Swedish Crown Prince, Gustaf Adolf, who came for the purpose. Temporarily overcome by illness, he did not attend, and his son, Prince Bertil, made the presentation. President Roosevelt in person accepted the memorial.

Governor McMullen announced in February that he expected to recommend to the Legislature at its next session (in January, 1939) that it create a

graduated tax on incomes, a step that the State had previously avoided. Delaware was a party, with New Jersey, Pennsylvania, and New York, to an agreement, made operative in July, for controlling the pollution, by sewage and waste, of the Delaware River. A number of industrial firms migrating from Pennsylvania came to the State in 1937. Neither the office of Governor nor that of Senator was filled by election in 1938. A Republican U.S. Representative was elected, to replace a Democrat.

Officers. The chief officers of Delaware, serving in 1938, were: Governor, Richard C. McMullen (Dem.); Lieutenant-Governor, Edward W. Cooch; Secretary of State, Charles L. Terry, Jr. (succeeded December 10 by Josiah Marvel, Jr.); Attorney-General, Percy Warren Green; Treasurer, Ernest C. Blackstone; Auditor, James W. Wise; Superintendent of Public Instruction, Dr. H. V. Holloway.

Judiciary. Chancellor, William W. Harrington; Supreme Court, Chief Justice, Daniel J. Layton and Associate Judges, Richard S. Rodney, Frank L. Speakman, Charles L. Terry, Jr., and Charles S. Richards.

DELAWARE, UNIVERSITY OF. An institution of higher learning in Newark, Del., founded as an Academy in 1743 and granted a degree-conferring charter in 1833. It contains two co-ordinate colleges—one for men and one for women. The enrollment in 1938-39 was 976, of whom 601 were men and 375 were women. The enrollment in the 1938 summer session was 454. The faculty numbered 140 members. Appropriations from the State and Federal governments, plus income from other sources, amounted to approximately \$748,800 and invested endowment funds to \$605,536. The library contained approximately 79,200 volumes. President, Walter Hulihan, Ph.D., D.C.L., LL.D.

DELAWARE AQUEDUCT. See AQUE-DUCTS; TUNNELS; WATERWORKS AND WATER PURIFICATION.

DEMOCRACY. See COMMUNISM; FASCISM. **DEMOCRATIC PARTY "PURGE."** See UNITED STATES under Elections; GEORGIA; INDIANA; KENTUCKY; MARYLAND; NEW YORK.

DE MOLAY, ORDER OF. A nonsectarian secret organization for young men between the ages of 15 and 21, founded in 1919 by Frank S. Land in Kansas City, Mo., and named in honor of Jacques De Molay, the last military grand master of the Knights Templar. The members are pledged to the precepts of love of parents, reverence, patriotism, cleanness, courtesy, fidelity, and comradeship, and to the promotion of the public school system and good citizenship. The Order is governed by a Grand Council of Freemasons, while the Chapters are sponsored by Masonic Bodies or groups of Masons. However, it is not a junior Masonic fraternity, and more than 60 per cent of its members are from non-Masonic families. In November, 1937, the active membership numbered approximately 150,000. The organization has an alumni of more than 860,000 men. The official organ is *International De Molay Cordon* (monthly). Frank S. Land, the founder, is Secretary General; Franklin D. Roosevelt is Honorary Grand Master; Chandler C. Cohagen, Billings, Montana, Grand Master; Allan M. Wilson, Manchester, N. H., Deputy Grand Master. Dr. Stratton D. Brooks is Executive Director of the Secretary General's staff. International headquarters are at 201 East Armour Boulevard, Kansas City, Mo.

DENISON UNIVERSITY. A coeducational Christian college of liberal arts in Granville, Ohio,

founded in 1831. The enrollment for the autumn of 1938 was 871. Faculty members numbered 65. Endowment for 1937-38 was \$3,652,432, and the educational income was \$347,146. The library contained 129,000 volumes including government documents. New dormitory for women under construction. President, Avery Albert Shaw, A.M., D.D., LL.D.

DENMARK. A kingdom of northwestern Europe, comprising the peninsula of Jutland and two main islands of Zealand and Funen, with about 200 smaller adjacent islands in the Baltic, the Faroe Islands (q.v.), and Greenland (q.v.). The King of Denmark is also King of Iceland (q.v.). Capital, Copenhagen (Köbenhavn). King in 1938, Christian X, who succeeded to the throne May 14, 1912.

Area and Population. Excluding outlying possessions, Denmark has an area of 16,576 square miles. The estimated population on Dec. 31, 1937, was 3,764,000 (1935 census 3,706,349). The urban population in 1935 was 1,708,168; rural population, 1,998,181. Living births in 1937 numbered 67,444 (18.0 per 1000 of population); deaths, 40,442 (10.8 per 1000); marriages 34,130 (9.1 per 1000). Populations of the chief cities (1935 census) were: Copenhagen and suburbs, 843,168; Aarhus, 90,898; Odense, 76,116; Aalborg, 48,132; Esbjerg, 30,714; Randers, 30,254; Horsens, 29,856; Vejle, 24,354.

Religion and Education. At the 1921 census there were 3,221,843 Protestants, 22,137 Roman Catholics, 5947 Jews, 535 Greek Catholics, and 17,349 others. There is no illiteracy. The school attendance on Jan. 1, 1936, was: Primary, 490,962; secondary, 61,565; University of Copenhagen (1935-36), 5216.

Production. About 35 per cent of the working population is engaged in agriculture and 33 per cent in industry. Commerce and fishing are other important occupations. There were in 1937, 6,609,000 acres of arable land; 1,425,000 acres of meadow and pasture, and about 859,000 acres of forests. Livestock statistics for 1937: Cattle, 3,130,000; swine, 3,152,000; horses, 570,000. In 1937 there were slaughtered 882,000 cattle and calves, 8000 sheep and goats, and 4,332,000 swine. The butter production in 1937 was 403,000,000 lb.; bacon for export, 398,000,000 lb. Production of the chief crops in 1937 was: Wheat, 13,595,000 bu.; rye, 9,448,000 bu.; barley, 50,063,000 bu.; oats, 69,583,000 bu.; potatoes, 49,236,000 bu.; sugar beets, 2,222,000 metric tons; forage roots, 21,570,000 metric tons; hay, 2,130,000 metric tons. The value of industrial production in 1937 was 3,019,700,000 crowns. Industrial products include flour, pork products, milk products, beer, margarine, cigars and cheroots, cigarettes, cotton yarn, cotton fabrics, cement, bricks, paper and cardboard, oils and varnishes, and ships.

Foreign Trade. General imports in 1937 were valued at 1,702,000,000 crowns (1,486,000,000 in 1936) and exports at 1,541,000,000 crowns (1,327,000,000 in 1936). The respective figures in old gold dollars were \$221,828,000 (\$194,570,000 in 1936) and \$201,304,000 (\$173,845,000 in 1936). The principal imports in 1937 were corn, oilcake, and meal, wheat, sawed pine, wool piece goods, coal, coke, iron and steel, other metals, machinery, soybeans. The main exports were bacon, butter, fresh eggs, ships, cattle, and machinery. In 1937 the United Kingdom supplied 37.7 per cent of all imports by value; Germany, 23.9 per cent; Sweden and Norway, 8.3 per cent. The United Kingdom purchased 51.3 per cent of the general exports; Germany, 18.5 per cent; Sweden and Norway, 11.3 per cent.

General imports in 1938 were 1,640,900,000 crowns; exports, 1,550,600,000.

Finance. Closed accounts of the ordinary budget for the fiscal year ending Mar. 31, 1938, showed receipts of 544,600,000 crowns; expenditures of 521,100,000 crowns, and a surplus of 23,500,000 crowns. For 1938-39 the budget estimates placed receipts at 516,800,000 crowns, expenditures 514,200,000 crowns. For 1939-40 the budget estimates placed receipts at 517,900,000 crowns and expenditures 513,900,000 crowns. The public debt on Mar. 31, 1938, was 1,254,000,000 crowns, as compared with 1,322,000,000 on Mar. 31, 1937. The average exchange rate of the crown was \$0.2207 for 1937 and \$0.2183 for 1938.

Transportation. On Mar. 31, 1937, there were 1483 miles of state railway lines and 1662 miles of private lines. During the year ending Mar. 31, 1937, all railways carried 61,153,000 passengers, 7,600,000 metric tons of freight, and reported gross receipts of 142,850,000 crowns. The road mileage was 32,211 in 1937. On Jan. 1, 1938, there were 144,901 automobiles in the country. Statistics for the Danish civil airline in 1937 were: Passengers carried, 13,293; baggage, 219,206 lb.; mail, 264,702 lb.; and freight, 200,737 lb.; receipts, 1,512,534 crowns; working expenses, 1,686,559 crowns. The merchant marine in 1938 comprised 695 vessels of 100 tons or over with a capacity of 1,129,859 gross tons. During 1936 a total of 36,969 vessels of 13,929,000 net registered tons entered Danish ports in overseas trade. In 1937, 24,809 ships of 8,005,498 tons entered Copenhagen.

Government. The Constitution vests executive power in the King, who acts through a cabinet responsible to the Rigsdag (Parliament). Legislative power rests jointly in the King and the Rigsdag. The Rigsdag consists of two chambers, the Folketing (lower chamber) of 149 members elected for four years by proportional representation and the Landsting (upper chamber) of 76 members, of whom 19 are elected by the Landsting itself and the remainder indirectly by voters of over 35 years of age. The term of Landsting members is eight years. Premier in 1938, Th. A. M. Stauning (Social Democrat), heading a coalition government of the Social Democratic and Radical parties, reconstituted Nov. 4, 1935.

HISTORY

Internal Affairs. Despite a considerable rise in the cost of living, the persistence of unemployment on a fairly large scale, and the disturbing influences of the repeated European political crises during 1938, internal conditions in Denmark showed some improvement over 1937 and the country enjoyed a fair measure of prosperity. A threatened strike of 200,000 workers late in March was settled in April through the intervention of a government mediator, the settlement providing for wage increases averaging about 7 per cent.

The Stauning Government concentrated its main energies during the year on measures designed to strengthen the nation economically and socially and to promote the readjustment of its economic system to changing world conditions. Legislation enacted included social relief laws guaranteeing increased unemployment relief, especially to young people and laborers who had been out of work for some time; providing for the free distribution of beef, pork, and milk to the poor; granting longer vacations with pay for workers; improving the law governing apprentices, and extending the existing extraordinary tax law to provide funds for the new

social relief measures. Even before these laws were passed, the government was spending more than 30 per cent of all its expenditures on social relief.

Another law authorized the Minister of Internal Affairs to lend 100,000,000 crowns during the ensuing six years to municipalities, building societies, and private individuals for the construction of buildings and homes. The measure was designed to stimulate the lagging construction industry and revive employment. A new motion-picture law sought to raise the cultural standards and to assist the production of Danish films. Following the crisis over Austria in March, the government overcame its notorious reluctance to spend money on national defense and on April 12 secured authority to raise an internal loan of 50,000,000 crowns for the storage of raw materials, fuel, and other essential imports, for civil air-raid shelters and for improved defense equipment. The loan, which was immediately subscribed, was covered by an increase in the income tax.

At the reopening of Parliament for the autumn session on October 4, Premier Stauning announced that the two principal tasks facing it were further measures to solve the unemployment problem and revision of the Constitution to curtail the influence of the conservative upper chamber and to democratize the system of elections to that body.

The progress of the Nazi movement both among young Danes and the German minority in South Jutland caused growing apprehension in view of German intervention in Austria and Czecho-Slovakia on the basis of Nazi activities among German elements in those countries. A sitting of the Folketing on April 13 was interrupted when a Danish Nazi in the visitors' gallery fired two blanks from a pistol, thus dramatizing the increased Nazi activities that had followed Germany's annexation of Austria. The following day 800 Nazis of the German minority held a demonstration at Haderslev near the German frontier amid a counter-demonstration by loyal Danes. The Nazis demanded a commercial union with Germany, a "cultural government" of their own, the application of German inheritance laws to farms in North Schleswig, etc. Meanwhile the Danish minority on the German side of the Schleswig frontier were meeting with growing discrimination from the German authorities. They complained to Chancellor Hitler on October 15, following his demand for self-determination for German minorities abroad, that they were cut off from social benefits such as aid for large families and that their economic activities were being restricted. Nine Germans and three Danes were arrested on November 22 as members of a German espionage organization for supplying news of ship movements in Danish waters and other information in time of war.

Foreign Affairs. Denmark during 1938 continued its collaboration of former years with the other Scandinavian countries in the development of common foreign policies and trade co-operation. The Foreign Ministers of Denmark, Finland, Norway, and Sweden met at Oslo on April 5-6 and agreed upon closer political and economic collaboration with a view to maintaining their neutrality in the expected European conflict. It was decided to bring the Scandinavian neutrality pact of 1912 up to date and to discuss with the British Government the adherence of the Scandinavian powers to the London naval treaty of 1936. The revised neutrality agreement, covering issues raised by the World War such as the use of airplanes and radio, was signed at Stockholm on May 27.

The neutrality policy, implying repudiation of obligations assumed under the Covenant of the League of Nations, was further extended at a conference held in Copenhagen July 23-24 by representatives of the four Scandinavian states and The Netherlands, Belgium, and Luxembourg. At the final session the Foreign Ministers of the seven so-called "Oslo Powers" adopted a declaration to the effect that the League Covenant did not require them to apply sanctions against an aggressor. The Danish Foreign Minister declared that "all seven of our states are definitely determined never to participate in any conflict between great powers." Previously Denmark had recognized Italy's conquest of Ethiopia (May 24). At the opening of Parliament on October 5 Premier Stauning emphasized the necessity for Denmark to remain strictly impartial in a European conflict. On October 14 Foreign Minister Munch told Parliament that the Oslo Powers felt themselves relieved of the necessity of imposing sanctions under Article XVI of the League Covenant and that in the future each country would decide individually whether to observe the obligations of the article.

Denmark joined with the other Oslo Powers on May 11, 1938, in agreeing not to renew the commercial convention signed at The Hague May 28, 1937, which called for concerted action toward gradual reduction of trade barriers and the abolition of "crisis" measures in order to restore international trade and general prosperity. Even though world conditions prevented renewal of the Hague Convention, the seven governments agreed to continue the commercial co-operation instituted under the Oslo Protocol of December, 1930.

DENTAL ASSOCIATION, AMERICAN. A national association organized in 1859 and reorganized in 1913:

"To cultivate and promote the art and science of dentistry, and of its collateral branches; to conduct, direct, encourage, support, or provide for exhaustive dental and oral research; to elevate and sustain the professional character and education of dentists; to promote among them mutual improvement, social intercourse, and good will; to disseminate knowledge of dentistry and dental discoveries; to enlighten and direct public opinion in relation to oral hygiene, dental prophylaxis, and advanced scientific dental service, and in relation to the advantages and progress of enacting and enforcing proper, just, and uniform dental laws in the several States; and collectively to represent, have cognizance of, and to safeguard the common interests of the members of the dental profession; with express powers to acquire property for the purposes of the corporation by purchase, deed, gift, bequest, or otherwise, and to hold and administer the same, and to publish dental journals, reports, and treatises."

This object is accomplished by means of an annual meeting at which scientific papers are read and clinics are presented, by the publication of *The Journal of the American Dental Association*, and through the work of various bureaus and committees as follows: Bureau of Public Relations, Library Bureau, Bureau of Chemistry, Council on Dental Therapeutics, Committee on Dental Legislation, Committee on Dental Economics, and Research Commission. The membership, as of Dec. 1, 1938, was 44,000 dentists. The secretary, Dr. H. B. Pinney. Offices are at 212 East Superior St., Chicago, Ill.

DENVER, UNIVERSITY OF. A coeducational institution of higher learning in Denver, Colo.,

founded in 1864. The registration for the autumn quarter of 1938 totaled 2959, while the enrollment in the 1938 summer session was 1359. The faculty has 257 members. The assets consisted of endowment assets of \$2,559,444 and plant assets of \$1,704,634. The income for the year 1937-38 was \$797,643. The library contained 112,748 volumes. Chancellor, David Shaw Duncan, Ph.D., LL.D.

DEPAUW UNIVERSITY. A coeducational institution for higher learning in Greencastle, Ind., under the auspices of the Methodist Episcopal Church, founded in 1837. The enrollment for the autumn session of 1938 was 1394, including 793 men and 601 women. The faculty numbered 102. The productive funds amounted to \$5,904,621, while the total gross income for the year was \$483,670. The library contained 87,747 volumes. President, Clyde E. Wildman, Ph.D.

DE SCHWEINITZ, GEORGE EDMUND. See SCHWEINITZ, GEORGE EDMUND DE.

DETROIT. See MICHIGAN.

DETROIT, UNIVERSITY OF. An institution of higher education in Detroit, Mich., under the auspices of the Roman Catholic Church and conducted by the Jesuit Fathers, founded in 1877. In the autumn of 1938 there were 3331 students registered. The summer school registration was 572. The faculty numbered 191. The endowment amounted to \$1,640,000, while the income in 1937-38 was \$709,652. There were 97,928 volumes in the library. President, the Rev. Albert H. Poetker, S.J., Ph.D.

DIESEL ENGINES. See ENGINES, INTERNAL COMBUSTION.

DIES INVESTIGATING COMMITTEE. See UNITED STATES under *Congress*; COMMUNISM; FASCISM.

DINDINGS. See FEDERATED MALAY STATES.

DIRECT PRIMARY. See UTAH.

DISARMAMENT. Notwithstanding the unprecedented armament race in 1938 there was an increasing feeling that there must be eventual limitations, a need recognized by such leaders as Mussolini, Chamberlain, and Roosevelt.

Political events in the last few years and the consequent armaments race were characteristic of the general distrust between nations and growing anxiety on the part of the various peoples. At the most conservative estimate, military expenditure in the principal countries increased by about 50 per cent between 1934 (when the work of the Conference on the Reduction and Limitation of Armaments came to an almost complete standstill) and 1937. Even at the time of greatest difficulties the possibilities of resuming previous efforts in this field were not overlooked.

In November, 1936, the Assembly of the League of Nations reconstituted the Third Committee for the study of questions relating to the reduction and limitation of armaments. The Committee had not sat for five years (1931 to 1935) because of the existence of the Conference on the Reduction and Limitation of Armaments. In re-appointing the Committee, the 1936 Assembly evidently wished to show that in spite of the temporary suspension of the work of the Conference, the obligations assumed by the states in respect of reduction and limitation of armaments by their signature of the Covenant of the League of Nations must not be forgotten.

As the 1936 and 1937 Assemblies emphasized, those obligations were of a permanent nature. The States Members of the League were still bound by Article 8 of the Covenant. In Article 23 of the Covenant the member states entrusted to the League

"the general supervision of the trade in arms and ammunition with the countries in which the control of this traffic is necessary in the common interest."

The work of preparation and research done by the League of Nations or under its auspices had been directed to the four objects mentioned in that text, namely: (1) Reduction and limitation proper, (2) Publicity of armaments, (3) Supervision of the manufacture of arms, (4) Supervision of the trade in arms.

On May 11, 1938, the Council of the League of Nations dealt with the question of fixing a suitable date for the meeting of the Bureau of the Conference for the Reduction and Limitation of Armaments. In his report to the Council, the representative of Iran, M. Bahramy, drew attention to the Bureau's decision of May 31, 1937, to the effect that it should meet again, at a date to be fixed by the Council, for the purpose of considering the replies from the governments, discussing the draft Convention on Publicity for National Defense Expenditure, and deciding upon appropriate measures.

He also pointed out that 28 countries had answered the circulars on the question of budgetary publicity sent to governments by the Secretary-General on June 19 and Oct. 23, 1937—Union of South Africa, United States of America, Belgium, Brazil, United Kingdom of Great Britain and Northern Ireland, Canada, Chile, Colombia, Czecho-Slovakia, Denmark, Estonia, Finland, France, Greece, Hungary, India, Japan, Mexico, Netherlands, New Zealand, Norway, Portugal, Rumania, Spain, Sweden, Switzerland, Turkey, U.S.S.R.

Some of the replies received were entirely negative. The great majority of states were fundamentally in favor of the draft Convention on Budgetary Publicity, but many of them stated that their definite acceptance of the draft was dependent on its being generally accepted by the governments or at least by the principal military and naval powers. The rapporteur also observed that various governments, including some of the principal military and naval powers, had not yet replied.

DISCIPLES OF CHRIST. A communion known also as the Churches of Christ and sprung from a movement for Christian unity, which arose in American Presbyterian circles at the beginning of the 19th century, under Barton W. Stone, in Kentucky, and Thomas and Alexander Campbell, in Western Pennsylvania. This is the largest religious body having its origin in America. It was fifth among Protestant communions in the United States in 1938. In policy the churches are congregational. There are six major agencies of the communion: The United Christian Missionary Society; Board of Higher Education; Association for the Promotion of Christian Unity; Pension Fund; The National Benevolent Association; Board of Church Extension; besides the missionary societies of the several states and provinces of Canada. These agencies are corporations and are related in an advisory way to the International Convention of Disciples of Christ which meets annually in the late summer or early autumn. The general missionary work of the churches is organized under The United Christian Missionary Society, with headquarters at 222 Downey Avenue, Indianapolis, Ind. Its board of managers of 120 is composed of an equal number of men and women. The foreign missionary work in 1938 embraced the Belgian Congo, Africa, China, India, Jamaica, Japan, Mexico, Philippine Islands, Puerto Rico, Argentina, Paraguay, and Tibet (Batang, on the border).

Statistics of the communion show that during the year there were 4521 baptisms in the foreign fields. The 467 mission schools had a total enrollment of 14,519. The communion maintained 10 hospitals and 16 dispensaries which gave 407,224 treatments. The Church Extension Fund amounted to \$2,861,131 with outstanding loans to 368 churches. The Pension Fund for the ministry showed assets of \$2,364,870. One hundred young people's conferences were held. Work in America was conducted among the French, Highlanders, immigrants, Negroes, Orientals, Spanish-Americans, and Mexicans. The National Benevolent Association maintained six homes for children and an equal number of homes for the aged. In 1938, 26 colleges and institutions co-operated with the Board of Higher Education. The total church membership throughout the world in 1938 was 1,789,291, a gain over 1937 of 27,513; and in the United States and Canada 1,630,393, a gain of 22,677. The Bible School enrollment for the world was 1,190,366, a gain over the previous year of 21,878, and for the United States and Canada, 1,125,543, a gain of 24,303. Contributions, missionary, benevolence, and educational, reported for the fiscal year in the United States and Canada, totaled \$5,178,923, an increase of \$2,250,447. This increase included an unusual gift of \$1,800,000 to the Christian Foundation.

Among the periodicals published by the communion are *World Call*, *Christian Evangelist*, *Christian Standard*, and *Christian Unity Quarterly*. The president of the International Convention for the year was Dr. F. D. Kershner, Indianapolis, Ind.

DIU. See PORTUGUESE INDIA.

DJEBEL DRUSE. See SYRIA AND LEBANON.

DODECANESE ISLANDS. See ÆGEAN ISLANDS, ITALIAN.

DOGS. See SPORTS.

DOMINICA. See LEEWARD ISLANDS, BRITISH.

DOMINICAN REPUBLIC. A West Indian republic occupying the eastern two-thirds of the island of Hispaniola (Haiti). The name of Santo Domingo, the capital, was changed to Ciudad Trujillo (Trujillo City) by a decree of Jan. 9, 1936.

Area and Population. The area is 19,332 square miles and the population was estimated on Dec. 31, 1936, at 1,544,549 (1,479,417 at the census of May 13, 1935). The 1935 census showed 1,406,317 Dominicans, 52,657 Haitians, 9272 British subjects (mainly British West Indians), 3221 Puerto Ricans, 1572 Spaniards, 1467 Americans, 1242 Arabs, 882 French, 716 Netherlands, 563 Cubans, 393 Italians, 312 Chinese, 129 Germans, and 694 of other nationalities. Populations of the chief cities at the 1935 census were: Ciudad Trujillo, 71,297; Santiago de los Caballeros, 33,919; San Pedro de Macoris, 18,889; Puerto Plata, 11,777; La Romana, 10,395; San Francisco de Macoris, 10,305; La Vega, 9342. About 40 per cent of the population is white (mainly of Spanish descent), 40 per cent of mixed white, Indian, or Negro blood, and 20 per cent Negro. The language is Spanish.

Religion and Education. About 97 per cent of the inhabitants are Roman Catholics. There were 20,687 Protestants and other non-Catholics in 1935. About 20 per cent of the adult inhabitants were able to read and write in 1935. The government in 1937 supported 739 primary schools, 3 normal schools, 13 vocational schools, and 15 special schools, with a total enrollment of 103,250 pupils. The enrollment in private and semi-official schools was 8270. A Chilean educational mission engaged by the Dominican Government arrived at Ciudad Trujillo

Jan. 27, 1938, to survey the educational system and make recommendations for its reorganization.

Production. Agriculture is the main occupation, supporting about 80 per cent of the population. At the 1935 census there were 209,670 farms and the area under cultivation was 946,565 hectares (hectare equals 2.47 acres). Production of cane sugar, the chief crop, was 453,803 metric tons in 1937; cacao (exports), 19,625,471 kilograms (kilo equals 2.68 lb.); coffee (exports), 11,049,142 kilos; yucca starch and tapioca (exports), 3,202,337 kilos. Coconuts, rice, bananas, potatoes, beans, onions, peanuts, pineapples, and citrus fruit are other products. At the 1935 livestock census there were 913,128 cattle, 852,973 swine, 373,204 goats, 34,824 sheep, 44,528 mules, 265,881 horses, 137,268 asses. The forests yield mahogany, espinillo, lignum-vitæ, cedar, and other cabinet and dye woods. In 1937, 245 kilos of placer gold valued at \$234,856 were exported. There were 1818 industrial establishments in 1937 with an average monthly employment of 24,576 workers and wages averaging 565,942 pesos monthly. In the same year 8628 tourists, most of them from the United States, visited the republic.

Foreign Trade. Imports in 1937 were valued at \$11,691,896 (\$9,926,567 in 1936) and exports at \$18,120,471 (\$15,149,908 in 1936). Imports in 1937 in order of value were: Cotton and cotton manufactures, \$2,246,003; machinery and apparatus, \$858,763; chemicals and pharmaceutical products, \$724,902; jute bags, \$440,269. The value of the chief exports was: Sugar and its by-products, \$11,640,877; cacao, \$2,523,729; coffee, \$1,765,055. The 1937 imports came mainly from the United States, \$6,115,157 (52 per cent); Japan, \$1,478,881 (13 per cent); Germany, \$904,767 (8); United Kingdom, \$777,073 (7). Exports went principally to the United States, \$5,832,213 (32 per cent); United Kingdom, \$5,430,447 (31 per cent); France, \$2,594,774 (14); Morocco, \$1,076,853 (6).

Finance. Government revenues in 1937 totaled \$11,561,868 (\$10,865,000 in 1936) and expenditures were \$11,390,000 (\$10,728,000 in 1936). Of the receipts, \$8,618,124 came from internal revenues and \$2,943,744 from customs receipts. On Dec. 31, 1937, there was a surplus of \$189,222 in the general funds of the Treasury. The 1938 budget estimates were: Receipts, \$11,693,770; expenditures, \$11,682,280. The monetary unit is the peso, equivalent to one U.S. dollar. Interest and amortization payments on the public debt in 1937 amounted to \$956,820. The funded debt on Dec. 31, 1937, amounted to \$15,740,000 (\$16,292,000 on Dec. 31, 1936) and there was an internal floating debt of about \$2,600,000.

Transportation, etc. There are 149 miles of public carrier railway lines and about 650 miles of private lines on sugar centrals. First-class highways extended about 929 miles in 1937 (number of automobiles, 2559). Five highways totaling 77 miles were completed during 1937 and work was begun on 352 miles of additional roads. San Pedro de Macoris is on the Pan American Airways circuit. Port works permitting large ocean liners to enter the harbor at Trujillo City were completed in 1936. In 1937 a total of 968 vessels of 1,515,616 registered tons entered the ports of the republic and 1071 vessels of 1,674,811 tons cleared.

Government. The Constitution of June 20, 1929, revised as of June 9, 1934, vests executive power in a President elected for four years by direct vote. There is a bicameral Congress consisting of 13 Senators and 35 Deputies, elected for four years by direct suffrage. Vacancies between elections are filled by each chamber from a list of three names

submitted by the head of the political party with which the retiring member was connected. However, Gen. Rafael Leonidas Trujillo Molina's Dominican party was the only political organization permitted in the republic. Trujillo assumed office as President of the republic on Aug. 16, 1930, and was re-elected May 16, 1934, unopposed, for another four-year term expiring Aug. 16, 1938. For developments in 1938, see *History*.

HISTORY

Presidential Election. The renewed foreign criticism of President Trujillo's dictatorship, provoked by the massacre of some thousands of Haitians in the Dominican Republic late in 1937, was apparently a factor leading Trujillo to announce in a radio broadcast on Jan. 8, 1938, that he would not stand for re-election. He named as his candidates for President and Vice-President, respectively, Dr. Jacinto B. Peynado and Dr. Manuel de Jesús Troncoso de la Concha. Dr. Peynado had served under Trujillo since the latter's accession to power in 1930 and at Trujillo's direction was elected Vice-President in 1934. He had displayed his devotion to the dictator by having erected on his home a huge electric sign reading, in Spanish, "God and Trujillo." Dr. Troncoso, who was rector of the University of Santo Domingo by Trujillo's appointment, was likewise an unquestioning supporter of the dictator.

In his address President Trujillo declared he was retiring from public life "only conditionally." He made it plain that he planned to continue his dictatorship in the following paragraph, concluding his speech:

I shall be a factor for order, peace, labor, and progress, thus establishing, through the edifying example of my private life—as I have already done from the highest position in public life—unequivocal proof of my complete subordination to the highest interests of the common good. Watchful sentinel of the public welfare, I shall dedicate all my efforts toward the preservation of constitutional order in the strictest sense of the word; and I shall never permit, under any circumstances, that the inestimable blessing of peace which I have given to the Dominican family, and which has always been my greatest preoccupation as a citizen and ruler, shall be unjustly altered.

The President's candidates for President, Vice-President, for Congress and the various provincial and municipal offices were duly nominated by his Dominican Party, the only political organization in the country. No other candidates dared to present themselves and only the Dominican Party nominees appeared on the ballot. As the electoral law forbade voters to write in names on the ballots, President Trujillo stated on April 15, a month before the election, that he considered his candidates already elected. With only members of the Dominican Party permitted to vote, the Trujillo Government's candidates received 318,779 ballots in the elections of May 16, according to an official announcement. This was 92 per cent of the 345,174 registered voters.

The elections were declared "legal and valid" by the Trujillo-controlled central electoral committee late in May and by the outgoing Congress on June 21. On June 23 it was announced that General Trujillo would occupy the post of Foreign Minister in the Peynado Cabinet. Drs. Peynado and Troncoso were inaugurated as President and Vice-President, respectively, on August 16. In his inaugural address, President Peynado pledged himself to safeguard Dominican interests with the help and guidance of General Trujillo.

Opposition Activities. With the question of the Presidential succession determined in accord-

ance with his wishes, President Trujillo on July 3 publicly invited the establishment of other political parties. His political opponents, most of whom were in exile, ignored the offer, fearing to return and place themselves in his power. Several thousand Dominican political exiles in New York, Puerto Rico, Mexico, and Venezuela continued their efforts to organize for Trujillo's overthrow. Dr. Angel Morales, former Dominican Minister to the United States and leader of one of the anti-Trujillo factions in the United States, spent two months in San Juan, Puerto Rico, early in 1938, enlisting the support of exiles residing there for an anti-Trujillo movement headed by himself. A Congress of Dominican Political Exiles was proposed by Dominican refugees in Mexico early in the year and was approved by anti-Trujillo groups in Venezuela and Puerto Rico.

Francisco Girona, author of a book in Spanish entitled *The Misdeeds of the Bandit Trujillo*, was convicted in a San Juan municipal court on Jan. 16, 1938, of criminally libeling the Dominican President. The suit was brought by the Puerto Rico Department of Justice. About the same time immigration officials in Puerto Rico arrested for illegal entrance a young Dominican exile, Mario Gilberto Ruso, whose harrowing tale of his imprisonments and other experiences as an opponent of President Trujillo tended to substantiate the charges of murder and ruthless terrorism made against the latter by Dominicans and foreigners.

Settlement with Haiti. The serious dispute that broke out between the Dominican Republic and Haiti over the killing on Dominican soil of some thousands of Haitians during the last three months of 1937 was peacefully adjusted by a treaty signed Jan. 31, 1938, at Washington under the auspices of the Permanent Commission established by the inter-American conciliation treaties (see 1937 YEAR BOOK, p. 214, for background of the settlement).

The commission of investigation and conciliation appointed by the Dominican and Haitian Governments in December, 1937, met in Washington commencing January 19 and soon reached a compromise settlement. It was incorporated in the Final Act of the Permanent Commission, signed Jan. 31, 1938. Under the agreement, the Dominican Republic agreed to pay Haiti \$750,000 as full compensation for injuries and damage suffered by Haitian nationals in the Dominican Republic. The Dominican Government formally expressed regrets for the killings, agreed to prosecute and punish those responsible for them under Dominican laws and to give full publicity to such punishment. It also agreed to permit Haitians who fled across the frontier to resume possession of immovable property abandoned in the Dominican Republic.

Both governments pledged themselves to control the movement of their nationals across the frontier, to repatriate nationals of each state found to be illegally in territories of the other or declared to be undesirable, and to punish those of their nationals who committed illegal acts in the other state and then took refuge in their native land. Regulations for carrying out these reciprocal obligations were to be set forth in a *modus operandi* to be concluded immediately after ratification of the agreement. The governments also agreed to conclude another pact limiting their armaments to the requirements of their security. The treaty was formally ratified by the Dominican Republic on February 10 and by Haiti on February 27. The Dominican Republic made the first payment of

\$250,000 to Haiti on February 28. See HAITI under History.

Other Events. The Dominican Government continued its efforts to secure a revision of the fiscal convention of 1924 with the United States. It was also the first Latin American government to avail itself of the new United States law permitting the Washington Government to lend technical experts to other American governments. Three United States immigration experts arrived in the Dominican Republic in August to advise the government in connection with its efforts to attract white immigrants to unoccupied lands in the western districts near the Haitian border. During the European crisis over Czecho-Slovakia the Dominican Government on September 19 notified the U.S. State Department that in case of a world conflagration it would co-operate wholeheartedly and loyally with the United States at all times. A project for an inter-American League of Nations, drafted jointly by the Dominican and Colombian Governments, was submitted to the Eighth Pan American Conference at Lima, Peru, in December. See PAN AMERICAN CONFERENCE.

DONALDSON, HENRY HERBERT. An American neurologist, died in Philadelphia, Jan. 23, 1938. Born in Yonkers, N. Y., May 12, 1857, he graduated from Yale University in 1879 and the Sheffield Scientific School in 1880. He took his medical degree at the College of Physicians and Surgeons, Columbia, in 1881. A fellow of Johns Hopkins University (Ph.D., 1885), he was appointed instructor in biology there in 1883-84 and after study abroad (1886-87), associate professor of psychology (1887-89). During 1889-92 he was assistant professor of neurology at Clark University, and subsequently professor and head of the department of neurology (1892-1906) and dean of the Ogden Graduate School of Science (1892-98) at the University of Chicago.

Invited to serve on the Scientific Advisory Board of Wistar Institute in 1905, he was selected unanimously by the Board as the man best fitted to organize research in neurology, and in 1906 he became professor of neurology and director of research at the Institute. At about this time he began his efforts to establish a uniform stock of white rats for laboratory purposes. There had been no standardized animal for comparison with human beings and Dr. Donaldson's researches resulted in the development of a strain of Albino rat. In 1915 he published *The Rat: Reference Tables and Data* (enlarged ed., 1924), which became a standard work on the subject.

He studied the endocrine glands and the thyroid, but most of his work was done in connection with the brain and the nervous system, with special reference to the growth and the changes due to age. One of the world's authorities on these subjects, in 1895 he published *The Growth of the Brain*, and in 1896 "The Physiology of the Central Nervous System," in *An American Text-Book of Physiology*.

Dr. Donaldson received honorary degrees from Clark and Yale Universities; was president of the Association of American Anatomists (1916-18), of the American Neurological Association (1937), and of the neurological section of the American Medical Association (1937), and was elected to the National Academy of Sciences in 1914. He delivered the presidential address on "The Nervous Skeleton," as head of the last-named organization. On May 12, 1932, a special anniversary number

of the *Journal of Comparative Neurology* was dedicated to him.

DRAMA. The New Year's initial contribution to the season of 1938 was a characteristically rowdy and boisterous revival of Thomas Dekker's Elizabethan comedy, *The Shoemaker's Holiday*, done in a modern adaptation of the fashion of its period by the youthful Mercury Theater organization under the direction of Orson Welles, which was received with considerably more favor than the next arrival, likewise from England but of more recent vintage. This was J. B. Priestley's *Time and the Conways*, the first of his dramatic speculations in the realm of time and the theory that past, present, and future may be coexistent. Its brief sojourn suggested that New York does not enjoy being puzzled by its drama, even when so admirable a player as Dame Sybil Thorndike heads the cast. On the same evening, for the second occasion in three days, the Mercury Theater was again sponsor, this time for a novel proletarian musical work, *The Cradle Will Rock*, by Marc Blitzstein, strikingly revolutionary to the extent that it managed to do without scenery, costuming, stage properties, or vocal talent, and quite successfully too, with the composer himself appearing also as director, announcer, and part of the cast. Again success and failure were to alternate for this was followed by another and less welcome novelty, a comedy entitled *The Greatest Show on Earth*, wherein, for a very short time, the performers enacted the roles of circus animals. Next came a novel variation of the "crook" play, *Stop-Over*, by the Messrs. Matt and Sam Taylor, finely acted by Arthur Byron, Sidney Blackmer, Muriel Kirkland, and Alice Ann Baker, which well deserved a far longer career than fell to its lot. But a much more commonplace item, *All That Glitters* by John Baragwanath and Kenneth Simpson, as staged by George Abbott, subsisted precisely three times as long.

Late January and early February added to the roster four of the year's outstanding successes in Ian Hay's amusing comedy of English boarding-school life, *Bachelor Born*, with Frederick Leister, Aubrey Mather, and Phoebe Foster pleasantly occupied therein; Paul Vincent Carroll's delicate Irish drama of spiritual values, *Shadow and Substance*, with an excellent performance by Sir Cedric Hardwicke, an exquisitely sensitive one by Julie Haydon and a capably humorous one by Sara Allgood in the more prominent roles; a most engaging fantasy of childhood, old age, and death by Paul Osborn entitled *On Borrowed Time*, adapted from a novel of Lawrence Edward Watkin, played most ingratiatingly by Dudley Digges, Dorothy Stickney, Frank Conroy, and an extraordinarily gifted and delightful child of seven, Peter Holden, who at one time or another during the long run of the piece was replaced by at least two other youngsters of similar age; and still another fantasy in Thornton Wilder's unique and fascinating cross section of everyday life over a period of years called *Our Town*, played without scenery and with but a few simple accessories, yet stirring to the imagination, especially as portrayed by Frank Craven, his son, John Craven, Martha Scott, Jay Fasset, Evelyn Varden, Thomas W. Ross, Helen Carew, and various other well-chosen actors. To *Our Town* was awarded the Pulitzer Prize of the season.

Along with these came such minor, and less durable, pieces as a dramatization of Erskine Caldwell's book, *Journeyman*, Robert Ardrey's comedy of waterfront life, *How to Get Tough About It*,

employing the talents of Myron McCormick, Katherine Locke, Kent Smith, and George Nash, and the first work in several years from the pen of Frederick Lonsdale, *Once Is Enough*, which scored over a hundred performances with Ina Claire to crystallize its cleverness. An imported English production of T. S. Eliot's poetic *Murder in the Cathedral*, though deemed superior in at least a few respects to the Federal Theater's earlier offering of the same work, proved less effective in others and not enough of a novelty to survive for more than a very short period. And but slightly happier was the lot of *Casey Jones*, a second drama by Robert Ardrey, inspired by the old song of the same name, presented by the Group Theater. Even the combination of a comedy by the usually reliable S. N. Behrman and a Theater Guild production somehow failed to score a hit, though undeniably clever and acted most entertainingly by Alexander Woolcott, Leslie Banks, Claudia Morgan, and Theodore Newton; *Wine of Choice* was its title. Oddly enough a less-deserving item, *Schoolhouse on the Lot*, in which Joseph A. Fields and Jerome Chodorov lampooned the moving picture industry from the child prodigy angle, fared better if only by a narrow margin.

Late in March this series of disappointments was interrupted by the triumphant return to the theater, after a considerable absence, of Ethel Barrymore, appearing to extraordinary advantage as the centenarian matriarch in *Whiteoaks*. Mazo de la Roche's dramatization of her own saga of the Whiteoaks family of Jalna. Further interest accrued to the occasion by virtue of the excellent support given by Stephen Haggard, Robert Shayne, Lenore Chippendale, Wyrley Birch, and Reynolds Denniston. Then came a more than commonly absorbing play by Hardie Albright, *All the Living*, a portrayal of the inner workings, rivalries, politics, and romances of a State asylum for the insane, adapted from a story by Dr. Victor R. Small, *I Knew 3000 Lunatics*. Next, after their long run in *Amphitryon 38*, dating from the fall of 1937, Alfred Lunt and Lynn Fontanne staged, under Theater Guild auspices, an engaging revival of Anton Chekhov's *The Sea Gull* in a translation by Stark Young.

April witnessed the opening of the summer season as represented by an hilarious light comedy of high-school goings-on, *What a Life*, written by Clifford Goldsmith, produced and enlivened by George Abbott, a pronounced success. Other evidences of the approach of warm weather were two attempted, but ill-starred, revivals, one *The Merry Wives of Windsor*, subsisting for four performances, the other, Ibsen's *The Wild Duck*, for three; followed by two additional revivals that fared decidedly better—Somerset Maugham's *The Circle*, with Grace George and Dennis Hoey in the roles made famous in the earlier incarnation by Mrs. Leslie Carter and John Drew, and Tallulah Bankhead, Bramwell Fletcher, and John Emory comparably happily cast; and Bernard Shaw's *Heartbreak House*, done by the Mercury Theater organization. With May there arrived an ironical comedy, *Washington Jitters*, concocted by John Boruff and Walter Hart from a novel by Dalton Trumbo, which, though offered by the Theater Guild jointly with the Actors Repertory Company and concerned with the popular sport of lampooning tendencies in the nation's capital, nevertheless ran its course in a brief three weeks. But the same month launched a couple of items better suited to the time of year, both musical, of which one promptly joined the ranks of the year's outstanding successes while the

other merely remained for the summer. These, respectively, were the Rodgers and Hart adaptation of a Hungarian fantasy by John Vaszary, *I Married an Angel*, with Dennis King, Vera Zorina, and Vivienne Segal most agreeably employed, and a moderately old-fashioned operetta, *The Two Bouquets*, by Eleanor and Herbert Farjeon, which definitely brought to a close the producing season of 1937-38.

Meantime, during these first five months of 1938, the Federal Theater Project had been continuing its experiments with the drama, in the course of which it had staged several pieces rating inclusion in a permanent record—*One-third of a Nation*, by Arthur Arent, a "Living Newspaper" survey of the housing problem; *Haiti*, a vivid work for the Negro division by William DuBois, with incidental music; E. P. Conkle's biographical portrait of the youthful Abraham Lincoln, *Prologue to Glory*, in which the central character was enacted most creditably by Stephen Courtleigh and that of Ann Rutledge by a present-day representative of the family with the same name; and Bernard Shaw's *On the Rocks*.

Activities were resumed in the metropolis in September with a revival of the old Winchell Smith-Frank Bacon triumph, *Lightnin'*, and with the veteran Fred Stone replacing the late Mr. Bacon in the so-called title role quite delightfully, though for but a brief run. Then came Elizabeth B. Ginty's diverting melodrama, *Missouri Legend*, wherein the author displayed her lingering admiration for the notorious outlaw of more romantic days, Jesse James, and capital portrayals were given by Dean Jagger, as the bandit, Russell Collins, Mildred Natwick, Dorothy Gish, José Ferrer, and others under the able direction of Guthrie McClintic. Next, a none-too-credible musical, despite its Cole Porter score, *You Never Know*, revamped from a Gertrude Lawrence vehicle of some years back entitled *Candlelight*; which, in turn, was followed by what promptly developed into one of the most popular amusements of the season—a hilarious vaudeville mélange called *Hellzapoppin*, conceived, presumably, and headed by the team of Olsen and Johnson. Harold J. Rome and Charles Friedman, who contributed in 1937 the topical revue, *Pins and Needles*, which remained current throughout 1938, attempted with but indifferent success to score a comparable hit with *Sing Out the News*. Nor did the initial offering, for the autumn, of the Theatre Guild, *Dame Nature*, find all the favor it really deserved.

Clare Boothe, on the other hand, whose vitriolic *The Women* had enjoyed a run of a year or more, seemed to be on the road toward similar success with her *Kiss the Boys Good-Bye*, an equally bitter and deliberately clever arraignment of certain types of humanity, this time of both sexes. Oddly enough, the combination of Moss Hart and George S. Kaufman failed to achieve its customary popularity for *The Fabulous Invalid*, a novel and highly elaborate production in which the Theater itself figured as protagonist—the Theater which is so often reported to be dying but somehow never dies—and whose action included brief, often nostalgic, reminders of the high spots of the American stage in the first 30 years of the present century. Another surprise was the marked favor that fell to the lot of Leslie and Sewell Stokes' tactfully frank biographical play, *Oscar Wilde*.

Genuine success attended also Maurice Evans' courageous experiment of presenting *Hamlet* in unabridged form in a performance starting at

6:30 in the evening and divided by an intermission for dinner. The gain in clarity, as well as in sustained interest, was remarkable, and, strange to relate, the action gave no impression of being unduly long nor ever grew tedious. Mr. Evans himself disclosed an altogether admirable rendering of the title part, with an uncommonly ingratiating Ophelia in Katherine Locke, an excellent King and Queen in Henry Edwards and Mady Christians, and with Whitford Kane as First Gravedigger and Augustin Duncan as the Ghost. But the reverse fortune befell the American presentation of J. B. Priestley's second dramatic venture into the new theories of time in the abstract, *I Have Been Here Before*, which fared even worse than his *Time and the Conways* of the preceding year. Meanwhile a new producing firm consisting of five of the best-known American playwrights was starting life under the happiest of auspices with a truly notable biographical drama by one of its own members, Robert E. Sherwood, staged by another, Elmer Rice. *Abe Lincoln in Illinois* was its title and, graced by a realistic and spiritually beautiful portrayal of Lincoln through his formative years by Raymond Massey, it promptly was accorded the rank of most outstanding new dramatic work of the fall. Of its expertly chosen cast, special credit goes also to Adele Longmire for her brief but charming bit as Ann Rutledge, and to Muriel Kirkland for her acting of the unsympathetic role of Mary Todd, later Mrs. Lincoln.

Knights of Song, a play with music, the idea of which was to convey an historical sketch of the long association of the Messrs. Gilbert and Sullivan, illustrated and punctuated by excerpts of varying length from their operettas, failed to arouse the enthusiasm that might have been expected from a public that flocks in droves to even second-rate presentations of the operettas themselves; and this despite a capital impersonation of Gilbert by the English comedian, Nigel Bruce, an excellent one of Sullivan by John Moore, and the incidental presence of Natalie Hall, who sang *The Moon and I* delightfully. But very shortly after the launching of the first production of the new Playwrights Company, another member, Maxwell Anderson, scored comparably with *Knickerbocker Holiday*, a musical comedy, the airs supplied by Kurt Weill, in which unaccustomed medium Walter Huston disported himself most engagingly in the role of Peter Stuyvesant. *Madame Capet*, on the other hand, an adaptation by George Middleton from the French of Marcelle Maurette, lasted scarcely long enough to be recorded here, notwithstanding a very charming portrayal of the title part, otherwise Queen Marie Antoinette, by Eva LeGallienne; and a strikingly similar fate befell another work on a related subject, a resuscitation by the Mercury Theatre of Georg Buchner's musty old *Danton's Death* in an English translation.

With November came one of those sure-fire musicals about whose popularity there is never any question provided the cast is right. And for *Leave It to Me*, fashioned by Samuel and Bella Spewack from one of their own comedies of reasonably recent vintage entitled *Clear All Wires* and equipped with a Cole Porter score, the cast was all that could be desired, comprising in its upper register William Gaxton, Victor Moore, Sophie Tucker, and Tamara. Plays by French authors, however, continued to fare ill, even though Jacques Deval was writing, in *Lorelei*, in comparatively unfamiliar English, and even despite the strongly anti-Nazi motive and the presence of Philip Merivale in the

chief role. In November, also, Shakespeare figured once more, though indirectly and merely as the source of the plot of a work for which George Abbott, Richard Rodgers, and Lorenz Hart assumed most of the responsibility and received most of the credit—*The Boys from Syracuse*, a ribald and outrageously funny musical version of *The Comedy of Errors*, with Jimmy Savo as its headliner, playing one of the twin Dromios. For its initial offering of the fall season the Group Theatre turned again to its principal dramatist-member, Clifford Odets, winning high praise for its staging of his comedy of contemporary local life, *Rocket to the Moon*. Then another musical, *Great Lady*, by Earle Crooker and Lowell Brentano, after glowing advance publicity, proved to be nothing more than an exceptionally meretricious and utterly unimportant item exploiting the amorous tendencies of the famous Madame Jumel, impersonated for the very brief duration of the piece by Norma Terris. The month closed with the third production of the Playwrights Company, Elmer Rice's *American Landscape*, a dramatic plea for the maintenance of Yankee enterprise and traditions against all assaults from beyond the seas, for which the author developed a new theatrical convention, that of introducing figures of the past as incidental characters in substantial as opposed to ghostly form.

In December Philip Barry disclosed what was eventually conceded to be his most radiant play thus far, albeit a somewhat obscure and baffling one, introspective, slightly allegorical, and concerned with spiritual values. *Here Come the Clowns* was its title, and the same theme in novel form was presently issued as *War in Heaven*. Eddie Dowling not only sponsored the presentation but also enacted its central character, with commendable support from Russell Collins, Leo Chazel, Madge Evans, Hortense Alden, and several others. *Spring Meeting*, by M. J. Farrell and John Perry, a pleasantly diverting new English comedy in an Irish setting which had been delighting London since spring, was brought to New York with a cast headed by Gladys Cooper, A. E. Matthews, and Jean Cadell, and including, from the Irish Players, Arthur Shields, Shelah Richards, and Aideen O'Connor. The piece bore transplanting exceedingly well. Just before Christmas another new producing combination brought forth a welcome revival of Sutton Vane's beautiful, reassuring play about death, *Outward Bound*, first seen some 14 years back with a cast nearly all the members of which not already famous have since attained high distinction. The cast of the revival was scarcely less imposing, including Laurette Taylor, returning to the stage after a considerable absence, Florence Reed, Alexander Kirkland, Helen Chandler, Bramwell Fletcher, Morgan Farley, Vincent Price, Louis Hector, and Thomas Chalmers. And to the holiday gaiety Thornton Wilder, whose *Our Town* had in the spring been awarded the Pulitzer Prize, contributed a colorful prankish farce, *The Merchant of Yonkers*, which he claimed was based on an old Viennese work in turn derived from a still older English comedy, conceivably of Restoration vintage, though in its new form both clean and hilarious. Jane Cowl galloped delightfully through the leading role of this piece, with spirited support from Percy Waram, June Walker, Tom Ewell, John Call, and Nydia Westman. The year closed with an echo, if only a fleeting one, from the summer theaters, a regular professional offering of Arnold Sundgaard's *Everywhere I Roam* with finishing touches by Marc Connelly.



Photo by *De Mirjan*—Courtesy, *The Playwrights' Company*
Raymond Massey as

"ABRAHAM LINCOLN," IN "ABE LINCOLN IN ILLINOIS"

DRAMA



Photo by *Alfredo Valente*—Courtesy, *Jed Harris*
Dorothy McGuire, Frank Craven, and John Craven in the wedding scene
 of
 "OUR TOWN"



© W.D.P. Courtesy of Walt Disney Enterprises

"SNOW WHITE AND THE SEVEN DWARFS"

Walt Disney's first full length feature production—Done in Technicolor



Robert Donat (center) in a Scene from the Metro-Goldwyn-Mayer Picture

"THE CITADEL"

MOTION PICTURES

In Great Britain, or, more specifically, London and its environs, where the practice of offering test presentations of promising plays in the experimental theaters, followed by regular productions if their reception warrants, tends toward fewer expensive casualties, the year showed activity comparable with that recorded for New York. Its first outstanding feature was a distinguished performance of Chekhov's *Three Sisters* by John Gielgud and the permanent acting company established by him for revivals of the classics on a definitely limited run basis. Mr. Gielgud himself played Vershinin and the sisters were portrayed by Gwen Ffrangcon-Davies, Peggy Ashcroft, and Carol Goodner. *The Innocent Party*, by H. M. Harwood and Laurence Kirk, won rather more praise on the score of its brilliant dialogue than for the work of Mary Ellis in the chief role. Early in February there was public recognition of the centenary of the birth of Henry Irving. Shortly thereafter, *Othello* was staged at the Old Vic with Ralph Richardson, Laurence Olivier, and Curigwen Lewis in the principal parts, and Marie Tempest appeared in a characteristic role in *Mary Goes to See*, by Rosemary Casey and B. Iden Payne. Geoffrey Kerr disclosed another new comedy of the quiet "family" type in *Black Swans*. The dramatic version of Sinclair Lewis' *Dodsworth*, so successful in America in its native idiom, suffered in London from being done by strictly English players, even though they included Philip Merivale and Gladys Cooper.

March brought an insufficiently interesting two-character piece, *Duet by Accident*, in which Beatrix Thomson figured as author as well as half of the cast; also Thomas Browne's *Plan for a Hostess*, whose notably clever lines were spoken mainly by Yvonne Arnaud, Adrienne Allen, and Ronald Squire. Noel Coward's *Operette*, though much heralded, proved to be a half-hearted romance of the Edwardian period (circa 1906) and such popularity as it achieved was due largely to the performances of Peggy Wood, Griffith Jones, Fritz Massary, and the experienced Irene Vanbrugh. James Bridie's *The King of Nowhere* at the Old Vic presented Laurence Olivier and Marda Vanne in an interesting character study with a double motive. Robert E. Sherwood's *Idiot's Delight*, with Raymond Massey and Tamara Geva in the parts taken in the United States by Alfred Lunt and Lynn Fontanne, enjoyed marked favor and a run eventually interrupted by the autumn war scare. Distinct success fell also to the lot of *Nine Sharp*, an acutely satirical revue by Herbert Farjeon. An English adaptation of Karel Capek's *Power and Glory* disclosed a powerful study of a physician (played by Homolke) whose extraordinary and unique skill enables him to dictate to a dictator. Maxwell Anderson's debut in London as a playwright occurred when his *Masque of Kings* was produced with Eric Portman as Crown Prince Rudolph and met with pronounced approval. *The Painted Smile*, a drama of the circus, introduced a promising new writer for the stage in William P. Templeton. John Gielgud and company closed their season with an uncommonly intelligent and satisfying presentation of *The Merchant of Venice* in which Mr. Gielgud was a modestly subordinated Shylock, Miss Ashcroft a charming Portia, and Richard Ainley the Bassanio.

Late spring displayed Sir Seymour Hicks in a skilful though unconventional rendering of a character resembling, to some extent, the amazing Coster-Musica personality who was, within a few months, to astound America. The play, from the

French of Paul Armont and Leopold Marchand, was entitled *Money Talks*. At about the same time the aforementioned Alfred Lunt and Lynn Fontanne invaded, and delighted, London with the Behrman adaptation of Jean Giraudoux' *Amphytrion 38*, Richard Whorf as Mercury likewise participating in the resulting acclaim. And a serious, passionate drama on the topic of the totalitarian state, *Glorious Morning* by Norman Macowan, with Jessica Tandy figuring as a kind of modern Joan of Arc, was cordially received though destined to summary failure later when produced in New York. *Spring Meeting*, a new comedy by M. S. Farrell and John Perry with an Irish setting, though lacking any particular distinction, proved sprightly, amusing, and genuinely successful as staged by John Gielgud with Arthur Sinclair in an important butler role. *The Sun Never Sets*, a spectacular Drury Lane melodrama fashioned from the late Edgar Wallace's West African Sanders tales, while characteristically engrossing, was nevertheless regarded as wasteful of the special talents of Leslie Banks and Edna Best. The season virtually ended with Ivor Novello's entertaining study of a temperamental actress, *Comedienne*, played by Lilian Braithwaite, and another American importation, Clifford Odets' *Golden Boy*, which succeeded despite its highly localized idiom.

The annual Summer Drama Festival at Malvern exhibited five new works of note:—Bernard Shaw's *Geneva*, a satire of dictators on trial, conceded, however, to contain little that its author had not previously said in other works and usually in more pungent fashion; *Music at Night* by J. B. Priestley, an interesting venture in a new and original form of dramatic expression; C. K. Munro's *The Coronation at Mrs. Beam's*, clearly a sequel of a timely sort to his earlier *At Mrs. Beam's*; Lord Dunsany's quietly ironic *Alexander*; and James Bridie's thoughts on Judgment Day, *The Last Trump*. A creditable record for any festival.

Midsummer contributed also a moderately entertaining comedy about a resourceful orphan damsel, *Little Stranger*, by Katharine Hilliker and H. M. Caldwell, not the play of the same title done in America some years back; besides a series of open-air performances of classic dramas ranging from Aristophanes to Shakespeare with Gladys Cooper and Philip Merivale as the stars. August brought *She, Too, Was Young*, an agreeable and popular, though leisurely, study of the mother and daughter relationship in three generations of the Victorian era, by Hilda Vaughan (Mrs. Charles Morgan) and Laurier Lister, while in the very next month Charles Morgan himself made his bow as a playwright with *The Flashing Stream*, a serious drama akin to the Ibsen school, in which the chief roles were enacted by Godfrey Tearle and Margaret Rawlings. But, meanwhile, J. B. Priestley had also been making a debut—as producer, in association with Basil Dean, of R. C. Hutchinson's *Last Train South*, a melodrama in a Russian setting, engaging the talents of Flora Robson and Peter Murray Hill.

September remained active until threatening war cast its shadow over the theaters as over everything else. Its offerings included *Thou Shalt Not* —, an English version of Zola's *Thérèse Raquin*, in which Cathleen Nesbitt figured as Thérèse and Nancy Price as her Nemesis, old Mme. Raquin; Dodie Smith's placidly uneventful *Dear Octopus*, depicting the inter-reactions of a family group of four generations when assembled to celebrate the golden wedding of the senior couple, with Marie

Tempest, John Gielgud, Angela Baddeley, and Valerie Taylor setting off the author's excellent characterizations and dialogue to the best possible advantage; Emlyn Williams' honestly appealing Welsh tale, *The Corn Is Green*, in which he himself and Dame Sybil Thorndike portrayed the principal roles; Mr. Gore-Browne's *Can We Tell?*, a long, episodic account of a couple's progress through the marriage state, Jack Hawkins and Edna Best appearing as the protagonists; and *Official Secrets*, an ingenious spy play by Jeffrey Dell.

But with the war scare allayed, at least temporarily, the autumn and early winter season went on to increasing activity. With Mr. Gielgud occupied in *Dear Octopus*, a new "permanent" acting company under the direction of Michel Saint-Denis, erstwhile of the French organization known as Les Quinze, inaugurated its efforts with *The White Guard*, an anglicized version of Bulgakov's *The Days of the Turbins*, a drama of realistic character drawing but of meager action, once banned in its native Russia but later a popular item in the repertory of the Moscow Art Theatre. Peggy Ashcroft figured in the London representation as the only woman in the cast. The prolific Mr. Priestley abandoned, for a time anyway, all theorizing and pioneering and contributed a farce-comedy, *When We Are Married*, with a Yorkshire setting of the period of his own early life in that region. *Goodness, How Sad!*, by the same Robert Morley who was even at the moment being acclaimed in New York for his acting in the title role of *Oscar Wilde* as well as for his Louis XVI in the screen play, *Marie Antoinette*, proved a skilfully unhackneyed comedy of stage life as depicted by the cousins, Jill and Judith Furse and Hugh Sinclair. But London, unlike her sister metropolis across the Atlantic, failed utterly to take to her heart the fantasy on old age and death, *On Borrowed Time*. Richard Bird won credit for his acting in a psychological study of a murderer, *They Fly by Twilight*, the work of Paul Dornhorst, based on the notorious Crippen case. *Elisabeth of Austria*, a biographical drama by two sisters-in-law, Katriona and Elisabeth Sprigge, was regarded as best when its authors relied upon imagination instead of merely recounting historical occurrences. The Viennese Wanda Rotha portrayed the Empress, Gyles Isham was the Franz Josef, and Richard Ainley appeared as Elisabeth's cousin, Ludwig of Bavaria. A. A. Milne, long quiescent, disclosed a new and characteristically whimsical item, *Gentlemen Unknown*, charming in its dialogue but not over-convincing in other respects. Basil Sydney figured to fine advantage as Sir Thomas More, Chancellor of Henry VIII and famed for his *Utopia*, in Morna Stuart's *Traitor's Gate*, which dealt with the circumstances leading up to his tragic fate. James Laver contributed a clever, if disappointing, speculative drama on the personalities of Byron, Shelley, and Keats, based on the assumption that none of them actually died as and when history records. It was called *The Heart Was Not Burned*. Michel Saint-Denis' organization offered a most creditable revival of *Twelfth Night* with Miss Ashcroft a notable Viola, while a stage version of the mystifying tale of the Vanishing Lady, Hans Rothe's *Night Arrival*, as translated by Marguerite Wolff, was classed as an interesting failure. *Paradise Lost*, by America's Clifford Odets, was unable to duplicate the favor accorded his *Golden Boy*, yet another importation from the United States, Eugene O'Neill's *Marco Millions*, was greeted at the close of the year as a

welcome change from Christmas pantomime and plays designed for the rising generation.

In the French capital the outstanding new plays of the early part of the year in addition to Bernstein's *Cap des Tempêtes*, produced in 1937 and recorded in the last YEAR BOOK, were Sacha Guitry's *Quadrille* and François Mauriac's *Asmodée*, the first drama from the pen of this novelist and an exceptionally competent and subtle character study of middle-class rural society, for which a place was promptly found in the repertory of the Comédie Française. *La Sauvage*, by Jean Anouilh, scored a success though lacking something of the distinction of his last two previous works. High favor was also the lot of *Frénésie*, by a new young playwright of extraordinary promise, Charles du Perrey-Chappuis. Late spring disclosed Maurice Rostand's *Catherine Empereur*, a biographical item combining prose and verse. And as the season progressed it was marked by an apparent falling off in the quality of the output of even such well-liked writers as Denys Amiel, who contributed *Famille*, Jean Cocteau, whose *Chevaliers de la Table Ronde* was found not only confused but weak on the poetic side, and André Birabeau, who proved less amusing in his new comedy, *La Chaleur du Sein*, than he had been in his delicate *Dame Nature*. Moreover, *Les Borgias*, by the less-known André Josset, presented a disappointingly familiar picture of Lucrezia and her infamous brother. Yet another newcomer, Alfred Ghéris, fared rather well with an entertaining if not especially novel drama of apartment-house life, *Sixième Étage*.

Berlin and other drama centers of Germany early in the year celebrated the 75th anniversary of the birth of Gerhart Hauptmann by staging a series of his plays, of which the most notable offering was that of *Michael Kramer* with Werner Krauss and Bernhard Minetti appearing as father and son. With the arrival of spring the Berlin theater in particular, apparently despairing of any new native works of merit under Nazi-imposed restrictions, suddenly turned to the drama of other nations for material, and especially to England. Among the items of British origin used were Laurence Housman's *Victoria Regina* but in a version composed, for German consumption, of a different selection of episodes than the one arranged for the English-speaking countries, and in a production wherein the title role was divided between two actresses for the youthful and aged phases; also Oscar Wilde's *Lady Windermere's Fan* with Hilde Hildebrand featured in the part of Mrs. Erlynne, and Bernard Shaw's *The Apple Cart* performed in comic mood in the same house where it had been presented more seriously eight years earlier.

In Sweden, Stockholm particularly, a similar condition persisted although such native products as a refreshingly light-hearted revue, *Autumn Maneuvers*, by, and with, the popular Karl-Gerhard, scored a brilliant success, and a musical folk comedy, *The Kitchen Cavaliers*, appealed strongly to the public taste. Moreover, Selma Lagerlöf's *Dunungen* was given a presentation in honor of its author's 80th birthday. Among the foreign works done in Swedish translations were Maxwell Anderson's *Masque of Kings* (*Mayerlingdramat*) and Clare Boothe's *The Women* from America and, from the Danish, Axel Frische and Flemming Lyngé's pronounced Copenhagen triumph of the preceding season, *Herr Husassistenten*.

In the Norwegian capital *The Women* proved comparably popular though Keith Winter's *The Shining Hour*, from England, was unfavorably re-

ceived. *Axel's Seventh Heaven*, a musical piece, was well liked, and *Abraham's Offering*, a mature, tragic psychological study by the distinguished native writer and critic, Finn Halvorsen, was accepted as the most significant and artistic event of the Oslo theater in many years.

DROUGHT. See AGRICULTURE.

DUKE UNIVERSITY. An institution of higher education in Durham, N. C., which, having its origin as York Academy in 1838, was expanded in 1858 into Trinity College and in 1924, through the benefactions from James B. Duke, into Duke University. The enrollment for the autumn of 1938 was 3376. The 1938 summer school enrollment was 2739. The regular faculty numbered 386. The endowment funds amounted to over \$34,000,000. The library contained 500,000 volumes. President, William Preston Few, Ph.D., LL.D., Litt.D. See FORESTRY.

DURYEA, CHARLES E. An American inventor and manufacturer, died in Philadelphia, Sept. 28, 1938. Born in Canton, Ill., Dec. 15, 1861, he was educated in the local schools and at Gitting's Seminary at La Harpe, Ill. His mechanical ability was manifested early and at the age of 17 he built his own bicycle. Subsequently he devised several improvements for bicycles and in 1884 began to be interested in motor-carriages.

He was consultant in the building of a steam buggy in 1888 and in 1891 began the construction of his first automobile. This was successfully tested on Apr. 19, 1892, at Springfield, Mass., and is credited with being the first American automobile, although this honor was claimed also for Elwood Haynes, whose model was accepted by the Smithsonian Museum, and in 1921 the Duryea machine was placed beside it. His third car, begun in October, 1893, was the first to be fitted with pneumatic tires, and it was described by Mr. Duryea as "the world's first real automobile" because it embodied "all the essentials of the modern automobile." With it he won the first American automobile race sponsored by the *Chicago Times-Herald* and in 1896 all the prizes in a New York contest.

Duryea, with his brother Frank, who was associated with him from 1892 to 1898, organized the Duryea Motor Wagon Co., for the manufacture of automobiles. In 1900 he organized the Duryea Power Co., of Reading, Pa., to introduce an improved car. These vehicles were built from 1892 to 1914 when Mr. Duryea retired from the manufacture of automobiles to become a consulting and patent engineer and an authority on automobile history.

Mr. Duryea also was credited with having organized the country's first automobile corporation, having been the first advertiser in that field, and having taken out patents ahead of other manufacturers. Also, it was his claim that a Duryea car was a victor in the world's first track race at Providence, R. I., in 1896 and the first Eagle Rock Hill climb, Nov. 5, 1901.

Editor of the mechanical and technical department of *The Auto Trade Journal* for almost 15 years, he was also president of the American Motor League (1895-1902), for which he wrote *Roadside Troubles* and, with James E. Homan, *Self-Propelled Vehicles*.

DUST STORMS. While dust blowing was less extensive and less frequent than during several preceding years there were some sections of the country, particularly in the Dust Bowl itself and northward, where occasional storms were as severe as any reported in recent years. There were

dust storms during every month of the year though the most severe storms generally came early in the year, particularly during the early spring when winter wheat was most susceptible to damage from drifting soil.

As in previous years dust blowing was confined chiefly to the region between the Mississippi River and the Rocky Mountains but there were a few reports of dust being observed in eastern sections of the country especially during March and May.

Throughout the latter half of January noteworthy dust storms occurred, affecting chiefly Wyoming, Colorado, Kansas, and Oklahoma, causing, among other difficulties, flying schedules to be canceled, street lighting during daytime, and numerous automobile accidents due to decreased visibility. Dust storms were more extensive in March than in any other month of the year and were generally reported from the Rocky Mountain States eastward to the Ohio Valley and Tennessee and from Texas and Mississippi northward to the Canadian border. At places near the Atlantic Seaboard the presence of dust in the upper atmosphere coming from the Great Plains States was shown only by colored sunsets or sunrises and by a high dust content in rain and snow, but in portions of Mississippi, Tennessee, Kentucky, Illinois, and Wisconsin the dust was thick enough materially to limit visibility. At Dodge City, Kansas, light dust was present on 13 days, thick dust on 9 days, and dense dust with visibility $\frac{1}{4}$ mile or less on three days. On March 27-28 a rain was general throughout the State of Kansas and the average depth of rainfall exceeded an inch, yet the following day dust was observed throughout the State.

Again in May, despite the heavy, beneficial rains, dusty conditions were prevalent east of the Mississippi. Dust originating in the Great Plains States was noted as far east as South Carolina on several dates and from the 15th to 18th dusty conditions were reported from the eastern Gulf States northward to the Lake Region; visibility was as low as only 100 feet in portions of Indiana on the 16th. At this same time there were extensive dust storms west of the Mississippi.

The summer months brought a reduction in the frequency and severity of dust storms, partly due to the lower wind velocities at this season of the year. With the coming of fall there was a slight increase in the dust storms.

During the year reports of weeds and vegetation growing where dust has drifted during the past few years were encouraging. It is from loose drifts of soil having no vegetation of any kind that most dust originates. Until rainfall returns to normal, permitting a permanent vegetative cover to establish itself, dust storms may be expected from time to time throughout the Great Plains.

DUTCH EAST INDIES. See NETHERLANDS INDIES.

DUTCH ELM DISEASE CONTROL. See ENTOMOLOGY, ECONOMIC.

DUTCH GUIANA. See SURINAM.

DUTCH WEST INDIES. See CURAÇAO; SURINAM.

EARLE, Gov. GEORGE H. See PENNSYLVANIA.

EARTH DAMS. See DAMS.

EARTHQUAKES. Estimates as to the actual number of earthquakes which are felt in some part of the world each year differ widely, partly because seismological observatories are not regularly distributed over the earth's surface. A. Sieberg has estimated that 9000 earthquakes take place each year and his estimate is considered reliable by

many seismologists. Fortunately, the vast majority of quakes are either feeble and harmless or else occur under the sea or in thinly populated regions. It is also difficult to determine the mean annual loss of life caused by earthquakes. Some years ago C. Davidson estimated that in an average year 14,000 persons are killed by earthquakes; later he revised this estimate and now reckons that the average number of lives lost each year in the earthquakes of the whole world is about 28,000. Heavy quakes often occur in remote regions, and are known to have happened only from the records made by seismographs over the globe; even from some populated regions, direct news is sometimes weeks or months in reaching the rest of the world. In the United States alone more than 200 earthquakes are usually reported annually.

The year 1938 was a remarkable one for earthquakes in that there was a more than average number of very severe earthquakes, but the loss of life was very small.

On January 22, at 10:05 p.m., a series of strong earthquakes shook every major island in the Hawaiian group, causing crowds to scurry from houses and theaters. Telephone service was partly disrupted in Honolulu. At the University plaster walls were cracked and the seismograph dismantled. The earthquake was the most severe to affect the Hawaiian Islands in 20 years.

On February 4, shortly after 9 p.m., an earthquake shook the whole country of Colombia. Despite the severity of this earthquake, only two lives were lost. Numerous buildings and other structures were damaged and debris thrown into the streets, and in general property damage was extensive.

On April 19, severe earthquakes accompanied by terrific underground rumbling occurred over an extensive region of central Asia Minor from the Black to the Mediterranean Sea. After-shocks lasted for 48 hours. Immediately around Kirsehir, Turkey, 10 villages were destroyed, and over the entire region at least 40 villages were destroyed. It was estimated that 50,000 persons were left homeless and 800 were dead. The relatively large number of people left homeless compared to those killed was due to the fact that the initial and severe shock took place at 2:30 p.m., local time, when most of the inhabitants were at work in the fields. The destruction of crops was also great. This region has been subject to many earthquakes in the past.

At two minutes before noon on June 11, an earthquake of unusual severity was felt all over Belgium and Holland and in the southwest of Germany, the northeast of France, and the southeast of England. It was the most severe earthquake in Western Europe in many years and the shock was accompanied by a rumbling noise. It was most severe in northern France and Belgium, where three persons were killed and 20 injured. The disturbed area was at least 380 miles long from east to west and 330 miles wide, embracing not less than 100,000 square miles. Considering the intensity of the quake and the area involved, the property damage was quite small, being estimated at about \$1,000,000. This earthquake was of less intensity than that of Apr. 6, 1580, which disturbed this same region; the epicenter of the present quake was a small distance to the east of the one of 1580.

Suddenly, and without any premonitory tremors, in the early morning of July 20, a very large area centered in northern Attica, Greece, was disturbed by a violent earthquake, which did much damage to property and caused the deaths of 20 people and injuries to a hundred others. The first pulses of this

earthquake to reach the seismological observatory at Athens did so six seconds after the initial time of the shock. The pulses immediately succeeding these were of such violence that both seismographs at the observatory were forced from their bearings and damaged. The 1000-kg. Weichert horizontal pendulum was so seriously damaged that it took several days to repair, but the 1200-kg. Weichert vertical instrument was put right almost immediately and was recording again in about one and a half hours. The very long tremors were felt by people in Athens to last 8-10 seconds, and were preceded and accompanied by quite loud deep-toned underground rumblings. The epicentral region was elongated in a northeast-southwest direction. The villages in which most damage was done were Scala Oropos, Chalcoutis, Oropos, and Sycaminon. Although Greece as a whole is liable to earthquakes, the region near and to the north of Athens has not been considered as being seismically active on a destructive scale in recent times. It was probably a seismically active region during the 7th and 8th centuries A.D., and this activity appears to have been renewed in the present instance. The damage done in the present earthquake was serious, chiefly to old and badly constructed buildings. Eight thousand people were left homeless.

A severe earthquake was experienced in the Miyagi Prefecture in the northeast of the main island of Japan (Honshu) on November 5. The focus was at some considerable depth and the shock was felt also in the Prefectures of Iwate, Fukushima, and Ibaragi, and even as far away as Tokyo, although no damage was reported in Tokyo. This earthquake was recorded on seismographs throughout the world, although no loss of life was reported.

On November 10 a very violent earthquake took place in the North Pacific Ocean. The epicenter was deep under the ocean at latitude 50° North and longitude 158° West. A seismograph located in West Bromwich, England, was reported to have had the largest amplitudes recorded in 30 years, indicating a quake of greater violence than the Quetta earthquake of 1935 or the Tokyo earthquake of 1923. This earthquake was recorded on seismographs throughout the world. The shock was felt by people in Alaska, though no damage was done there. The epicenter was 2200 miles from Honolulu. The tidal wave that reached Honolulu five hours after the shock thus traveled with a speed of 440 m.p.h. This is a record speed for tidal waves; the highest speed hitherto recorded for a tidal wave was 286 m.p.h.

It is rare to find a beneficial earthquake, but one such was reported on July 29 near the village of Réotier in the Hautes Alpes. It removed an obstruction to the water supply which experts had been trying to locate for many years. The village fountain, dry for many generations, is now gushing forth water and the acute water shortage is at an end.

EAST PRUSSIA. A province of Prussia from which it is separated by the Polish Corridor. Area, 15,061 square miles; population (June 16, 1933), 2,333,301.

ECONOMIC ASSOCIATION, AMERICAN. An organization founded at Saratoga, N. Y., in 1885, to encourage economic research, especially the historical and statistical study of the actual conditions of industrial life, to issue publications on economic subjects, and to encourage perfect freedom of thought and discussion upon current problems from an economic point of view. The mem-

bership in 1938 totaled approximately 4200. The annual meeting of the association was held in Detroit, Mich., Dec. 28-30, 1938. Among the topics discussed were: "Changing Character of Real Investment Outlets," "Expansion and Contraction in the American Economy," "Effect of Industrial and Technological Developments upon the Demand for Capital," "Role of Public Investment and Consumer Capital Formation," "Income and Capital Formation," "Attributes and Market Tactics of Large-Scale Enterprise," "Price and Production Policies of Large-Scale Enterprise," "Changing Distribution Channels," "Financial Control of Large-Scale Enterprise," "Pure Theory of Production," "Labor Policy and Wage Theory," "Lessons of the Current Decade with Respect to Recovery Policy," "Divergencies in the Development of Recovery in Various Countries," "Factors Making for Change in the Character of the Business Cycle," "Workability of Compensatory Devices," "Industrial Relations," "Wages and Hours in Relation to Innovations and Capital Formation," and "Relation of Wage Policies and Price Policies." The officers in 1938 were: President, Alvin H. Hansen, Harvard University; vice-presidents, Frederic B. Garver, University of Minnesota, and Frederick C. Mills, Columbia University; counsel, John E. Walker, Washington, D. C.; and secretary and treasurer, James Washington Bell, Northwestern University.

ECONOMICS. See BANKS AND BANKING; BUSINESS REVIEW; FINANCIAL REVIEW; LITERATURE, ENGLISH AND AMERICAN; PUBLIC FINANCE.

ECUADOR. A South American republic. Capital, Quito.

Area and Population. Ecuador's boundary with Peru remains unsettled (see *History*). The area claimed by Ecuador was officially estimated at 276,007 square miles, including the Galapagos Islands (2868 sq. mi.). The government estimate of the population as of Dec. 31, 1937, was 2,807,969. Births during 1937 were reported at 110,304 and deaths at 60,291, the increase of population during the year being 50,013. The urban population on Dec. 31, 1936, was about 475,000; rural, 2,281,000. Whites comprise about 10 per cent of the total population, Indians 39 per cent, mixed races 41 per cent, and Negroes and Orientals 10 per cent. Estimated populations of the chief cities in 1937 were: Guayaquil, 139,886; Quito, 118,350; Cuenca, 45,497; Riobamba, 23,942; Ambato, 18,939.

Education and Religion. The Indian and mixed races are largely illiterate. In 1937 there were 2580 primary schools of all kinds, with 209,649 pupils; 27 secondary schools with 5936 pupils; 3552 students in special training colleges, and 1476 at the universities. Most of the inhabitants profess the Roman Catholic faith but there is no state religion.

Production. Agriculture supports about 90 per cent of the population, but mining is important, especially from the export standpoint. The quantity and value of the principal agricultural exports in 1937 was: Cacao, 48,013,000 lb. (49,985,000 sucres); coffee, 31,010,000 lb. (24,613,000 sucres); rice, 2,718,000 lb. (610,000 sucres); bananas, 1,875,000 stems (5,691,000 sucres). Other leading crops are cereals, fruits, vegetables, sugar, and cotton. The forests yield tagua nuts, rubber, balsa wood, and kapok. Livestock estimates for 1936 were 1,280,000 cattle, 700,000 sheep and goats, 150,000 swine, and 85,000 horses. Mineral production in 1937 was: Gold, 59,500 fine oz.; silver, 98,500 fine

oz.; petroleum, 2,161,000 bbl. (1,951,000 in 1936). The chief manufactures are straw hats and small quantities of cotton textiles, paper manufactures, wool textiles, sole leather, banana flakes, and flour.

Foreign Trade. Imports in 1938 were valued at 148,314,911 sucres (131,642,818 in 1937) and exports at 169,095,627 sucres (164,045,398 in 1937). The increased values in 1938 were due in large measure to depreciation of the sucre, which exchanged at an average of 10.99 to the dollar in 1937 and 13.40 to the dollar in 1938. The United States supplied 34.6 per cent of the value of all imports in 1938 (39.6 per cent in 1937); Germany, 24.1 (24.1); United Kingdom, 7.7 (10.1); Japan, 7.4 (3.2). Of the 1938 exports, the United States took 37.5 per cent (33.2 in 1937); Germany, 17.5 (21.9); France, 8.0 (12.2); United Kingdom, 4.6 (2.7); Japan, 2.4 (3.8). The value of petroleum exports in 1937 was \$2,001,000; tagua nuts, \$1,660,000; cyanide precipitates, \$1,700,000 (also see *Production*).

Finance. According to preliminary estimates, actual budget receipts in 1938 were 120,374,000 sucres and expenditures 127,315,000 sucres. The 1939 budget estimates were expected to balance at about 127,000,000 sucres. A surplus of several million sucres was reported in 1937, but no interest was paid on certain old obligations. According to the Minister of Finance the public debt on Dec. 31, 1936, was 287,772,000 sucres (external, 270,887,000; internal, 16,885,000). The cost of servicing the debt in 1939 was placed at 6,773,000 sucres (external, 5,064,000; internal, 1,709,000). The average exchange rates of the sucre in U.S. currency in 1937 were: Official, \$0.095; curb, \$0.077; free, \$0.074.

Transportation. In 1937 Ecuador had 773 miles of railway line and 2025 miles of roads (3429 automobiles). The German-controlled Sedta Co. opened a tri-weekly air mail and passenger service between Quito and Guayaquil on July 11, 1938. On Nov. 19, 1938, the Pan American-Grace Airways linked Quito with the other American capitals by making it a stopping point on the Guayaquil-Cali (Colombia) route. During 1936, 465 vessels entered the chief port, Guayaquil.

Government. The military government established by the coup d'état of 1925 was ended with the adoption of a new Constitution on Mar. 26, 1929. Government under the 1929 Constitution was marked by continual friction between the executive and legislative branches, with Congress forcing the resignation of successive Presidents. When a split among members of the dominant Liberal party forecast the election of a Conservative President in the 1935 elections, the army, on Sept. 26, 1935, again intervened and established a dictatorship under Federico Páez. The Páez Government held elections for a Constituent Assembly on July 12, 1937, and this body convened on Aug. 10, 1937, to consider a new Constitution submitted to it in draft form. Friction between the Provisional President and the Constituent Assembly developed and when the Assembly, supported by the army, defied Páez in repealing the controversial Social Security Law, the Provisional President resigned on Oct. 23, 1937 (see 1937 YEAR BOOK, pp. 222-223). He was succeeded by Gen. G. Alberto Enriquez, Minister of War in the Páez Cabinet, who dissolved the Constituent Assembly as unrepresentative of the national will, restored the Constitution of 1906, and announced that he would rule "until the convocation of a genuine assembly elected with the collaboration of all parties." For developments in 1938, see *History*.

HISTORY

Political Developments. Provisional President Enriquez lost little time in carrying out his pledge to resign as soon as he had convened a Constituent Assembly elected with the collaboration of all parties. A newly elected Constituent Assembly, representing Liberals, Conservatives, and Socialists, was convened at Quito on Aug. 10, 1938. On the same day General Enriquez resigned. He was succeeded as Provisional President by Dr. Manuel Maria Borrero, a Liberal, who was elected by the Assembly. Dr. Borrero immediately announced that he would form a cabinet including representatives of all three parties.

The understanding was that Dr. Borrero's tenure of office was to last only until the Constituent Assembly promulgated a new Constitution and proceeded to the election of a Constitutional President, tentatively set for October 9. However, this program was delayed by factional struggles within the Assembly over the choice of a new President and other matters. The Assembly's first act after electing a Provisional President was to adopt a general amnesty for all political exiles and to appropriate funds for their return. On November 9 it sought to end the struggle over the Presidency by voting 28 to 24 in favor of a motion declaring both Provisional President Borrero and his chief rival, Dr. Francisco Arizaga Luque, the president of the Assembly, ineligible for election as Constitutional President.

Meanwhile, on November 8 the force of some 700 carabineers in the capital threatened to revolt against a measure voted by the Leftist majority of the Assembly dissolving the carabineers as an independent body and incorporating them with the unarmed police forces. A session of the Assembly on November 8 was interrupted by violent attacks upon radical members, attributed to disguised carabineers. The resulting storm in the Assembly led the President and cabinet to threaten to resign on November 10, but soldiers restored order in the capital and the provisional government continued in office.

A new struggle immediately developed in Congress over former Provisional President Luis Larrea Alba. The latter was a political exile in Chile when Congress voted the amnesty measure. His partisans demanded that he be permitted to return and secured the enactment of a bill restoring him to active service and promoting him from the rank of colonel to general. A group of army officers was reported on November 20 to have attempted to proclaim Larrea Alba head of the government, but the bulk of the army remained loyal to the Constituent Assembly. Conservatives in the Assembly then succeeded in revoking the bill elevating Larrea Alba to a generalship. When they emerged from the Assembly, the Conservatives were attacked in the streets by radical adherents of Larrea Alba and the army was again forced to restore order. On December 1 Provisional President Borrero resigned and on the following day the Constituent Assembly elected Dr. Aurelio Mosquera Narvaez as President in accordance with the new Constitution that had been approved at midnight. Many Conservatives abstained from voting for Dr. Mosquera Narvaez, who was president of the Liberal party.

The new President immediately found himself engaged in a struggle with Larrea Alba's supporters, who again enacted the measure restoring the latter to active service as a general. Dr. Mosquera Narvaez advised the Assembly that this action was

unconstitutional. When the Assembly declared his message disrespectful and returned it, the President on December 13 dissolved the Assembly, arrested several Socialist members and Dr. Arizaga Luque, and ordered immediate elections for new Senators and Representatives. Three battalions of the Quito garrison then rose in revolt in support of the dissolved Assembly but major hostilities were averted when Dr. Mosquera Narvaez agreed on December 15 to certain conditions for the election of a new Congress on Jan. 15, 1939. Congress was to convene February 1 and elect a new President. This concession won Dr. Mosquera Narvaez sufficient military support to terminate the disorders in Quito and restore the government's full authority.

The Enriquez Reforms. The difficulties faced by the Borrero Government were due in part to the tension between conservative and liberal-radical elements of the population provoked by the radical reforms carried out by Provisional President Enriquez during his short rule. The flood of decrees issued by Enriquez in 1937 (see 1937 YEAR BOOK, p. 223) continued during 1938 up to the time of his resignation. On January 12 he demanded the revision of all contracts and concessions held by foreign companies in Ecuador. He forced compliance with his demands by brushing aside legal and diplomatic obstacles. Mining properties of the American-owned South American Development Co. were seized by government troops and their gold production impounded when the company sought legal adjudication or arbitration of the government's demands. Representations made by the State Department at Washington on behalf of American companies were bluntly rejected. All American Cables, the British-owned Anglo-Ecuadorean Oil Co., the Ecuadorean subsidiary of the United Fruit Co., and many other foreign corporations were obliged to sign new agreements which substantially increased their payments to the government. The tariff exemptions granted many foreign concerns on imports of machinery and equipment used in their operations were cancelled. In some instances foreign companies were induced to advance their taxes for as many as 15 years.

On February 16 the government issued a decree providing that contracts for the exploitation of natural resources might be revised unilaterally by the state if they "injured national interests." Another decree of the same date required all foreigners domiciled in Ecuador to invest \$1000 in U.S. currency in Ecuadorean agriculture or industry. A decree of May 18 required all foreigners except diplomatic and consular officials to acquire residence permits at 20 sucres each. President Enriquez denied that these financial measures were taken in response to the pressing necessities of the budgetary situation (see *Finance*). Nevertheless, the result was a substantial improvement in the government's financial situation.

Other decrees reorganized the Central Bank; re-established complete control of imports; called for pre-nuptial medical certificates; required employers to teach all their employees between the ages of 8 and 21 to read and write; ordered a 10 to 15 per cent increase in wages of all private employees receiving 500 sucres a month or less; reorganized the secondary educational system; dissolved existing teachers' unions and transferred their assets to a new government-sponsored National Union of Educators; reduced the military conscription term from one year to 11 months to permit the transfer of conscripts to labor on highways and irrigation projects for one month; lent aid to the co-operative

movement; abolished a state control of tobacco cultivation and provided for construction of a national factory for the manufacture of cigars and cigarettes. Expulsion of all alien Jews except those engaged in farming was ordered January 18. A company of troops was sent to the Galapagos Islands on January 25 to supervise foreign activities on the islands.

While the dictator's vigorous measures against foreigners were widely acclaimed, his efforts to improve the lot of the laboring masses and his purge of allegedly corrupt and subversive opposition elements within the country aroused strong criticism. His arbitrary and often ill-advised economic measures antagonized other groups. An attempt to assassinate the dictator was made in January and thereafter it was only by frequent arrests and deportations of political opponents and conspirators that he managed to retain control. His proposals for reform of the Supreme Court led to the resignation of five cabinet members on April 10. He appointed another cabinet composed of army officers with one exception, but was obliged to replace this with a civilian ministry on June 6 due to growing criticism of military government. This cabinet remained in office until the resignation of General Enriquez in August.

Late in May the government ordered the arrest of ex-President Páez, four former cabinet members and two government engineers on charges of misapplying funds for railway construction. Two Swiss contractors, Edwin and Eugen Scotoni, had been imprisoned earlier in the year for allegedly misappropriating funds advanced to them by the government for railway building purposes. Páez took refuge in the Chilean Legation in Quito and a few days later escaped to Colombia.

The Dispute with Peru. Direct negotiations between Ecuadorean and Peruvian delegations in Washington for a settlement of their 117-year-old boundary dispute (see 1937 YEAR BOOK, p. 223) were interrupted in 1938. On June 1 there was another of the periodical clashes between troops in the disputed frontier zone. Both Ecuador and Peru charged one another with responsibility for the incident. Troops along the Napo River were reinforced by both sides and a brief war scare developed. There were demonstrations in Quito against Peru and subscriptions were collected for the purchase of military aircraft. In some circles in Ecuador Provisional President Enriquez was charged with deliberately provoking the war scare in order to divert attention from internal difficulties. He formally denied this charge on June 7. The United States and other neutral governments aided in calming the tempers of the two nations and on June 17 Ecuador and Peru signed an agreement for simultaneous release of prisoners and withdrawal of reinforcements from the Napo River district.

The boundary negotiations were resumed at Washington but in September an impasse developed and on September 29 the Peruvian Foreign Minister announced at Lima that Peru felt obliged to discontinue the Washington discussions. No agreement appeared possible either on the fundamental issue or on the scope of the questions to be submitted to arbitration. Both countries had previously agreed that the President of the United States was to arbitrate the question if no direct settlement was possible.

Ecuador on October 4 telegraphed all of the American governments expressing the hope that Peru would reconsider its decision to terminate the Washington negotiations. On October 12 Ecuador

invited the Presidents of Argentina, Brazil, Chile, the United States, and Uruguay to mediate the Ecuadorean-Peruvian dispute. The same governments, with Peru, had negotiated a settlement of the Chaco dispute in July. After consultation with the other governments mentioned, President Roosevelt replied on October 17 that the United States would join in attempting to mediate the dispute provided Peru was agreeable to Ecuador's proposal. Peru declined and no agreement for resumption of the negotiations was reached by the year end.

Other Foreign Relations. A reciprocal trade agreement between Ecuador and the United States was signed Aug. 6, 1938, and went into effect October 23. Both governments reduced import duties on various articles and bound themselves not to raise existing duties on other commodities. While President Roosevelt was vacationing and fishing in the vicinity of the Galapagos Islands late in July, an Ecuadorean mission was sent there to greet him. The Ecuadorean legations in Bolivia, Argentina, and Mexico were closed in January as an economy measure.

EDUCATIONAL PSYCHOLOGY. See PSYCHOLOGY.

EDUCATION IN THE UNITED STATES. Enrollments. The U.S. Office of Education estimated the enrollment in the elementary schools was 22,400,000 in September, and that there were 6,750,000 students in the high schools. About 2,000,000 children entered the first grade and a like number entered high schools for the first time.

There continues to be a decrease in the number of pupils in the elementary schools. Until 1934 there were increases in the high-school enrollments sufficient to make the total enrollments in public schools show an annual increase. Since then there has been a steady decrease. The effect of this decrease is manifest in many cities. In many places fewer teachers are employed in the elementary schools. There are idle elementary school buildings in some places, and frequently cities are finding it necessary to relocate school buildings in order to meet changing population trends.

Educational Conditions. Much effort has been devoted during the year to the improvement of the curriculum of the elementary school. In general this has involved the attempt to bring the learning that is expected in school into closer relationship with the conditions that are found outside the school. This, it is believed, will result in better and more effective citizens.

The sixteenth *Yearbook* of the American Association of School Administrators was devoted to "a school curriculum organized around the problems of life which the youth face instead of around a core of mathematics, languages, history, and formal literature." Five "core areas" were proposed. They are: Social relations, the home, vocations, creative arts, and recreative arts.

The third and several following *Yearbooks* of this same organization were concerned with the curricula of the schools. During the dozen years that have elapsed since the earlier reports, there have been constant attempts to revise and improve the work of the schools. Thousands of new curricula have been developed and printed. Great numbers of teachers and school administrators have spent their summers in schools and colleges where the major emphasis was upon "curriculum construction." Curriculum specialists have appeared and been employed by cities and by states. This recent *Yearbook* makes very drastic criticisms

against the results of all this expenditure of money, time, and energy. The authors state:

Instead of vitalizing school life by tying it up directly with the things pupils see and do outside of school, the school persists in maintaining an academic atmosphere so remote from actual life that the student usually thinks of his home and community activities as one type of life and his school activities as entirely another.

In the discussion that accompanied the adoption of the *Yearbook*, the following criticisms were urged against the existing curriculum:

It is remote from the student's daily life; it is not adjusted to modern needs; it does not reflect the aspirations of youth; it takes little account of individual differences among students; it has not kept pace with developments of psychology, and it gives too little attention to emotional and social attitudes which often play a larger part in human behavior than intellectual pursuits.

As matters now stand there is substantial agreement as to what the schools should achieve. This is usually stated in the broad and indefinite term, "better citizens." There are, however, two antagonistic views as to how the school may attain the desired end. According to one there is a definite body of knowledge, the possession of which is basic to good citizenship. It is the function of the school to select this knowledge and then to encourage, and if necessary to compel, pupils to learn it. For the sake of convenience this prescribed subject-matter is divided into sections that form the work of each of the school years. The school makes careful efforts to determine what portion of the work assigned to each year is achieved by the pupils in that year. If it appears that the individual has done 75 per cent or more, he is "passed" to the next year or grade. If he does not show the necessary 75 per cent achievement, he may be kept in the same grade for an extra year or he may be placed in a special class of dull or backward pupils.

Schools in which this view of the way to produce good citizens is in effect, do often take up "extra-curricular" activities when time permits. Even these are carefully planned by the school. Often they are of such a nature that pupils must be stimulated to follow them by credits and rewards. It is expected that the learner will become a good citizen by constantly fitting into a fixed scheme that he has had no part in determining.

The other view holds that the good citizen is developed by having him participate in all the affairs that concern him. This means that there can be no fixed subject-matter that all must learn. The more radical advocates of this view oppose daily assignments of lessons. They insist that the program for the day must be determined as the need for action arises. Least of all do they desire a time schedule such that a fixed number of minutes may be devoted to each subject. They hold that children learn effectively only as they are able to make use of what they are learning.

The name most commonly used to designate this group is "progressive educators." They make use of an "activity program" and frequently employ "units of subject-matter." All elementary education has been greatly influenced by the theories of progressive education, but there have been few places in which the plan could be completely adopted. Adults, who received their education under the older plan, usually are suspicious of any scheme that lacks the prescriptions and supposed disciplinary aspects that characterized education in their school days. Such people are not satisfied with the results that schools are now obtaining. There is evident a strong desire to know more about educational matters.

Dr. Frederick P. Keppel, in his report as presi-

dent of the Carnegie Corporation, states that there is "a growing desire on the part of the thoughtful public for some understanding of fundamental educational problems." Dr. Keppel criticizes educational technicians "who, like all technicians, tend to think first of influencing one another, and easily slip into the use of a technical jargon which is confusing and exasperating not only to the layman but also to the educator of broader interests. The educational evangelists are also responsible for much confusion and misunderstanding. Particularly in view of what is going on before our eyes elsewhere in the world today, every American must welcome the fullest discussion of the relations between our education and our social order. He must wish to hear and to understand both those who would assign to education and to educators a much more active part in influencing that order, as well as those of opposite opinion. Unfortunately the utterances of the educational evangelists are today often just as cryptic as those of the educational technicians." This criticism exposes the cause of the school people's failure to make significant changes more rapidly.

Report of the Advisory Committee on Education. This committee was appointed by the President on Sept. 19, 1936. Its purpose was then to make a study of the experiences of the existing program of Federal aid for vocational education. Later, Apr. 19, 1937, the President requested the committee to consider the broader subject of Federal relationship to state and local conduct of education, and to prepare a report. A report was submitted to the President, Feb. 18, 1938, and 10 days later transmitted by him to the Congress.

The committee studied the abilities of the different states to raise funds by taxation for education. It applied, in modified form, the model state and local tax system proposed by a committee of the National Tax Association. The report shows that, when this system is applied, the revenue available in the United States as a whole is \$51.77 per child. More than 60 per cent of the children of school age in the United States live in states that on a state-wide basis could not provide \$50 per child for public education without more-than-average effort. About 20 per cent of the children live in states where not more than \$25 per child could be provided without heavier-than-average taxes. As regards actual expenditures 35 of the states are spending more per child for education than the proposed plan of taxation would produce.

The committee, taking into consideration the inability of states and localities to raise by approved rates of taxation the sums needed for adequate educational programs, offers its proposals for Federal aid. The report deals with a six-year period beginning July 1, 1939, and ending June 30, 1945. Eight different aspects of public education are considered. The proposals are as follows:

General aid for elementary and secondary education \$40,000,000 for the fiscal year 1939-40, this to be annually increased by \$20,000,000 until the total becomes \$140,000,000 for the year 1944-45. These grants would be available to the States for all types of current and maintenance expenses of the public schools. The committee believes that the Federal grants should also be available for such activities as library service, health welfare, and recreational activities; preprimary training; services for handicapped pupils; educational and vocational guidance; vocational education; provision for books and other reading and instructional materials; the transportation of pupils; and scholarships. It is suggested that many of the services of the public schools might be available to children who may be enrolled in private or parochial schools. Such services would include transportation of pupils, purchase of books, and health and welfare services. Such services, however, would be optional with the individual States.

The improvement of teacher preparation \$2,000,000 for

the year 1939-40, this to be increased by \$2,000,000 annually to a maximum of \$6,000,000.

Construction of school buildings to facilitate district reorganization \$20,000,000, this to be increased after the first year to \$30,000,000.

Administration of state departments of Education \$1,000,000, for 1939-40, this to be increased by \$500,000 annually to \$2,000,000.

Educational services for adults \$5,000,000 for 1939-40, this to be increased by \$5,000,000 annually to \$15,000,000.

Library service for rural areas \$2,000,000 for 1939-40, this to be increased by \$2,000,000 annually to \$6,000,000.

Co-operative educational research, planning, and demonstrations \$2,000,000 for 1939-40, this to be \$3,000,000 each year thereafter.

Vocational education is also considered, but owing to the fact that the Federal aid for this purpose now is \$21,785,000 annually, no recommendation is made for added grants. The total of all the Federal grants exclusive of that for vocational education would be \$72,000,000 for 1939-40, increasing to \$202,000,000 in 1944-45.

Survey of the Public Schools of New York State. An Inquiry into the Character and Cost of Public Education in the State of New York was authorized by the Board of Regents in 1935. With a gift of \$500,000 from the General Education Board, a committee of the Regents, with Owen D. Young as chairman, employed a group of outstanding educators to conduct the survey and to report to the Regents. Their report was submitted in November. It will receive wide attention because the findings are significant outside the boundaries of New York State. Major consideration is given to the school systems outside of New York City.

Those who conducted the survey first determined what the state wanted and needed from its schools. These objectives are stated as follows:

On the basis of the evidence, these are the things that the State of New York wants and needs from its educational system, stated in the simplest terms. It wants and needs universal educational opportunity, a democratic not a class plan of education, character-building education, good teachers, useful and up-to-date schooling, the removal of obstacles to adult education, and at all times efficiency and economy. These together represent the educational objectives toward which the State should now direct its undivided energies.

The report states that "not all communities are getting their money's worth for the taxes which they pay for schools." It asserts:

Waste and extravagance arise from (1) the great number of small elementary and high schools due to the antiquated district system, (2) the unnecessarily small size of classes throughout the State except in New York City, (3) badly planned and over-luxurious school buildings with big debts and high interest payments over long years and too much semi-idle plant, (4) inattention to possible economies in ordinary business administration, and (5) certain elements of the State aid formula which encourages spending and discourages economy.

As remedies for waste and extravagance the following proposals are offered:

Greatly reduce the number of small schools through home rule plan of district modernization (presented in the report) and through the elimination of unnecessarily small classes in all school districts, plan school buildings better with reference to future needs and economies of administration and maintenance, and substitute approval by the Commissioner for the existing unnecessary and expensive legal requirement of forced ventilation.

Add a business manager to the staff of all large school systems under the direction of the superintendent, strengthen financial and business advisory service in the State Department and introduce more co-operative services, modernize the budgeting accounting and purchasing system of all schools.

Reduce interest costs on local school buildings by using the pay-as-you-go policy where possible or by borrowing for fewer years, and permitting school districts to borrow direct from the State at the low rate of interest that the State pays.

There is a summary of possible economies which would be sufficient to pay for such improvements

as are proposed, and not increase the aid that the state must furnish. The economies are as follows:

By eliminating unduly small classes	\$ 6,500,000 to \$24,900,000	
By improving purchases and reducing insurance rates	2,000,000	2,000,000
By improving debt management and reducing future interest rates	13,000,000	13,000,000
By revising school ventilation laws	150,000	150,000
By reducing costs in line with decreasing elementary enrollments	16,500,000	16,500,000
Totals	\$38,150,000	\$56,550,000

The report asserts that the school system of the state is failing in many particulars. The plan proposed for improving conditions is outlined as follows:

(1) Revision of the secondary school program by incorporating the seventh and eighth grades and adding two extra years beyond the twelfth grade. Other more minor changes include discontinuance of regents' examinations, increasing the compulsory school age from 16 to 18, except for children able to find jobs; abolition of continuation schools and greater provision for education of the gifted and the handicapped.

(2) Alteration of the elementary school program by the addition of free kindergartens, limitation of size to from 180 to 600 pupils, and the providing of free textbooks for all children.

(3) Consolidation of the 7000 school districts of the state into fewer and larger units to eliminate duplication of services and eliminate waste of money.

(4) Introduction of more economic administration of schools by eliminating small buildings and small classes, ceasing to erect ill-planned and over-luxurious schools, and altering the state-aid formula which now encourages spending.

(5) Change in the basis of State aid so that local schools will receive state funds according to the number of children enrolled instead of average daily attendance. Also a provision to check extravagance by requiring state approval for any school system which spends more than \$160 a year a child or in which State aid equals half the budget.

(6) A series of new policies to insure the improvement of the training and ability of teachers. These include competition for appointment and promotion for all teachers, addition of a fourth year to teacher training colleges, improvement of facilities and personnel of normal schools at a cost of \$8,000,000, appointment of an advisory committee to redraft courses now offered in these colleges, and increases in scholarships offered to student teachers. Also, to attract children of ability to teaching, extension of tenure rights to all teachers, raising of minimum salaries in rural schools from \$800 to \$1200, and the establishment of compulsory retirement with pension rights at the age of 65.

(7) Increases in the number and amount of State scholarships for colleges and universities to compensate for the lack of free higher education in the State. The inquiry suggested that the present number, 3000, be doubled and that the stipend be raised from \$100 to \$300. It also urged the addition of 100 graduate fellowships of \$400 each.

(8) Encouragement but no State aid for the extension of various independent adult education projects.

New York has the reputation of having a highly state-centered public school system. There are few matters that are of concern to the local schools that do not require approval by the State Department of Education. It is interesting to note the recommendations that the survey staff has made in respect to the Department itself. The term "home rule" is frequently used in the report. It urges that the Board of Regents act as follows:

Adopt *leadership based on research* as the central objective of the State Education Department and in conformity with this policy reduce service and regulatory actions to the minimum, and eliminate dictatorial administrative policies completely, particularly in dealing with local educational problems, teachers, teacher education, and the colleges.

Discontinue all standing committees of the Board of Regents so that the Regents may act as a whole, and devote their entire attention to major matters of policy.

EGYPT. A kingdom of northeastern Africa. Capital, Cairo. Ruler in 1938, Farouk I, who succeeded to the throne Apr. 28, 1936.

Area and Population. Excluding the Anglo-Egyptian Sudan (q.v.), Egypt has an area of about 386,000 square miles, of which only about 13,600 square miles along the Nile are occupied. The estimated population on June 30, 1937, was 15,904,525 (preliminary). The 1927 census showed a population of 14,217,864. Populations of the chief cities at the 1937 census (preliminary) were: Cairo, 1,307,422; Alexandria, 682,101; Port Said, 126,907; Tanta, 94,421; Mansûra, 68,637; Asyût, 59,925; Damanhûr, 61,791.

Religion and Education. Of the 1927 population, 91 per cent were Moslems, 8.34 per cent Christians, and 0.45 per cent Jews. Arabic is the official language and is used by most Egyptians. About 88 per cent of the adult inhabitants were illiterate in 1927. The school attendance in 1937 was 1,308,252.

Production. Agriculture supports about 62 per cent of the population directly. The area devoted to crops and orchards in 1935-36 was 8,408,909 acres. The yields of the chief cereals in 1938 were (in metric tons): Wheat, 1,250,000; barley, 232,700; corn (1937) 1,645,400. Production of other crops in 1937 was: Rough rice, 18,181,000 bu.; onions, 618,156,000 lb.; sugarcane (1936), 1,127,000 metric tons; cane sugar (1937-38), 138,000 metric tons; cotton (1937-38), 494,700 metric tons. Livestock statistics for 1936 include 995,000 cattle, 932,000 buffaloes, 1,496,000 sheep, 14,000 swine, 754,000 goats, 155,000 camels, and 794,000 asses. Mineral production in 1937 was (in metric tons): Phosphate rock, 517,002; petroleum, 170,860; manganese iron ore, 186,320; talc, 2266; pumice stone, 2811; carbonate and sulphate of soda, 2300; nitrate shale, 11,305; fine gold (ounces), 1226. The fishing industry in 1936 employed 49,104 persons and comprised 9535 boats. Tourists visiting Egypt during 1937 numbered 48,480.

Foreign Trade. In 1937 imports for consumption were valued at £E38,016,000 (£E31,496,000 in 1936) and exports of Egyptian products at £E38,665,000 (£E32,971,000 in 1936). The respective figures in United States gold dollars were \$113,819,000 (\$94,813,000 in 1936) and \$115,763,000 (\$99,252,000 in 1936). The chief imports in order of value in 1937 were cotton, fertilizer, coal, coke and briquets, machinery, and other textiles. Raw cotton exports (1937) were \$147,019,000 (paper); cottonseed, \$9,378,000; onions, \$6,823,000. Of the 1937 imports, the United Kingdom supplied 21.8 per cent; Germany, 11 per cent; Italy, 8.6 per cent; United States, 5.6 per cent; France, 4.5 per cent. The United Kingdom took 32.2 per cent of the exports; France, 11 per cent; Germany, 8.6 per cent; Japan, 6.4 per cent; Italy, 6.2 per cent, and the United States, 4 per cent.

Total imports for 1938 were £E36,934,000; total exports, £E29,342,000 of which cotton accounted for £E21,189,500.

Finance. For the fiscal year ending Apr. 30, 1939, the budget estimates placed receipts at £E38,843,000 and expenditures at £E40,932,000. For 1937-38 actual receipts amounted to £E37,148,111 and expenditures to £E36,332,328. Actual receipts for 1936-37 were £E35,502,850; expenditures, £E34,193,038. The consolidated public debt was £E88,139,000 on Dec. 31, 1937. After the devaluation of the pound sterling in 1931, the Egyptian pound (£E) was pegged at approximately 102½ per cent of the pound sterling and fluctuated in constant ratio with the latter currency.

Transportation. In April, 1937, there were 2764 miles of government-owned railway lines (excluding sidings) and 976 miles of private lines. In

1936-37 the government railways carried 36,515,459 passengers and 1,034,632,155 ton-miles of freight. Gross receipts were £E5,196,832. Highways in 1937 extended 5013 miles; number of automobiles on Jan. 1, 1938, 31,212. An extensive highway-construction program was under way in 1938. Cairo is an important aviation center with airlines radiating to South Africa, Europe, and Asia. During 1937, 10,097 ships of 35,318,511 net registered tons entered Egyptian ports, landing 4,620,855 tons of cargo.

Government. The Constitution of Apr. 19, 1923, abrogated on Oct. 22, 1930, was restored on Dec. 12, 1935. It provided for a Parliament of two houses—a Senate with 132 members in 1938, two-fifths nominated by the Crown and three-fifths elected by universal male suffrage, half for five and half for 10 years, and a Chamber of Deputies with 232 members elected for five years. At the beginning of 1938, the Wafd (Nationalist party) held 186 seats in the Chamber and 99 seats in the Senate. For developments in 1938, see *History*.

HISTORY

Internal Politics. The year 1938 was marked by a sensational shift of political power from Mustafa Nahas Pasha and his majority faction of the Wafd to opposition elements led by Premier Mohammed Mahmoud Pasha and working in close co-operation with King Farouk. The basis for this change was laid during 1937 by the repudiation of Nahas Pasha's leadership by Mahmoud Nokrashi Pasha and a minority of the Wafd members of Parliament. A subsequent clash between Nahas Pasha and the King led to the former's dismissal as Premier on Dec. 30, 1937, and the formation of a ministry under Mohammed Mahmoud Pasha representing all political parties except the Wafd (see 1937 YEAR BOOK, p. 227).

The Wafd, however, retained its overwhelming majority in both houses of Parliament and denounced the Mahmoud Ministry as unconstitutional. To avoid the Wafd's parliamentary obstruction, Premier Mahmoud obtained from the King a rescript adjourning Parliament for 30 days. This was read in the Chamber on the night of Jan. 3, 1938, by the Wafdist Speaker, Dr. Ahmed Maher, a brother of the King's chief adviser, Ali Maher Pasha. The Wafdist Deputies drowned out the Speaker's words by a riotous tumult and the Chamber then proceeded to vote a resolution of non-confidence in the Mahmoud Government by 180 to 17 votes. The Senate voted 83 to 4 in favor of a similar resolution.

Despite Wafdist protests, Parliament was adjourned and when the month's time limit was about to expire, the Chamber of Deputies was dissolved (February 2) and new elections were called for early in April. Premier Mahmoud had hoped during the month's adjournment to win over enough Wafdist to obtain a majority in the Chamber. A group of about 50 Deputies deserted Nahas Pasha and went over to the government along with Ahmed Maher, who was expelled from the Wafd on January 4 for reading the King's rescript adjourning Parliament. Ahmed Maher joined with Nokrashi Pasha and other dissident Wafdist to form a new party called the Saadist Wafd after Saad Zaghlul Pasha, leader of the Egyptian nationalist revival. But the loss of this group left Nahas Pasha still with a substantial majority in the Chamber.

Fearing the result of the voting with Premier Mahmoud Pasha in control of the election machinery, Nahas Pasha petitioned the King to appoint a

non-partisan ministry to supervise the elections. Farouk refused, with the result that manipulation of the electoral machinery and official pressure produced a sweeping victory for the supporters of Mahmoud Pasha's government. The government parties won 99 seats in the Chamber, the Saadists 84, the Independents 68, and the Wafdists, under Nahas Pasha, only 12. A correspondent of the *London Times* reported that the elections "were not conducted with the promised freedom and impartiality." The campaign was exceptionally bitter and about 12 persons were killed in election day clashes. Nevertheless it was indicated that Nahas Pasha and the Wafd had lost ground rapidly among the voters as a result of his conflict with the popular young King and his refusal to work with other experienced Wafdist leaders. The Wafd had also been left without effective campaign issues following the achievement of its independence program through the Anglo-Egyptian treaty of 1936.

The new Parliament was opened on April 12. The speech from the throne, read by Mahmoud Pasha, promised constitutional government, adequate national defense, and extensive internal reforms. It also affirmed Egypt's loyalty to the British alliance. Mahmoud's Cabinet was reorganized on April 27 following extended discussions with the King's advisers. Another reorganization took place on June 24 when Mahmoud Pasha formed a new ministry including for the first time representatives of the Saadists.

Farouk's Popularity. The waning influence of Nahas Pasha and his previously all-powerful Wafd was due in no small measure to the great popularity of Egypt's young King and to the quarrel between the two arising from the Wafd leader's attempt to curb the royal prerogatives. The ceremonial investiture of the King on his 18th birthday on July 29, 1937, was followed by another round of festivities in celebration of Farouk's marriage to Miss Sasi Naz Zulficar, 16-year-old daughter of a judge of the Alexandria Mixed Court of Appeals, on Jan. 20, 1938. Another celebration took place on November 17 upon the birth of a daughter to the royal couple. These events and the democratic tendencies evidenced by the King combined to enhance his influence.

The Defense Program. In accordance with the Anglo-Egyptian alliance of 1936, a British military mission arrived in Egypt in 1937 to train and supervise the re-equipment of Egyptian military forces in order that they might assume a greater share of responsibility for the defense of Egypt and the Suez Canal. During 1938 the mission reported good progress in the reorganization of the army along modern lines. Substantial supplies of artillery and machine guns were received from Great Britain, thus removing the Egyptians' suspicion that Britain was unwilling to trust them with modern weapons. The scope of the mission was expanded to permit commencement of work on coast defenses at Alexandria and Mersa Matruh. The mission also assumed responsibility for organizing and training a Frontiers Administration force.

In his speech to the new session of Parliament on November 19 King Farouk made known the government's decision to strengthen the air force, create an Egyptian fleet, construct factories for making munitions, light arms and airplanes, and take further steps to develop an effective armed force. A bill establishing three-year military conscription of all Egyptian youths was introduced. On November 29 the government voted to spend

£1,023,000 on six mine-sweepers, six torpedo boats and a coast guard vessel as the first step in a two-year program for the construction of 36 fleet units at a cost of £3,500,000.

Premier Mahmoud Pasha and a delegation went to London in July to iron out differences that had arisen over application of the Anglo-Egyptian alliance. An agreement initialed early in August revised the alliance in several minor details. The principal change was Britain's agreement to pay one-half of the cost of the barracks to be erected in the Suez Canal Zone for British troops. The cost was estimated at £E5,000,000. The barracks agreement was signed at Alexandria September 22. While in England the Egyptian Premier also sought to reach an agreement with Lancashire cotton manufacturers on Egyptian cotton tariffs. As no immediate accord was possible, a Lancashire delegation arrived in Cairo in September to continue negotiations with the Minister of Finance. Meanwhile on Dec. 29, 1937, Egyptian troops returned to the Anglo-Egyptian Sudan to resume joint control of that territory with the British administration and early in 1938 the Egyptian Government announced that it would terminate its annual payment of £E750,000 for the defense of the Sudan now that it was sharing the defense burden directly with Britain.

Foreign Relations. Mahmoud Pasha's government worked in close co-operation with the British in strengthening the national defense. On March 24 Prime Minister Chamberlain reiterated Britain's pledge to defend Egypt against aggression from any source. This was reciprocated by the Egyptian Government during the crisis over Czecho-Slovakia in September. Mahmoud Pasha asserted before Parliament on September 26 that Egypt would fulfill its obligations under the Anglo-Egyptian alliance if Chamberlain's peace efforts failed.

Wafdist Deputies strongly attacked the Anglo-Italian agreement of April 16 (see GREAT BRITAIN and ITALY under *History*) and the action of the Egyptian Government in signing it. They charged that Egypt had been again treated like a colony and asked to sign on the dotted line after the two European powers had reached agreement on the Suez Canal regime, Lake Tsana, and the frontiers between the Anglo-Egyptian Sudan and Italian East Africa. Mahmoud Pasha replied that the Egyptian Government had been kept fully informed of the negotiations by the British. Ratification of the Anglo-Italian agreement late in the year greatly relieved Egypt's fear that a war in which Britain and Italy might become involved would find her unable to defend her territory.

The treaty of friendship signed with Turkey in 1937 was ratified April 11. On August 29 the United States formally renounced the extra-territorial rights that its citizens had enjoyed in Egypt for over 100 years, the United States Senate having ratified the Montreux Convention of 1937 on June 13, 1938. Despite the Egyptian alliance with Britain, Egyptians took a growing interest in supporting the Arab cause in Palestine during the year. In May the growth of anti-Jewish propaganda among Arab political refugees from Palestine and among the Palestinian and Syrian students at the great Al Azhar (Moslem theological) University at Cairo led the government to warn these groups to cease their activities on pain of deportation. Egyptian students, however, continued anti-Jewish and pro-Arab demonstrations. An Egyptian Parliamentary Committee for the Defense of Palestine

was organized and on October 7 it convoked a congress in Cairo in furtherance of its aim.

For Egyptian antiquities see *ARCHAEOLOGY*.

EIRE. See *IRELAND*.

ELECTRICAL ENGINEERS, AMERICAN INSTITUTE OF. A national organization founded in 1884 for the purpose of advancing the theory and practice of electrical engineering and the allied arts and sciences and of maintaining a high professional standing among its members. There are three grades of members: Associate, member, and fellow. The membership on Nov. 1, 1938, was 16,564.

In September, 1938, there were 65 sections of the Institute located in various cities throughout the United States and 120 student branches in colleges giving courses in electrical engineering. In addition to district, section, and student branch meetings, there were held an annual winter convention in New York City, Jan. 24-28, 1938, and an annual summer convention in Washington, D. C., June 20-24, 1938. Much of the Institute's work is accomplished through its general and technical committees, of which there were 39 in 1938. Its principal publications are the monthly *Electrical Engineering*, the *Standards* of the A.I.E.E., and the *Year Book*.

The officers elected for 1938-39 were: President, J. C. Parker; vice-presidents, C. L. Dawes, F. M. Farmer, A. H. Lovell, F. C. Bolton, L. R. Gamble; directors, L. R. Mapes, H. S. Osborne, D. C. Prince; national treasurer, W. I. Slichter; national secretary, H. H. Henline. Five other vice-presidents and nine other directors were held over from previous elections. Headquarters are in the Engineering Societies Building, 33 West 39th St., New York City.

ELECTRICAL ILLUMINATION. The fluorescent Mazda lamps that became commercially available early in 1938 were hailed as the greatest contribution to light production since the introduction of the tungsten filament for incandescent lamps. Although similar in size and appearance to the familiar lumiline lamps, these new lamps utilize an entirely different principle, that of an electric discharge through an atmosphere of ionized mercury vapor between electrodes at the ends of the tubes. The ultraviolet radiations of this typical mercury arc activate the chemical salts, or "phosphors" with which the *insides* of the tubes are coated. Available colors range from the truest artificial daylight so far produced, through a variety of previously unavailable pastel tints, to solid colors. Efficiencies are notable: White, more than double that of the best incandescent; red, about 5 times; blue, 60 times; green, 210 times. Colors are produced by the "additive" principle of converting the invisible ultraviolet radiations directly into luminous colors by the phosphor coatings in the tubes, which coatings become the actual sources of visible light. Hence the contrast in efficiency with the incandescent lamps where colors are producible only by using subtractive filters to absorb the unwanted colors constituting the normal "white" light of the lamp. Other characteristics of the fluorescent lamps: Low intrinsic brightness and low temperature of tubes; small ballast or starting transformer required because the initial voltage required is higher than the operating voltage. Technically, they are classified as the preheated-cathode low-voltage type. Within but a few months these new lamps have found many applications.

A "midget sun," a 1000-watt, 840-volt mercury lamp, has an arc about an inch long and approx-

imately the thickness of a toothpick that attains a brightness of about 30,000 candles per square centimeter. This tiny arc light operates with an efficiency of some 65 lumens per watt and requires about three quarts of water per minute to keep it cool. Important uses in the photoengraving and blueprinting fields now are apparent, and others no doubt will develop. The 65,000-lumen lamp complete with its water jacket is only some 6 in. long and 1 in. in diameter. Other mercury-lamp developments include the improvement of units to be used in combination with incandescent lamps for "daylight" effects; "sunlamp" improvements; "black light" radiators of ultraviolet for decorative, commercial, theatrical, and photographic uses in connection with fluorescent inks, paints, etc.; ultraviolet sources for the irradiation of foods and for certain germicidal purposes such as sterilizing the air in a hospital room.

The limit for incandescent lamps available with the medium (ordinary) screw base has been increased from 200 watts to 300, thus enabling the use of higher levels of commercial and industrial lighting without costly fixture replacements. Similarly, reductions in the physical size of lamps of lower wattages have been made. New in construction is a 150-watt lamp which embodies as integral parts a reflector and lens that produce a 25-deg. beam of light suitable for commercial spot-lighting indoors or out. A similar lamp suitable for indoor flood lighting embodies only a reflector. Bi-post lamps, formerly available only in sizes of 750 watts and larger, now are available in 500-watt size. For 16-mm. motion picture projection, an increase of 50 per cent in screen illumination has been attained with a new 1000-watt lamp designed to have a shorter life but greater efficiency. A new 250-watt, 125-volt "lamp" is designed to radiate heat for paint and other drying purposes.

Lighting for highways and streets is gaining wider recognition as an important factor in the safe operation of motor vehicles at night. In New Jersey alone some 200 miles of highway were illuminated, including what is now the longest continuous stretch (more than 50 miles) of such highway, between Camden and Atlantic City. Other States officially active include Illinois, California, and Minnesota. Detroit, still holding No. 1 place among cities, has installed more than 250 miles of new arterial street lighting since late in 1936. Other cities active in improving the levels of street illumination include Cleveland, Boston, Hartford, Portland (Ore.), and Los Angeles. In Greensburg, Pa., each street and alley throughout the city was surveyed and relighted, in keeping with actual traffic requirements. Tunnels lighted during the year with sodium-vapor luminaires include the twin Liberty Tubes in Pittsburgh, Stockton Street tunnel in San Francisco, and the McCallie Avenue tunnel in Chattanooga.

Sport, industrial, and decorative lighting have kept pace with the general advancement. A rayon plant in Painesville, Ohio, uses some 55 kilowatts in luminaires to produce an illumination level of 13 ft.-candles throughout its working area. Ebbets Field (baseball), Brooklyn, N. Y., has a nighttime illumination level of some 100 ft.-candles provided by 615 1500-watt Mazda floodlights. At Laidley Stadium (football), Charleston, W. Va., average intensity on the playing field is some 59 ft.-candles, obtained from 150 1500-watt units. Decorative lighting is showing the effects of the imaginative stimulus provided by the Golden Gate Exposition at San Francisco and the 1939 World's

Fair at New York. Airway illumination developments are typified by the 11,000,000-candle-power beacon that will reach 85 miles out to sea to greet transatlantic fliers at the new 4000-acre Newfoundland airport.

The trend in electronic tubes for the generation of high-frequency radiations for X-ray, industrial radiography, beam transmission for radio, and experimental work has been toward greater powers and relatively smaller sizes. The newest ultra-high-frequency tube can deliver 200 watts at 200 megacycles (115 meters), about double the output available previously from an air-cooled tube. This is significant for directive-beam transmission and for scientific studies. A compact shock-proof portable X-ray unit no larger than a traveling bag may be carried about by a doctor for emergency use at a patient's home.

The American Recommended Practice of School Lighting was published early in 1938 under the joint sponsorship of the Illuminating Engineering Society and the American Institute of Architects and approved by the American Standards Association.

The first practical application of the 50-kw lamp previously announced was reported during the year in a motor-car manufacturer's research laboratory to permit inspection of full-scale models under high-intensity single-source illumination. For the photographer, several new and smaller photoflash lamps of improved synchronizing characteristics, and a new line of enlarger lamps ranging from 75 to 500 watts in size, have been announced.

The sale of incandescent lamps for 1938 is reported as 485,000,000 large lamps and 315,000,000 miniature lamps. The 1937 figures were 515,000,000 and 440,000,000 respectively.

ELECTRICAL INDUSTRIES. Production in the electrical manufacturing industry (about \$1,600,000,000) was off by about 33 per cent from the level of 1937 (but above the 1935 level) as compared to a drop of 23 per cent in general business for the same period. Using production for the year 1925 as 100 per cent, statistical reports for 1938 show the Federal Reserve Board general production index at 80, population at 113, electrical manufacturing production at 97, and employment at 90. On the same basis, 1938 production of small appliances stood at 91, refrigerators at 786, industrial apparatus at 98, power-generating apparatus at 81, power transmission and distribution equipment at 96, insulated wire and cable at 66, and electrical material at 77. The 60th anniversary of one of the large electrical manufacturing companies was celebrated in 1938. This inspires pause for a realization of the fact that the electrical devices upon which the world now depends so widely were largely unknown within the life span of many people now living.

With the avowed objective of expediting the provision of increased power facilities as a war-time measure and in anticipation of increasing peace-time requirements, the Subcommittee on Standardization of the National Defense Power Committee has for the first time in the history of the electrical industry established "preferred standards" for condensing steam turbine-generators in nine sizes ranging from 10,000 to 100,000 kilowatts, and for eight sizes for superposition ranging from 10,000 to 60,000 kw. It is the committee's expressed intention that these standards, agreed upon by representatives of government, manufacturers, and utilities, will be followed in the building of all machines for new stations and for all possible

machines to be added to existing stations, anticipating that the cost of installation throughout the industry as a whole will be reduced sufficiently to compensate for any economic or other advantages that might accrue to any one installation from the individual or "tailor made" installations that have prevailed in the past.

Steel-mill electrification has continued, 1938 being a year of consolidation of progress and the completion of several important projects. A new slabbing mill, having a pair of horizontal rolls and a set of vertical edging rolls built into one stand, sets a record for a single mill by its 13,000 h.p. in three d-c motors. The largest d-c motor in Canada is a new 7000-h.p. unit driving a 46-in. blooming mill. A new hot-strip mill has turned out long runs at 2000 ft. per min., and a new cold-strip mill is capable of cold-rolling strips up to 94 in. in width at speeds up to 800 ft. per min. Electrical "tensiometers" now control the tension of strips during rolling. For the necessarily close inspection of the paper-thin steel sheets used for "tin" cans, photo-electric tubes ("electric eyes") now are used to detect minute holes at a speed the equivalent of some 5000 milk, beer, or soup cans per minute. A new continuous-catenary electric strip-annealing furnace is capable of handling as many as seven strips at once, and of maintaining temperatures as high as 2000 deg. F. New electric furnaces have controlled internal atmosphere to obviate undesirable chemical changes in such products as tool steels, high-grade silicon iron, or copper of high density and purity. Ball-mill (ore-crusher) bearings of moulded plastic, lubricated with water, have been found to reduce required mill-power by as much as 30 per cent because of lower friction, and to last longer than traditional metal bearings. The first use of ignitron-type rectifiers in the electrochemical industry occurred in 1938.

Air conditioning, largely dependent upon electrical devices for control and operation, is continuing its rapid growth. Many new buildings have been designed to provide air-conditioned office and public areas. More air-conditioned trains and buses made their appearance in 1938, and air-conditioned travel is beginning to be taken for granted by the public. For commercial and domestic installation, air-conditioning units have become "packaged" items ranging in capacities from 1 to 15 or 20 tons, self contained in every respect and requiring only power, air, and water connections for operation. Some of these provide also a supply of cooled drinking water. Domestic refrigerators have been improved in operating efficiency, utilitarian arrangement, and appearance; special units to serve farmers' needs have been developed. Electric sub-soil heaters have been used for sweet potato curing, effecting a closer and consequently more profitable control of temperature, and obviating fire hazard. Domestic electric ranges have been improved by such features as one-piece porcelain bodies, more durable and more easily cleanable heating units, and automatically controlled "cooker pot" units.

The \$220,000,000 Colorado River aqueduct of the Metropolitan Water District of Southern California in its sixth year of construction in 1938 was brought to approximately 95 per cent completion. Its five pumping plants are designed to be capable of raising 1500 cu. ft. (11,220 gal.) of water per second, a total of more than 1600 ft. The initial installation, expected to be in operation in 1939, includes two 82,500-kw generators at the Boulder power plant, six 12,500-h.p., three 9000-h.p., and

three 4300-h.p., 6900-volt synchronous motors, comprising a third of the ultimate capacity of motors and half the District's ultimate assignment of generating capacity at Boulder Dam. Statistics on farm electrification vary according to source, but it seems probable that approximately 30 per cent of the nation's 1,250,000 farms having dwellings valued in excess of \$500 were wired for electric service by the close of 1938. A 200-acre "typical farm" in northwestern New York State was turned into a "farm laboratory" equipped with a full complement of electrical devices in house and barns for the handling of farm operations ranging from milking to concrete mixing. Full operating records will be kept to determine the efficiency and economy of broad power utilization on a farm.

New laboratory tools developed for the conduct of research in the field of nuclear physics include an enormous belt-type electrostatic generator or "atom smasher" (previously reported), the main part of which was completed during the year. A "mass spectrograph" picks ions formed in a gas by electronic bombardment and passes them through a combination of electrostatic and electromagnetic fields in a large vacuum tube in such a way as to sort out the ions according to their ratio of charge to mass. Small crystals of alloys about the size of a pencil will be developed in a new laboratory vacuum furnace so that the elastic properties of single crystals of these alloys may be studied electrically. The study of three-dimensional stress distribution by the method of photo-elasticity is made possible by a device in which a model made of a transparent plastic is studied under stress conditions by means of polarized light which forms visible patterns representing the lines of stress.

A gas-filled electric power cable was introduced in 1938. Inert gas also was applied to certain totally enclosed induction motors intended for operation in the explosive atmospheres encountered in oil-refinery service, the gas under pressure preventing the infiltration of the explosive atmosphere. Fiberglass fabric, a new insulating material for electrical apparatus, found its way into broader applications, especially in motor windings subject to high temperatures and in equipment subject to heavy duties such as railway and industrial crane motors. An accelerated trend toward a wider use of carrier current for communication, power-line protective relaying, remote control, and remote metering purposes was apparent in 1938. The new Thomas A. Edison Memorial Tower at Menlo Park, N. J., was dedicated in February.

ELECTRICAL MACHINERY. With the pioneer hydrogen-cooled turbine-generator, little more than a year old, 1938 closed with some 750,000 kilowatts of such generators in service, ranging from 25,000 to 150,000 kw in size. Such machines are totally enclosed, and advantage of this feature was taken with a 75,000-kilovolt-ampere unit in Pittsburgh which may be placed under gas pressure to exclude water from its windings in the event of a flood such as occurred in 1936, thus expediting the restoration of the machines to service. Improvements in materials and technique since 1929 have made possible the ever-increasing size of high-speed machines and have resulted in some striking economies. For example, for each 1000 kw of capacity, a 25,000-kw 1800-r.p.m. machine weighs some 16,000 lb. and requires 21.5 sq. ft. of floor space whereas a 3600-r.p.m. machine of the same capacity weighs but 7300 lb. and occupies but 10.9 sq. ft. per 1000 kw. Significance of these developments is indicated by the fact that of 17 major machines

placed in operation in 1938, 13 operate at 3600 r.p.m. Largest 3600-r.p.m. machine reported was rated at 58,825 kv-a. Hydrogen cooling is of particular advantage in high-speed machines because hydrogen reduces friction and windage losses to one tenth of the values encountered with air.

New features on a 25,000-kv-a hydrogen-cooled synchronous condenser include turbo-type construction common to high-speed generators, operation at 3600 r.p.m. instead of the more usual 720 or 900 r.p.m., excitation supplied by an ignitron rectifier instead of the usual rotating d-c generator.

Water-wheel generators also made news during 1938. At Boulder Dam the fifth and sixth 82,500-kw units were placed in service and the building of two more similar units was begun. At Bonneville Dam two 48,000-kv-a 75-r.p.m. vertical units were ready for operation. At Guntersville Dam three 27,000-kv-a 69.2-r.p.m. units were under construction. Two 40,000-kv-a 81.3-r.p.m. generators were ready for service at Pickwick Dam about the same time that the 64,000-kv-a 120-r.p.m. machines for the Hiwassee Dam were being designed on the drafting tables. Among those being built for export are three 70,000-kv-a 125-r.p.m. 50-cycle units for Manchoukuo.

Under development for the Government's Grand Coulee project are units expected to deliver 108,000 kw. Ultimate design of the projected twin-power houses will accommodate 18 such units. Bids were requested by the U.S. Bureau of Reclamation covering four 75,000-kw units for installation at the Shasta Dam on the Sacramento River in northern California.

Matching the increasing popularity of the Diesel engine, a line of generators ranging in size from 30 to 60 kw at 1200 r.p.m. has been designed especially for direct connection to such engines, for small isolated installations. Several power transformers of the order of 40,000-kv-a capacity were placed in operation. A previously announced development in distribution transformers made available commercially during 1938 permits the core to be machine-wound around the transformer coils from a continuous strip of cold-rolled steel in a fraction of the time required for the conventional hand assembly of laminated cores.

A 2500-h.p. induction motor placed in operation during the year on a large mine hoist rates as the largest induction motor in such service in America. Other unique features of the installation include d-c control, 3600-ft.-per-min. hoisting and 3300-ft.-per-min. lowering speed, and dynamic d-c braking. Three 1250-h.p. 13,200-volt synchronous motors with magnetic forward, reverse, and dynamic-braking controls are rated as the largest and highest voltage motors and controls to be used so far to drive automobile-tire manufacturing machinery. These motors are completely enclosed and each has its own closed-circuit ventilating system equipped with air coolers. What is reputed to be the largest 4-speed squirrel-cage induction motor was built to deliver 2000 h.p. to drive a propeller capable of producing a 400-m.p.h. wind in a college aerodynamics laboratory. This motor requires 12,000 cu. ft. per min. of air from a 40-h.p. blower just to keep it cool.

Many improvements were effected in protective and control devices of importance to electric power systems. A new design of induction voltage regulator with control devices, completely self contained and 20 per cent smaller, may be installed either indoors or outdoors. The number of Petersen Coils (for neutralizing transmission-line

ground faults) in service by the end of 1938 was half again the number in service at the beginning of the year. Advances made in heavy-duty oil circuit breakers include greater interrupting capacities and increased operating speeds that will help to reduce service interruptions. Metal-clad switchgear has been improved in operating characteristics, reduced in bulk and weight by welded steel construction. A safety-type switchboard for powerplant or industrial applications resembles a multiple tier of small lockers, a circuit breaker in each locker with the operating handle protruding through the door. As a unit is withdrawn from its compartment, it automatically is electrically isolated and ready for safe service work. A small but important development is a non-bouncing contact for electrical protective relays. To the eye, this contact looks like any other silver contact, but in actuality it is hollow and partially filled with grains of tungsten, the interfriction between which absorbs the energy of impact. This important little development is of especial significance in carrier-current relaying, where positive contact action is particularly important. A mathematical concept led to a drastic simplification of pilot-wire protective relaying schemes that extended the range of their application.

A motor-driven multiple-commutator device has been developed, the purpose of which is to simulate repetitively such transient conditions as exist on a power system under fault or switching conditions. This device in conjunction with an alternating current network calculator greatly facilitates the analytical study of power-system problems.

Steel-enclosed mercury-arc rectifiers during 1938 were improved in design and simplified as to auxiliary equipment. Typical units placed in operation during the year include a 26,000-ampere 515-volt installation in an electrochemical plant; additional units for underground service in a coal mine; a 3000-kw 625-volt unit for a New York subway system, one of the first installations of the ignitron-type for transportation service, and the largest of this type installed to date. For the San Francisco-Oakland Bay Bridge railway electrification, mercury-arc rectifiers totaling some 20,000 kw of capacity were installed to serve trolley voltages at both 1300 and 625 volts.

The trend of development in electric meters and instruments for 1938 continued in the direction of more accurate measurements and control with greater precision, and of extending measurements and control into new fields. The measurement of current at high frequencies was simplified by a new thermocouple ammeter. A new electric gauge measures the thickness of nonmagnetic coatings of a few thousands of an inch, such as enamel, over steel parts. At the other limit in electrical measuring devices is a new eddy-current inductor-type dynamometer capable of measuring accurately the thousands of horsepower developed by large engines.

Electrical instruments have played their full part in the rapid development of aviation. A new gasoline gauge transmits magnetically the indications of a float arm within the gasoline tank, thus obviating the possibility of leakage. By the use of the d-c Selsyn principle as many as eight different indications may be obtained on one instrument of only 3/4-in. diameter. An automatic engine-speed synchronizer developed for use on multi-engine planes, holds several engines very closely to identical speed by varying the pitch of the propellers.

ELECTRICAL MARINE ENGINEERING. Setting a new record in the American mer-

chant marine for high steam pressure, two new turbine-electric tankers have boilers delivering 625-lb. steam at 825 deg. F to 4500-kilowatt turbine-generators. A third similar ship is under construction to operate with 900-deg. steam. Geared Diesel-electric propulsion, a new type of drive, was introduced on tugboats operating in and out of New York harbor. On each vessel two 400-kw engine-generator sets serve two geared propulsion motors which deliver 1000 horsepower to the propeller shaft to drive the vessel at 13 knots. Late in the year work was started on additional Diesel-electric tugboats to be of 3000 h.p. each. To measure the horsepower or the horsepower-hours being delivered through a ship's propeller shaft, a new electric device accurately detects and translates the twist in a measured length of the propeller shaft.

A new 2220-kw Diesel-electric fireboat for the city of New York has two 1500-h.p. engine-generator units, two 1000-h.p. propulsion motors, and four 600-h.p. motor-driven firepumps each having a capacity of 5000 gal. per min. at 150-lb. pressure. An elaborate electrical-control system provides complete flexibility for operating equipment in various combinations as required. Construction of the Diesel-electric propelling equipment was completed during the year for four U.S. Coast Guard cutters intended for ice breaking and harbor work. An electromagnetic air-gap coupling or clutch capable of transmitting 3000 h.p. at 400 revolutions per minute was completed during the year and will be used to advantage for marine propulsion where Diesel engines and reduction gearing are used instead of electric drives. New steam-turbine gear-driven tankers will have a complete alternating-current electric-power system for the operation of pumps, winches, and other auxiliary equipment. On a U.S. Army Engineer Corps construction dredge 3000-h.p. 300-r.p.m. induction motors operating directly from 13,200-volt shore lines were installed to drive the dredging pumps. General marine electrical trends noted for 1938 in addition to those already noted include the use of centralized group control for auxiliary motors on large vessels, a trend toward the use of Class B insulation on propelling motors and generators because of the resultant higher permissible operating temperature and corresponding lower weight and saving in space, a trend toward "dead-front" switchboard construction using deionizing or other enclosed types of circuit-breakers instead of exposed fuses or knife switches.

ELECTRICAL TRANSMISSION AND DISTRIBUTION. More than 5100 miles of new transmission lines were constructed in 1938, almost exactly the same as actually constructed for 1937 and nearly three times the total constructed during 1936. New substation capacity amounted to 2,749,000 kilovolt-amperes as against 2,611,000 for 1937 and 926,000 for 1936. Another 237-mile 230-kilovolt transmission line was completed from Boulder Dam into southern California for initial service to the five pumping stations along the Colorado River Aqueduct of the Metropolitan Water District of Southern California. Extensive flood damage to transmission and distribution facilities was suffered by southern California power companies in March, 1938. Similarly, power lines in the eastern portion of Long Island and through New England suffered severe damage in the hurricane of September, 1938. Reconstruction work dramatically demonstrated the great advantages of standardized equipment and practices. Engineers at a meeting of the Edison Electric Institute in May undertook

to define the rating of all power-system equipment.

Studies of natural lightning, and portable facilities for imposing artificial lightning impulses on transmission systems and the study of the effects thereof, have contributed toward a better understanding of the subject and more effective means for protecting lines and equipment from lightning damage. The growing importance of Petersen Coils (fault "neutralizers") as an economical and reliable method of protection is evidenced by the fact that one manufacturing company alone reports the production during 1938 of seven new units, about 50 per cent of the total number in operation at the beginning of the year. A new line of capacitors of water-proof construction was developed for circuits up to 15 kv, such units being an essential part of the impulse protective equipment for a-c motors and generators on systems exposed to lightning. A new outdoor fuse for service up to 600 volts for the protection of individual distribution transformers, etc., gives a visual indication when it has operated.

With the installation of expulsion-type protector tubes on a 220-kv transmission line, a new circuit voltage record was established. These units protect the insulators against impulse flashovers. New 230-kv high-speed oil-circuit breakers under test on a 220-kv 50-cycle system demonstrated their ability to interrupt as much as 1,800,000 kv-a in intervals of time ranging from 1.37 to a maximum of 4.2 cycles. To reduce contact resistance, silver-to-silver line-pressure contacts were incorporated at all joints in a new metal-clad switchgear. Improvements in network protectors and other protective relays enable them to give more certain and dependable operation in shorter time intervals when trouble conditions occur on lines or in equipment. Gas-filled power cables have been installed in New York City, representing an outstanding development of the year in this field. This cable is expected to show advantages in installation and maintenance.

ELECTRICAL TRANSPORTATION. The Pennsylvania R.R. early in 1938 completed its electrification of main-line passenger and freight routes east of Harrisburg to Washington, Philadelphia, and New York. All passenger and freight trains east of Harrisburg now are operated electrically, and the railroad had under construction at the close of 1938 some 20 more passenger locomotives to augment its motive power on these divisions. The electric locomotives developed for handling freight trains at speeds as high as 70 miles per hour used the same single-phase 11,000-volt series commutator-type motors as used for passenger service, with design improvements that enable them to deliver more power at greater speed for given sizes and to withstand heavier overloads for starting duty than previous motors; under test a freight locomotive rated at 5000 continuous horsepower produced the equivalent of 10,000 rail h.p.; with a load of 140 tons on its driving axles it had a starting tractive effort of 70,000 lb.

Tests made on new electric passenger locomotives for the New York, New Haven and Hartford R.R. placed in service during 1938 demonstrated their ability to maintain fast schedules with heavy trains of 16 standard cars. Normally rated at 3600 h.p., these locomotives are capable of heavy overloads for short periods. A new 1000-h.p. Diesel-electric Burlington "Zephyr" under construction will have a small Diesel-electric power plant on each car to provide independent air-conditioning. For the San Francisco-Oakland Bay

Bridge, new lightweight trains were developed for both the Southern Pacific (1200-volt trolley) and for the key system (600-volt trolley and third rail).

Quite aside from the matter of motive-power requirements for modern high-speed trains is the matter of electric power required in the passenger cars. Whereas the conventional passenger car has required only from 2 to 4 kilowatts per car, the requirements of electrical energy for heat, air-conditioning, light, ventilation, water cooling, and other apparatus now amount to about 50 kw per car on a modern streamlined train—a total requirement of some 600 kw in auxiliary power for a 12-car train. This seems likely to lead to alternating-current train-lines of perhaps as high as 2300 volts.

Something new in railroad locomotives is represented by the 5000-h.p. twin-unit steam turbine-electric locomotive completed late in 1938 for the Union Pacific R.R. A specially designed high-pressure oil-burning boiler furnishes steam at 1500 lb. pressure to twin condensing turbine-generators which supply power for the traction motors. In appearance this new locomotive is not unlike the new Diesel-electrics. Foreign railroad developments included manufacture in the United States of new 185-ton electric passenger locomotives for 3000-volt d-c service on the Paulista Rwy. in Brazil, rated at 4200-h.p. and capable of 90 miles per hour maximum speed. For industrial service, small Diesel-electric locomotives ranging in size from 20 to 45 tons provide the ease and control of operation typified in the larger units on main-line roads.

Records for 1938 show the increasing popularity of the new type of street car known as "President's Conference Committee" car (see 1935 YEAR BOOK). Since the first fleet was placed in operation in Brooklyn, N. Y., two years ago, nearly 800 cars of this type have gone into service in 10 of the larger cities. Another important vehicle for mass transportation is the modern trolley coach, first used in Salt Lake City ten years ago and now spread to 40 other localities with an aggregate of more than 2000 such vehicles in operation. A new bus for heavy-duty service has a 2-unit articulated body with 8 wheels on 4 axles and with 2 driving motors served by a single engine-generator set. A new bus motor uses a compound instead of a series winding, facilitating the use of automatic regenerative control and electric braking for service as well as emergency stops. A 1938 development for New York subway-elevated service is a 3-car 4-truck unit about 80 ft. long, weighing 70,000 lb., and providing seats for 84 passengers and aisle space for 234 persons to stand. This unit adapts motors, control, and braking equipment successfully demonstrated on the P.C.C. car, is intended for high acceleration and rapid retardation, and is designed for operation with as many as seven 3-car units in a single train.

Other phases of transportation deserve mention in passing. One is the further improvement of floor selectors and automatic leveling equipment to improve the safety and facility of the modern high-speed elevators required for modern skyscrapers. Another is the installation in New Hampshire of North America's first aerial tramway, up the 6000-ft. slope of a peak popular with mountain climbers and winter-sports enthusiasts.

ELECTRIC LIGHT AND POWER. In the United States the total electric energy generated by the electric light and power industry during 1938 was some 109 billion kilowatt-hours (on the basis of 10 months' records and two months' esti-

mates). This compares with 115 billion in 1937, 106.5 in 1936, and 90 in 1929. Another 4.85 billion kw-hr from the aluminum and paper industries, from government hydroelectric plants, or from across the Canadian border brought the total power handled on private and municipal utility systems to nearly 114 billion kw-hr for 1938. Of this amount about 2 per cent was required for company uses, and 16 per cent was absorbed in carrying the remaining 82 per cent through the transmission and distribution systems to the ultimate consumers. Of the total energy generated for electric power systems in 1938, some 62 per cent was produced in steam-electric generating plants and 38 per cent in hydroelectric plants; in 1937 these percentages were respectively about 65 and 35.

Of the 93.4 billion kw-hr delivered to ultimate consumers, 67 per cent went to commercial-industrial customers, 18 per cent to residential customers, and 2.6 to farm users. Utilization in all divisions represented a substantial increase over that of 1937 with the exception of industrial usage where a drop of more than 17 per cent accounted for the industry as a whole showing 5 per cent under 1937. The 1938 sales of electrical energy represented a billed value of \$2,172,750,000, essentially the same as that of 1937, and compares with \$1,938,520,000 in 1929. The average consumption per residential customer in 1938 was 850 kw-hr at an average rate of 4.2 cents per kw-hr as compared to 499 kw-hr at a rate of 6.3 cents in 1929. The number of electric-power customers increased during 1938 by approximately 601,500, bringing the total to a new high of 27,765,480, classified as follows: 1,410,000 farm; 22,010,000 residential; 4,242,000 commercial-industrial; and 103,480 municipal, railroad, and miscellaneous.

Federal power projects now under development are scheduled to have an ultimate capacity of some 6,400,000 kw, equivalent to approximately 18 per cent of the present rating of private electric light and power plants, and for the most part competitive with them. The 455,400 kw in such projects brought into operation during the year brings the total in Government projects now in operation up to about 1,175,000 kw. As of November, 1938, a total of 480-odd Government rural electrification projects had been allotted a total in excess of \$160,500,000. Of these, 315 have been placed in service. By the end of 1938 more than 150,000 rural customers were being served with electric power from some 70,000 miles of lines constructed with funds provided by the Rural Electrification Administration. For 161 municipal power projects involving a total estimated cost of nearly \$46,000,000 the PWA during 1938 authorized loans totaling nearly \$6,000,000 and grants in excess of \$20,000,000. Fifty of the projects are competitive with existing private utilities, 104 already were municipal plants, six communities had not previously been served. During the year several private utilities under threat of direct government competition sold properties to local governments which in most instances were fortified with Federal funds. The most notable case was the consummation of a sale by Wendell Wilkie of the Commonwealth and Southern property in TVA territory to the Government for a sum adequate to liquidate the interests of investors.

Rate reductions during 1938 represent savings to consumers of \$16,100,000. An ever-increasing tax bill against utility properties, amounting to \$338,000,000 in 1938, some 16.7 per cent of estimated gross revenue, sent the over-all operating ratio to

a new high of 53 per cent, although the net operating ratio exclusive of taxes was by skillful utility management kept for 1938 at the 37.7 per cent figure of 1937.

Expenditure of capital for new utility construction in 1938 amounted to \$433,035,000 as compared to \$455,480,000 for 1937, \$133,519,000 for steam-electric generating capacity, \$14,467,000 for hydroelectric generating capacity, \$39,070,000 for transmission-line construction, \$217,162,000 for distribution construction, and \$28,817,000 for miscellaneous items. Financing required during the year amounted to some \$962,000,000, approximately 90 per cent of which was for refunding purposes.

A total of 1,695,908 kw in new electric generating capacity was reported for 1938, more than for any year since 1930. In steam-electric generating stations, 50 private companies reported 9 new plants totaling 143,000 kw and additional capacities totaling 1,085,735 developed in existing plants; 19 municipalities reported 2 new plants totaling 7000 kw and additions totaling 91,500 kw in 17 existing plants. In hydroelectric plants, 14 private companies reported 5 new plants totaling 80,685 kw in capacity and additions totaling 17,120 kw in 9 existing plants; 2 municipalities reported 2 new plants totaling 10,800 kw; the Tennessee Valley Authority reported a capacity of 72,000 kw in new plants; the U.S. Bureau of Reclamation added 165,000 kw in generating capacity at the Boulder Dam power plant. In internal-combustion-engine plants, 10 private companies reported additions totaling 13,154 kw to existing plants; 4 publicly owned systems reported 1 new plant of 5000 kw capacity and additions totaling 4910 kw to 3 existing plants.

Of especial interest in the foregoing figures is the fact that nearly 90 per cent of the new steam-electric generating capacity was provided in existing plants. This development represents two trends: First the replacement of obsolete and inefficient equipment, and second the decided trend toward the superposition of high-pressure "topping" units. Seven installations of topping turbines operating at high temperatures and pressures accounted for a total new capacity of more than 300,000 kilovolt-amperes. Power-plant capacities can be increased from 40 to 100 per cent, with paralleling improvements of from 35 to 50 per cent in heat rate, by the superposition of such machines. Total fuel-power production in 1938 from all plants (industrial and railroad as well as central station) producing energy for public use amounted to 71,584,000,000 kw-hr and accounted for the consumption of 40.2 million tons of coal and gas and oil the equivalent of another 10 million tons. Average thermal economy continued its unbroken trend, only 1.42 lb. of coal being required per kw-hr as compared to 1.43 for 1937 and a progressively higher rate to 1.69 for 1929 and 3.2 for 1919.

Freak weather conditions in various parts of the United States during 1938 caused severe flood and other damage to electric generating plants and power distributing systems in mid-continent, New England, New York, and California, demonstrating at once on the one hand the vital nature of electric power in modern life and on the other hand the effectiveness with which power service was restored in affected areas. This latter was greatly enhanced by system interconnections whereby supplies of power from unaffected areas could be brought into areas the local sources of which had been destroyed or disabled. The effectiveness of broadly standardized equipment and methods in the

matter of quick restoration of service was most strikingly demonstrated in the restoration of utility services in the New England hurricane area. Men and materials were mobilized from the whole eastern portion of the country.

Tentative plans for the integration of power system properties in voluntary compliance with section 11(B) of the Holding Company Act were received in great numbers toward the close of 1938 by the SEC in recognition of its tentative deadline of December 1. These plans contemplate the coordination of properties into sectional units (east, west, south, or midwest) regardless of the intermediate holding companies, and the sale or intertrading of small holdings not logically related to major sectional groups. Holding companies are starting out slowly, preferring to rearrange their systems piece by piece rather than by means of one general upheaval. The Commission's official attitude toward these interpretations and procedures is still to be determined. To explain what is meant by "integration," one company's plan contemplates re-grouping its far-flung properties into three reasonably well unified geographical systems, one in the Northwest, one in the South, and one in the East, most of the properties in these groups being either already interconnected or susceptible of interconnection for operating purposes. With the filing of these plans in 1938 with the SEC, the 1935 Public Utility Holding Company Act entered its third stage. The first stage ended in January, 1938, with the Supreme Court ruling upholding the constitutionality of the registration provision of the act. The second stage came to a close with the filing of tentative plans as mentioned. The third stage may see the actual beginnings of integration of the various systems and certainly will see many commission rulings and judicial decisions.

ELECTRIFICATION. See RAILWAYS.

ELECTRONS. See PHYSICS.

ELEMENTS. See PHYSICS.

ELMIRA COLLEGE. An institution for the higher education of women in Elmira, N. Y., founded in 1855. The enrollment for the autumn of 1938 was 362. There were 51 members on the faculty. The endowment of the college amounted to \$1,063,731, and the income for the year, exclusive of gifts, was \$288,386. During the session of 1937-38 gifts amounting to \$4969 were received. There were 46,500 volumes in the library. President, William S. A. Pott, M.A., Ph.D.

EMIGRATION. See IMMIGRATION.

EMORY UNIVERSITY. An institution for higher learning in Atlanta, Ga., coeducational only in the upper division of the college and in the graduate and professional schools (except the school of medicine), founded in 1836. The enrollment for the autumn of 1938 was 1538. The 1938 summer session had an attendance of 797. The faculty numbered 254. The endowment amounted to \$5,480,736, and the income for the year was \$755,156. There were 159,124 volumes in the library. The university operates Emory junior colleges at Oxford, Ga., and Valdosta, Ga., duplicating the work of the first two undergraduate years on the Atlanta campus. President, Harvey W. Cox, Ph.D., LL.D.

EMPIRE EXHIBITION. See ARCHITECTURE; CELEBRATIONS.

EMPLOYMENT. See UNEMPLOYMENT.

ENDERBURY ISLAND. An island $2\frac{1}{2}$ miles long and 1 mile wide, located in the Pacific Ocean approximately in latitude $3^{\circ} 7' N.$, and longitude $171^{\circ} 3' W.$ from Greenwich, claimed by both Great Britain and the United States. Offering a

flat surface suitable for the development of an airfield, the island came into prominence in 1937 as a prospective base for airlines between Canada, the United States, and Australasia. Great Britain, by an Order-in-Council of Mar. 18, 1937, incorporated the Phoenix group (including Enderbury) in the Gilbert and Ellice Islands colony. The United States claimed that the island had been discovered by American whaling ships a hundred years ago. On Mar. 3, 1938, President Roosevelt signed an executive order which laid formal claim to Enderbury and Canton Islands of the Phoenix group. An understanding was reached between the United States and Great Britain in the pact of Aug. 10, 1938, in which they agreed to leave the question of title in abeyance for a protracted period of time. The islands are to be controlled by a joint Anglo-United States regime, each party being assured of equal rights in the use of the islands for aviation and communications.

ENGINEERING. See BOILERS; BRIDGES; CANALS; DAMS; ELECTRICAL MACHINERY; GARBAGE AND REFUSE DISPOSAL; PORTS AND HARBORS; TUNNELS, ETC.

ENGINES. INTERNAL COMBUSTION. The bulk of Diesel engines produced in the United States during the past two years has been in sizes under 150 h.p. For certain kinds of service these have been marked by lighter weight and higher speeds. Two large automobile manufacturing groups have entered the Diesel field with a standardized design in several capacities for application to trucks, tractors, and buses. The railway field is also employing a number of Diesels of large capacity for fast Diesel-electric trains and for switching locomotives.

A limited number of heavy-duty Diesels of medium capacity have gone into stationary service. To date the largest Diesel engines that have been built in this country are the 7000-h.p., eight-cylinder, two-stroke cycle, double-acting units installed several years ago at Vernon, Calif., and more recently at Salt River, Ariz. These are greatly exceeded in size by a number of engines abroad, the largest of which is a 22,500-h.p. unit in Copenhagen, Denmark. About 20 engines, from 1000 to 3000 h.p., were built or ordered in the United States during 1938, including both stationary and marine service.

The majority of engines between 1000 and 4000 h.p. are of the two-stroke-cycle type and above this capacity practically all operate on this cycle. Double-acting engines are confined to the two-stroke cycle, although many large two-stroke-cycle engines are single-acting. In most of the smaller sizes the four-stroke cycle predominates whereas for intermediate capacities both the two- and the four-stroke cycle are employed. Engine speeds of 120 to 150 r.p.m. prevail among the larger units while 1500 to 2000 r.p.m. are usual among the small high-speed engines.

During the past year further progress has been made in the simplification of designs and a greater degree of standardization has been carried out. Alloys and welding have been employed to a greater extent than heretofore, and controls have been perfected. Combustion chamber designs and fuel injection have been improved to better the performance of high-speed engines, vibration and noise have been lessened, and supercharging has received wider application, as has also the use of heat recovery equipment. Improvement in the refining and compounding of lubricating oils has been an important factor in operation and reduced maintenance.

Progress in the application of Diesel engines to the aviation field has been slow in this country, but

abroad, particularly in Germany, the Junkers opposed-piston type is being used extensively in fast passenger planes. These employ twin engines of 600 to 800 h.p. each. The German hydroplane which last year established a long-distance non-stop flight of 5000 miles to Brazil was propelled by four Junkers engines.

The distribution of natural gas to various sections of the country has been responsible for increased use of gas engines during the past few years. These are principally in small- or medium-size units for industrial applications, pumping, driving compressors, and to a lesser degree for driving electric generators. The widest use of such engines is in the Southwest and in California, the latter, according to figures compiled by the American Gas Association, having about 500,000 installed horsepower.

ENGLAND. See GREAT BRITAIN.

ENGLAND, CHURCH OF. In England, that church which is established and endowed by law as the national church. Its faith is represented in the United States by the Protestant Episcopal Church (q.v.). (For details of church government, see the *NEW INTERNATIONAL YEAR BOOK*, 1932.) In 1937 there were 2,372,079 Easter communicants in the 43 English dioceses. Incumbents numbered 12,645 and assistant curacies, 4527. The total voluntary parochial contributions amounted to £1,219,-872.

The year 1938 was notable as Bible Year and as the year in which the Doctrinal Report was published. In spite of grave difficulties created by the Tithe Act, it was a year of steady consolidation. The year was observed as Bible Year in commemoration of the Royal Injunctions issued in 1538 to all the parochial clergy that they should each "provide one book of the whole Bible of the largest volume in English and the same set up in some convenient place within the said church that you have cure of, whereas your parishioners may most commodiously resort to the same and read it." The celebrations culminated in a great National Service of Thanksgiving for the English Bible held in St. Paul's Cathedral on June 17. World-wide interest was roused by the publication on January 14 of "Doctrine in the Church of England," being the Report of the Commission on Christian Doctrine appointed by the Archbishops of Canterbury and York in 1922. In November, 1938, the Church Assembly instructed the Central Board of Finance "to initiate and carry out a scheme for raising at least £50,000 for the help of Christian refugees."

The Royal Assent was given during the year to the following Measures passed by the Church Assembly: The Guildford Cathedral Measure, 1938, which transferred the dignity and status of the Cathedral of the Diocese from the Church of the Holy Trinity to the Church of the Holy Spirit in course of erection; The Marriage (Licensing of Chapels) Measure, 1938, which removed a doubt which arose as to the extent of the powers conferred upon a bishop in connection with the licensing of chapels in Conventional districts; The Parsonages Measure, 1938, which consolidated and amended the law in respect to the sale and acquisition of Parsonages. It repealed the Parsonages Measure, 1930; The Ecclesiastical Commissioners (Powers) Measure, 1938, which conferred further powers, mainly of an administrative character, upon the Ecclesiastical Commissioners; The Liverpool City Churches Act, 1897 (Amendment) Measure, 1938, which amended the Liverpool City Churches

Act, 1897, and enabled the Ecclesiastical Commissioners to make grants from the "Building and Endowment Capital Fund" for the building or endowment of churches or for the purchase of sites near to as well as actually within the boundaries of the City of Liverpool; The Faculty Jurisdiction Measure, 1938, which, without altering the essential character of the faculty jurisdiction, made that jurisdiction more effective in those cases where it is now disregarded, and afforded greater protection to ancient churches, associated the archdeacons with the work of the Consistory Court and gave them some independent authority, especially in the matter of repairs, and gave statutory recognition and statutory functions to the Diocesan Advisory Committees. Final approval was given to the Premunire (Appointment of Bishops) Abolition Measure; Diocesan Officers Remuneration Measure, and Queen Anne's Bounty (Powers) Measure.

At the summer session the budget of the Church Assembly was introduced by Earl Grey, the Chairman of the Central Board of Finance, and was approved. It provided for the expenditure of £145,000 and included the following items: Contributions to the Clergy Pensions Scheme; Grants for Religious Education, including Church Training Colleges; Training for the Ministry, Ordination Candidates; Maintenance of Assistant Clergy in understaffed Parishes; Contribution to the Fund for Pensions for Widows and Dependents of the Clergy; Central Loan Fund; Expenses of the Church Assembly and its Committees, Boards, and Commissions; and the expense of the two Convocations. The whole of the £500,000 forming the Central Loan Fund was applied for, and advances amounting to £198,000 were made to 30 dioceses during the year. The largest applications came from the dioceses of Liverpool and Sheffield.

The subjects before the Convocations of Canterbury and York included the Doctrinal Report; an important scheme for declaration of the meaning of "Lawful Authority" in the Declaration of Assent; the Appointment of Bishops; Deaconesses; Church and Marriage; Church and Youth; the Church in Germany; Reunion; Road Dangers; the Status of the Clergy; Exchange of Benefices; Cremation; Preparation for Confirmation; Chaplains in Public Institutions; Education; the Status and Work of Lay Readers; a Guild of Vergers Benevolent Society; Baptism, Godparents, and the Report on Youth; the Ministry of Women; Co-operation between Doctors and Clergy; the Contraceptives (Regulation) Bill.

The Coal Act, which was passed in July, placed important responsibilities on the Ecclesiastical Commissioners for the protection of coal-interests belonging to the Church. Under the terms of the compulsory acquisition of coal presented by the Act the Commissioners will experience a substantial reduction of income when their present rights cease in 1942. In October, the first and major portion of the 15th Rehousing Scheme undertaken in London by the Commissioners was completed and the block (at Maida Vale) was opened by the Bishop of London. Queen Anne's Bounty were engaged throughout 1938 in settling with the Tithe Redemption Commission the amount of tithe, benefice by benefice, for which they were entitled to compensation under the Tithe Act, 1936. The total capital loss which the Church faced as a result of this act was approximately £17,750,000.

The officers of the Church Assembly in 1938 were: Chairman, the Archbishop of Canterbury;

vice-chairman, the Archbishop of York; secretary, Sir Philip W. Baker-Wilbraham; assistant secretary, Guy H. Guillum Scott; chairman of the house of bishops, the Archbishop of Canterbury; chairman of the house of clergy, the Dean of Norwich; chairman of the house of laity, the Earl of Selborne. Temporary headquarters are at Parliament Mansions, Orchard Street, Westminster, S.W.1, London, England.

ENGLISH LITERATURE. See LITERATURE, ENGLISH AND AMERICAN.

ENTOMOLOGY, ECONOMIC. The year 1938 was marked by a continued spread of some of the insects introduced in recent years against which every means of control warfare has been marshaled by Federal and State agencies co-operating. The pink bollworm of cotton, held in check along the Rio Grande for many years following its spread from Mexico, has moved from the lower valley to the north in Texas and has extended its invasion westward in Arizona. The destructive bark-beetle-transmitted Dutch elm disease continued to spread and threatens destruction of the country's majestic shade tree. The injury to forest and shade trees that survived the West Indian hurricane which swept a large part of New England on September 21 was of far-reaching importance. Not only was the direct loss from that storm staggering but by breaking and exposing many new points in the bark and wood to invasion the storm increased their susceptibility to insect attack. This was of special importance as related to the possibility of further spread of the Dutch elm disease. The breakage in roots and branches weakened trees of many species and made it much easier for the various insect borers to attack them. The grasshopper plague and the Mormon cricket continued to cause great losses in the central and far western States. War against the ravenous white-fringed beetle was further organized and pressed in the four infested Gulf States.

Codling Moth Control. In the work with insecticides most favorable results have been obtained from the use of nicotine-bentonite in the Middle West as a substitute for lead arsenate in combating the codling moth. The tank-mix nicotine-bentonite was found to be equal to or better than lead arsenate in preventing worm entrance, was much better in controlling the sting type of blemish, and gave much less difficulty in residue removal. The increase in cost of this material appeared to be more than offset by the improvement in codling moth control and in the condition of the trees. Practical field experiments with orchard sanitation and banding have given reductions in infestation ranging from 20 to 60 per cent, demonstrating conclusively the value of these practices, especially under conditions of severe infestation. The use of bait traps reduced infestations from 20 to 50 per cent. The winter was passed by the pest with small loss over most of the country. Its development early in the spring portended a heavy infestation but cool weather late in May and early in June in most areas in the East and Middle West checked its activity and the infestation was about normal.

Corn Earworm Control. That this cosmopolitan pest which, through its attack upon the ears of sweet corn, is the bane of the housewife throughout the land may be held in check to a considerable extent was shown in preliminary experiments reported. By clipping off the tips of the ears about six days after pollination a maximum number of the earworm eggs will be removed from the silks at a time when few newly hatched worms have had time to penetrate the ears. This clipping method is

considered to afford the large commercial grower a chance to eliminate most of the worms at the rate of at least an acre per day per man and is much less costly than dusting. In cage experiments in Kansas it was found to survive the winter for the first time in the four years that cage observations have been under way and it also survived in Utah. It was reported as more generally distributed in Maine than for many years but otherwise was about normally abundant throughout the greater part of the country.

Dutch Elm Disease Control. Control work with the destructive bark-beetle-transmitted Dutch elm disease (see 1937 YEAR BOOK, p. 235) was pressed with great vigor. Inspections in 1937 had revealed some 25 per cent fewer trees infected than in the preceding year but in 1938 there was an extension of the infected area west into Eastern Pennsylvania and northward in New York State. More diseased trees were found than in any previous year due in part to the moisture and temperature conditions favorable to its spread. Upon discovery diseased trees were quickly removed and the causative fungus and bark-beetle vector present destroyed.

European Corn Borer. The spread of this pest continued and commercial damage was caused in Indiana for the first time. There was a tremendous increase in its infestation in southwestern Ontario in September, with indications of a greater abundance than at any time in a decade. Serious damage to sweet corn was reported from New England, New York, New Jersey, Ohio, and Indiana. A practical method of control on early market sweet corn was found after years of work by State and Federal entomologists. This consists in the application of one of the several promising insecticides, of which nicotine tannate solutions are most dependable, during the comparatively brief period the caterpillar spends on the outside of the plant. The application of the spray or dust must cover the leaves, emerging tassel, developing ear, junction of the leaf blades with stem, and tiller growth. Whether or not these insecticides can ever be recommended for borer control on canning corn and field corn depends on the results of tests in progress.

European Spruce Sawfly. There was a noticeable increase in the number of dead spruce resulting from the attack of the European spruce sawfly in the Gaspé peninsula of Quebec, where it was first discovered in North America in 1930 (see 1937 YEAR BOOK, p. 235). Its known distribution was greatly extended. An intense infestation was observed in New Hampshire with concentrated infestations throughout Maine, Vermont, and eastern New York.

Grasshopper Menace. The campaign against grasshopper devastation in the great grain-producing and grazing areas of the West, for which an appropriation of \$2,000,000 had been made by Congress, was continued. It was the first time since Federal-State co-operative control work to protect crops from grasshopper attack was begun that control forces were ready to halt the migrating bands before they could spread into fields and do crop damage. Every possible provision was made for maximum crop protection with a minimum amount of material. By the end of July effective poison baiting gave a very high degree of control throughout most of the infested area, especially where idle lands did not breed tremendous populations. In some sections of North Dakota, South Dakota, Wyoming, and Montana enormous populations of

the migratory grasshoppers developed in idle lands on which effective baiting was not accomplished. The general migration of adults began about July 4 and was observed at different times until the latter part of the month. Severe damage was done during August in a number of places in the Plains States with heavy migration into the Red River Valley of North Dakota.

In the 1938 campaign about 155,000 tons of mixed bait was used by 400,000 farmers on some 30 million acres of land and this furnished protection for more than 55 million acres of crops. The total crop saving was \$176,000,000 as estimated by State officials. Each of the participating States had a grasshopper control committee and a State leader who co-operated with the Federal Bureau of Entomology and Plant Quarantine and directed the work in the State. Participating counties were organized on both a county and a township basis, with county committeemen and leaders, as well as township or community committeemen and leaders. The co-operating States were responsible for mixing the bait materials and for the application of the bait. In several States WPA labor was available for mixing the bait. Thousands of mechanical spreaders were used for placing the bait in thin layers that were effective against grasshoppers but not dangerous to livestock or wildlife. The States participating were Arizona, Arkansas, California, Colorado, Idaho, Illinois, Iowa, Kansas, Michigan, Minnesota, Missouri, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington, Wisconsin, and Wyoming.

That the pest will not be less troublesome in 1939 was predicted after the completion of the annual grasshopper-egg survey in the grain and range areas of the country. A study of the many species of grasshoppers occurring in nine western States during the preceding three years reported upon, revealed that their relative abundance is dependent upon changes in weather, food plants, and plant cover from year to year. Drought has a tendency to reduce populations of some species, whereas others are better able to withstand such conditions because they can survive on dryer native grasses. That a permanent reduction of the infestation by this pest is dependent upon a change in weather conditions was pointed out by the Chief of the Federal Bureau of Entomology and Plant Quarantine.

Gypsy Moth Control. In the New England area infestations of the gypsy moth were generally less severe than in the preceding year. A few egg clusters were found and destroyed by Canadian officials in the Province of New Brunswick across the international border from the infestation in Washington County, Maine. In New York the infestation discovered in 1937 in Putnam County was greatly reduced and only small isolated infestations were found in nine townships in the barrier-zone area. Scouting and treatment of the six infested counties of Pennsylvania was continued, with an improvement of conditions in the area of the State infested longest, although a few large colonies were found. No evidence was obtained of the presence of the gypsy moth in New Jersey. The regular funds appropriated for control were supplemented by allotments from emergency appropriations and provided for Federal WPA work with this pest in Vermont, Massachusetts, Connecticut, New York, New Jersey, and Pennsylvania.

Insect Control by the Giant Toad. The giant toad (*Bufo marinus*) first introduced into Puerto

Rico from Barbados in 1920 to combat the native white grubs and later into Hawaii and elsewhere, has been so effective that in Puerto Rico the grubs, which were the most serious and generally destructive insect pest of agricultural crops in the island, have practically disappeared from the lowlands and are only found in abundance in the mountainous section of the island to which the toad is not readily adapted.

Insecticides and Insect Control. Progress was made in the work of improving materials and methods employed in combating insects by chemical means. In addition to the improvement of commonly used insecticides attention was given to the development of new insecticides and particularly the determination and development of toxic compounds by synthesis. The development of a method of determining minute quantities of nicotine has greatly facilitated investigations to extend the use of insecticides made from tobacco. This method enables the specialist accurately to determine the amount of nicotine deposited on a single apple and makes it possible to ascertain any health hazard from such residues as well as to determine exactly the amount of deposit required to protect the fruit from insect pests. Nicotine bentonite, one of the compounds that have been developed, gives promise as a substitute for lead arsenate for control of the codling moth, especially in the Middle West, where it is being used rather extensively. Insecticides containing rotenone have been shown to be effective in the control of many insects. A 95 per cent reduction in infestation by the pea weevil in the Northwestern United States, where peas are grown for canning, has been obtained through the application of a rotenone-bearing dust mixture recently developed. Tests made of phenothiazine have shown it to possess outstanding insecticidal properties when used against the grape berry moth. The addition of nicotine insecticides to the last four cover sprays for the codling moth was found to control the unspecked tentiform leafminer (*Ornix prunivorella*) which has infested as high as 90 to 95 per cent of the leaves of the apple in the apple-producing region of northeastern Kansas. Experiments in California have shown that the grape leafhopper, a serious vineyard pest, is attracted by a pale blue light and may thus be lured and destroyed by flying against suspended high-tension wires.

Japanese Beetle. There was a general increase in the numbers of the Japanese beetle in the northern part of the infested area in New England and in much of the area south to the eastern shore of Maryland and Virginia. It was excessively abundant at points in the regions that had become infested within the last few years.

Mormon Cricket. The eggs of the Mormon cricket had largely hatched and in Colorado and Utah control operations commenced in May. During June it occurred in great abundance in Montana, Idaho, Utah, Colorado, Wyoming, Nevada, and Oregon and was extending its depredations farther eastward than before, injuring crops in Nebraska. Conducted as a crop-protection measure, the control work resulted in a greatly reduced population in a large number of large areas. It was estimated by State leaders that crop losses of approximately \$898,000 were caused by it in 1937. The control campaign against the pest in that year cost the co-operating stations and the Federal government slightly more than \$776,000 and saved crops with an estimated value of over \$7,500,000.

Peach Borer Control. In experiments with

ethylene dichloride emulsion as a control measure for the peach borer, the results were outstanding both as to borer control and safety for use on trees. It is effective at a much lower soil temperature than is paradichlorobenzene in crystal form or as an emulsion in cottonseed oil, and this greatly increases the length of the season for fall treatments in the Northern States.

Pink Bollworm of Cotton. The spread of the pink bollworm in the Lower Rio Grande Valley of Texas, where it was discovered in gin trash in 1936, continued, it having been discovered in the adjoining counties of Kleberg, Nueces, and San Patricio outside the valley despite the precautions taken to eradicate it. As one of the most destructive of crop pests it now seriously threatens the economic production of cotton. A slight infestation in the Santa Cruz Valley in Arizona near the Salt River Valley, where a heavier infestation had been eradicated, necessitated an extension of the Federal plant quarantine. Six entire counties and part of a seventh are now under quarantine for this pest in Arizona, 12 counties in New Mexico, and 37 in Texas. The importance of its continued spread is emphasized by the fact that in infested areas damage from its attack may reach from 30 to 100 per cent of the crop.

Psyllids and Psyllid Yellows. For some years a disease resulting from the introduction of a toxin by a psyllid or jumping plant louse (*Paratrioza cockerelli*) and known as psyllid yellows has caused a large loss to potato and tomato growers in Colorado, New Mexico, Wyoming, and other States. In Colorado it has caused a reduction in yield of 8,000,000 bu. of potatoes in a single year. Experiments conducted with a large number of varieties have led to the conclusion that there are inherent differences between potato varieties in their tolerance to this affection. The application of lime-sulphur mixture has been found to be an effective means of preventing the injury to potatoes. Dusting and wettable sulphurs applied against the psyllid gave an increase in tomato yield over that of untreated fields and were shown to be satisfactory insecticides for use in controlling it and preventing psyllid yellows.

White-Fringed Beetle. This South American pest first found in the United States in Florida in 1936 (see 1937 YEAR BOOK, p. 236), which cannot fly but is capable of causing tremendous damage in the grub stage, has been found to attack more than 160 varieties of plants. Cotton fields that were planted three times in an area where the pest was abundant produced only one half of a full crop. Surveys made during the year disclosed its presence in some new areas but the known infested districts are comparatively small. Every means for its control is being taken in the campaign against it being pressed by the Federal and State agencies co-operating.

Bibliography. The works of the year include: C. S. Brimley, *The Insects of North Carolina* (Raleigh, N. C., 1938); M. Colcord, *Index V to the Literature of American Economic Entomology* (College Park, Md., 1938); M. Neveu-Lemaire, *Traité d'Entomologie Médicale et Vétérinaire* (Paris, 1938); F. C. Pellett, *History of American Beekeeping* (Ames, Iowa, 1938); H. J. Quayle, *Insects of Citrus and Other Subtropical Fruits* (Ithaca, N. Y., 1938); and W. A. Riley and O. A. Johannsen, *Medical Entomology: A Survey of Insects and Allied Forms Which Affect the Health of Man and Animals* (New York and London, 1938, 2d ed.).

ENZYMES. See BIOLOGICAL CHEMISTRY.

EPILEPSY. See MEDICINE AND SURGERY.

EQUINE ENCEPHALOMYELITIS. See VETERINARY MEDICINE.

ERITREA, er'è-trā'ä. A former Italian colony in East Africa, incorporated with Ethiopia and Italian Somaliland into a single colony known as Italian East Africa by the decree law of June 1, 1936. See ITALIAN EAST AFRICA.

ESPIONAGE. See DENMARK, GERMANY, PANAMA, PANAMA CANAL ZONE, SPAIN, ETC., under History.

ESTONIA. A Baltic republic, established Feb. 24, 1918. Capital, Tallinn (Reval).

Area and Population. Estonia has an area of 18,359 square miles, including internal lakes, and a population estimated on Jan. 1, 1938, at 1,131,125 (1,126,413 at the 1934 census). The urban population in 1938 was 345,408 (323,007 in 1934). Living births in 1937 numbered 18,190 (16.1 per 1000 inhabitants); deaths, 16,650 (14.7 per 1000); marriages, 9585 (8.5 per 1000). Estimated populations of the chief cities on Jan. 1, 1938, with 1934 census figures in parentheses, were: Tallinn, 146,388 (137,792); Tartu, 60,104 (58,876); Narva, 24,183 (23,512); Pärnu, 21,468 (20,334).

Religion and Education. About five-sixths of the people are Lutherans and the rest Greek Orthodox, Roman Catholics, etc. At the 1934 census 3.9 per cent of the population 10 years of age and over were illiterate. School attendance in 1937-38 was: Primary, 106,859; grammar, 12,992; high, 3650; universities and other institutions for higher education (excluding military), 4077; professional, 9866.

Production. Agriculture and dairying support nearly 70 per cent of the population. Yields of the chief cereal crops in 1938 were (in metric tons): Wheat, 81,600; barley, 93,000; rye, 179,000; oats, 159,600. The potato crop in 1938 was 997,620 metric tons; linseed (1937), 396,000 bu.; flax fiber (1937), 22,643,000 lb. Livestock statistics for June 15, 1938, were: Cattle, 661,000; sheep, 650,000; swine, 385,000; horses, 219,000; poultry (over six months old), 1,991,000. The net value of industrial production was estimated at 113,000,000 crowns in 1938 (109,000,000 in 1937). The leading industrial products, with the amounts produced in 1937 where available, were: Cotton fabrics, cotton yarn, wood pulp (12,892 metric tons), cellulose (73,088 metric tons), paper (44,346,000 lb.), timber sawn in large-scale industries (9,894,000 cu. ft.), matches (56,000,000 boxes), oilshale (1,126,000 metric tons), electric current (133,000,000 kilowatt-hours in 1937; 150,000,000 in 1938).

Foreign Trade. Imports for consumption were 107,198,000 crowns in 1938 (111,062,000 in 1937) and exports of Estonian products were 103,923,000 crowns (106,012,000). The principal 1937 imports were, in order of value: Iron and steel and their manufactures, raw cotton, automobiles and chassis, textiles, electric apparatus, leaf tobacco. The principal exports were butter, pine lumber, chemical wood pulp, shale oils, cotton yarn, and flax. Of the 1937 imports, Germany supplied 26.1 per cent by value, United Kingdom 16.6, United States 8.2, and the Soviet Union 5.6 per cent. Of the 1937 exports, the United Kingdom took 33.9 per cent, Germany 30.5, Russia 4.1, and the United States 2.8.

Finance. For the fiscal year ending Mar. 31, 1938, actual budget returns were: Revenue, 99,703,253 crowns; expenditure, 99,576,810 crowns. For 1936-37 current receipts were 89,910,000 crowns; current expenditures, 74,090,000; capital receipts,

454,000; and capital expenditures, 16,002,000. Combined ordinary and extraordinary budget estimates for 1938-39 balanced at 99,300,000 crowns, excluding some state undertakings. The public debt on Jan. 1, 1938, was divided as follows: External, \$19,939,000, £1,669,000, and 7,380,000 Swedish crowns; internal, 12,329,000 Estonian crowns (estimated). The Estonian crown exchanged at an average rate of \$0.2703 in 1936 and \$0.2695 in 1937.

Transportation. In 1937 Estonia had about 891 miles of state-owned railways, excluding tramways; 13,359 miles of roads and highways; 4509 automobiles; and air lines connecting Tallinn with Helsingfors, Leningrad, Berlin, Warsaw, and other cities. For the 1937-38 fiscal year the state railways carried 11,500,000 passengers and earned revenues of 15,451,000 crowns. The gross tonnage of the Estonian merchant marine on June 30, 1938, was 177,100 (168,500 on June 30, 1937). During 1937 the merchant fleet earned estimated revenue of 7,000,000 crowns (about \$1,867,000).

Government. The Constitution proclaimed Sept. 3, 1937 (see 1937 YEAR BOOK, p. 238), vested extensive powers in a President elected for six years by universal secret suffrage from three candidates proposed respectively by the Chamber of Deputies, the National Council, and representatives of local self-government bodies. If only one candidate is proposed by the three nominating organs, then all three bodies vote as one group on the candidate and if he receives a three-fifths majority he becomes President without the submission of his name to the electorate. The Constitution provided for a bicameral National Assembly comprising a Chamber of 80 Deputies elected by universal suffrage and a National Council of 40 elective, appointive, and ex-officio members. A new National Assembly must be appointed and elected at least every four years. The President appoints a cabinet (government) which must resign or the President must call new elections to the Chamber if a motion of no confidence in the ministry is sustained by a majority vote in the Chamber. The President may call plebiscites on issues of major importance. For the application of this Constitution in 1938, see *History*.

History. With the entrance into force on Jan. 1, 1938, of Estonia's new Constitution, the country took a partial step toward restoration of democratic government. But events of the year demonstrated that the dictatorial regime established by President Constantin Päts in 1934 retained quasi-dictatorial powers. The first general election under the new fundamental law was held Feb. 24, 1938, at which the 80 members of the Chamber of Deputies were chosen. The National Front supported by acting President Päts' government captured 63 seats as against 17 obtained by the Liberals and Laborites of the opposition. The National Council, subsequently appointed, and the assembly of local governmental representatives were likewise controlled by the Acting President, with the result that he was elected President under the new Constitution on April 24 by 219 votes against 19 without submitting his candidacy to the voters at large (see *Government* for the constitutional provision covering this procedure).

The newly selected National Assembly convened for the first time on April 21. Following the election of Päts as President, he was reappointed as Premier Karl Einbund (Kaarel Eenpalu). Päts, Einbund, and Gen. Johan Laidoner, commander-in-chief of Estonia's armed forces, had constituted the governing triumvirate since their 1934 coup forestalled the establishment of a frankly Fascist regime. The

"state of emergency" under which the Päts regime had governed was not restored with the enactment of the new Constitution but was extended on September 13 (during the European crisis over Czechoslovakia) for another 12 months. However, some 1200 prisoners, including 73 Fascists and 106 Communists charged with political offenses, were granted amnesty in celebration of Päts' election as President.

The government invoked the critical European situation as necessitating further delay in granting the civil liberties and minority rights guaranteed in the new Constitution. The ban on political parties was continued and censorship of the press was tightened. The small group of Liberals and Laborites in the Chamber of Deputies protested vigorously against this policy, asserting that the government had broken its promise to restore democratic rights.

Developments during the year emphasized the threat to Estonia's independence from both the Soviet Union and Germany. The Soviet Government protested on January 24 against the slaying of two Russian soldiers in a clash with Estonian border guards a few days earlier. It was Estonia's turn to protest on February 10 when Russian guards killed four Estonian soldiers, apparently in retaliation for the preceding incident. Estonia again protested at alleged repeated violations of her territorial waters by Russian warships and submarines during the large-scale Soviet naval maneuvers in the Gulf of Finland in July.

Meanwhile, the German-speaking minority in Estonia had fallen increasingly under the sway of Nazi propaganda. During the Czechoslovak crisis in September the German-speaking Estonian Youth organization donned costumes similar to those worn by the Sudeten Germans. The Hitler salute also came into general use and when Estonian newspapers criticized it as inconsistent with Estonian customs, the German Minister was reported to have informed the Estonian Foreign Minister that the German-speaking Estonians were "Reich Germans" and as such were obliged to give the salute.

In a speech before the National Assembly on October 15, the Foreign Minister announced that Estonia had no obligations to assist any country except Latvia in case of aggression by a third power. The ties binding Estonia and Latvia with Lithuania in the Baltic Entente proved largely ineffective when Poland delivered her ultimatum to Lithuania in March (see LITHUANIA and POLAND under *History*). Foreign Minister Beck of Poland spent several days in Tallinn in June seeking to win Estonian support for his efforts to create a neutral bloc between Germany and the Soviet Union. While seeking to reinforce its independence by every possible recourse of diplomacy, Estonia continued to place major reliance upon strengthening its armed forces and frontier fortifications.

See BALTIC ENTENTE; LATVIA under *History*.

ETHIOPIA. A former native empire in East Africa, formally annexed by Italy on May 9, 1936, following its conquest by force of arms (see 1935 and 1936 YEAR BOOKS under ETHIOPIA). Area, about 347,500 square miles; population, roughly estimated at over 4,000,000. By the decree law of June 1, 1936, Ethiopia was incorporated with Eritrea and Italian Somaliland in the new colony of Italian East Africa. For statistics and developments in 1938, see ITALIAN EAST AFRICA.

ETHNOLOGY. See ANTHROPOLOGY.

EUCCHARISTIC CONGRESSES. See ROMAN CATHOLIC CHURCH.

EUGENICS SOCIETY, AMERICAN. A society incorporated in 1926 as successor to Eugenics Committee of the U.S.A., and Eugenics Society of the U.S.A. The major purpose of the American Eugenics Society is to develop to their utmost all those influences which may help to bring about a more eugenic distribution of births so that those parents, regardless of economic, racial, or regional grouping, who best provide the essentials necessary for the development of character and intelligence, being also those who on the whole pass on to their children a biological inheritance superior to the average of the nation, will have the major portion of the country's children. To this end the Society co-operates with agencies devoted to education, recreation, public health, religion, social service, and social readjustment in order to discover and promote measures by which each can make it easier for responsible parents in every class of society to have families of reasonable size without undue financial and social sacrifice.

The membership and regular mailing list of the Society in 1938 was 1500, including individuals and organizations. In 1938 the Society published a pamphlet entitled "Practical Eugenics—Aims and Methods of the American Eugenics Society," which is a new conception of eugenics, relating eugenics to other social needs. In the spring of 1939 the Society will begin its publication of an American eugenics quarterly.

The budget for 1938-39 is \$7000. Samuel J. Holmes, President; Shepard Krech, Vice-President; Frederick Osborn, Treasurer. The office address is 50 West 50th Street, New York City, Rudolf C. Bertheau, Secretary.

EVANGELICAL AND REFORMED CHURCH, THE. A denomination formed by the merger in Cleveland, Ohio, on June 26, 1934, of the Evangelical Synod of North America and the Reformed Church in the United States. The former was founded at Gravois Settlement, Mo., in 1840, by representatives of the Evangelical Churches of Germany and Switzerland. The latter traced its origin chiefly to the German, Swiss, and French Protestants, who settled in America early in the 18th century. Both churches, in doctrine and polity, were akin to the Reformed bodies.

The highest judicatory of the Evangelical and Reformed Church is the General Synod, which meets biennially. A new Constitution was declared adopted at the General Synod which met at Columbus, Ohio, in June, 1938, and it will go into effect at the next meeting of the General Synod, to be held at Lancaster, Pa., in 1940. The officers of the General Synod of the Evangelical and Reformed Church are: President, Rev. Dr. L. W. Goebel; First Vice-President, Rev. Dr. George W. Richards; Second Vice-President, Hon. D. J. Snyder; Secretary, Rev. Dr. William E. Lampe; Treasurer, Mr. F. A. Keck.

In its combined statistics for the year 1937, the Evangelical and Reformed Church reports a membership of 652,670 in 2916 congregations. A gain in membership of 7317 was made during the calendar year 1937. Total expenditures for congregational purposes amounted to \$7,796,394, and total benevolences to \$1,522,745. The Sunday School enrollment is 515,399.

The denomination supports foreign work in six fields: Japan, China, India, Iraq, Honduras, and Africa, the last-named work having been assumed following the favorable action of the General Synod in June, 1938. In the home field it supports more than 300 home mission churches and six

special projects, among foreign-language groups, underprivileged, Japanese in California, and the Indians in Wisconsin. It lists 12 educational institutions as follows: Catawba College, Salisbury, N. C., Cedar Crest College, Allentown, Pa., Elmhurst College, Elmhurst, Ill., Franklin and Marshall College, Lancaster, Pa., Heidelberg College, Tiffin, Ohio, Hood College, Frederick, Md., Ursinus College, Collegeville, Pa., Massanutten Academy, Woodstock, Va., Mercersburg Academy, Mercersburg, Pa., Eden Theological Seminary, Webster Groves, Mo., the Theological Seminary at Lancaster, Pa., and The Mission House, Plymouth, Wisconsin, which has an academy, a college, and a theological seminary. The various sections of the Church support 9 hospitals, 10 orphanages, 11 old folks' homes, and 2 homes for epileptics.

The official publications of the denomination are: *The Messenger*, of the Evangelical and Reformed Church, a weekly, and the *Year Book and Almanac*. The German constituency is served by *Der Friedensbote* and the *Kirchenzeitung*, both weeklies. The Board of Christian Education lists, among its many publications, *The Builder*, a monthly magazine for Sunday School teachers, and *Youth, Venture, Treasure, and Friends*, which are weekly Sunday School papers. *The Outlook of Missions* is a monthly magazine devoted to the home and foreign mission work of the Church.

Joint headquarters of the denomination are in the Schaff Building, 1505 Race St., Philadelphia, Pa., and Evangelical Synod Building, 1720 Chouteau Ave., St. Louis, Mo.

EVANGELICAL CHURCH. A denomination formed by the reunion in 1922 of the Evangelical Association and the United Evangelical Church. (For historical details, see the *NEW INTERNATIONAL ENCYCLOPEDIA*, vol. viii, p. 202, and vol. xxii, p. 661.) In 1938 it had 24 conferences in the United States and Canada, 1 in Japan, 3 in Germany, 1 in Switzerland, and 1 in China, its membership throughout the world totaling 276,000. The China conference was organized on Feb. 17, 1937, with a membership of 2175. In the United States and Canada there were 239,170 members, enrolled in 2016 churches. Of the 2501 churches throughout the world, 2065 were served by itinerant preachers and 436 by local preachers. The 1998 Sunday Schools had an enrollment of 291,995; 655 Young People's Missionary Circles had 15,462 members; 809 Mission Bands had 21,387 members; and 1917 Evangelical Leagues of Christian Endeavor had 42,486 members. Working under the general direction of the board of missions were 1216 women's missionary societies, with a membership of 34,951. The total value of all church property in the United States and Canada was \$33,647,896, while the amount of money raised during the year was \$5,013,669.

The chief schools of the denomination are: North Central College and the Evangelical Theological Seminary at Naperville, Ill.; Western Union College at Le Mars, Ia.; Albright College and the Evangelical School of Theology at Reading, Pa. It also maintains two orphanages and five old people's homes in the United States, as well as several hospitals. Official periodicals are the *Evangelical-Messenger*, *Der Christliche Botschafter*, *The Evangelical Crusader*, and *The Evangelical Missionary World*. A quadrennial general conference was held at Johnstown, Pa., Oct. 6-14, 1938. All questions of law in the interval between general conference sessions are decided by the board of bishops, which in 1938 consisted of Bish-

ops J. S. Stamm, G. E. Epp, E. W. Praetorius, and C. H. Stauffacher. Headquarters are at the Evangelical Press, 1900 Superior Ave., Cleveland, O., and in Harrisburg, Pa.

EVIAN CONFERENCE. See JEWS.

EXHIBITIONS; EXPOSITIONS. See ART EXHIBITIONS; CELEBRATIONS.

EXPEDITIONS. See EXPLORATION; POLAR RESEARCH.

EXPERIMENTAL PSYCHOLOGY. See PSYCHOLOGY.

EXPLORATION. For the record of explorations in the polar regions during 1938, see POLAR RESEARCH. Anthropological and archaeological expeditions are described in the articles ANTHROPOLOGY and ARCHAEOLOGY. See also GEOGRAPHICAL SOCIETY, AMERICAN; GEOGRAPHIC SOCIETY, NATIONAL.

Africa. Several American expeditions were in Africa during the year, most of them engaged in collecting for museums. A route untraversed since Stanley blazed it in 1879 on his journey to rescue Livingston was followed by an expedition to the Teita district of Kenya Colony, sponsored by Harry Snyder for the American Museum of Natural History. W. D. Campbell collected habitat groups for the same museum in the Sahara Desert, Nile River valley, French Cameroons, French Guinea, and Northern Rhodesia. Mammal collections for the same museum were made in the Upper Zambesi region by the Vernay-Kaffarian expedition.

Asia. Mountaineering expeditions were again active in the Himalayas and adjacent ranges. A fifth assault was made on Mount Everest by a British expedition under H. W. Tilman, but it was balked by the unusually early onset of the monsoon after reaching a height of about 27,300 feet, within 2000 feet of the summit (29,002 ft.). Despite the disaster suffered by the German Nanga Parbat expedition of 1937 (see 1937 YEAR BOOK, p. 240) a German party under Paul Bauer made another attempt upon the mountain in 1938. The illness of the porters and extremely bad weather forced the abandonment of the advance after a height of about 23,800 feet was reached. The bodies of Willi Merkl, leader of the ill-fated 1934 German Nanga Parbat Expedition, and two of his porters were found well preserved in the cold, dry air.

A party of American mountain climbers led by C. S. Houston made the third known attempt to scale Mount Godwin Austen, a 28,280-foot peak in the Karakoram range, ranked as the world's second highest mountain. Two of the climbers advanced to the 26,000-foot level, as compared with the 22,000 feet reached by the Duke of the Abruzzi in 1909, and reported that the ascent from this point to the peak appeared to present no insurmountable difficulties. Their feat of exploring the various routes up this inaccessible and little-known peak and the ascent to within striking distance of the top was considered the outstanding development of the year in the mountaineering world. A party of British climbers led by Lieut. J. Waller and including Prof. T. Graham Brown of the University of Wales, who led the successful assault on Nanda Devi in 1935, attacked Mount Masherbrum (25,660 ft.) in the Karakoram range, but was turned back by exposure and bad weather after ascending to about the 25,000-foot level. A German expedition began a two-year exploration of the eastern Himalayas and Tibet.

Archaeological sites in the Hadramaut along the southern section of the ancient Frankincense Road through Arabia were explored by Miss Freya

Stark and two other Englishwomen. For centuries in pre-Islamic times this road was the chief traffic artery between India and the Mediterranean. Miss Stark identified Bir Ali, a village on the coast some 140 miles northeast of Aden as the ancient harbor of Cana from whence the Frankincense Road led across the Arabian Peninsula.

Australia and Oceania. It was announced before the Legislative Assembly of South Australia about mid-year that a stockman in the interior of South Australia had reported the discovery of eight human skeletons. A government expedition was dispatched to the region to find out if the skeletons were the remains of an expedition led by the German explorer, Friedrich Wilhelm Ludwig Leichhardt, which disappeared while attempting to cross the Simpson Desert in the interior of the continent in 1848. When the government party arrived at the scene, they were unable to find the skeletons due to the rapidly shifting sands. Another expedition was sent by the McCoy Society to explore Banks Islands in Spencer's Gulf, South Australia. Donald F. Thomas, Australian government anthropologist, reported during 1938 on his life and explorations among the aborigines of Arnhem Land in the Northern Territory of Australia during 1935-37. He traveled on foot across Arnhem Land from Crocodile Islands to Blue Mud Bay. He reported that depopulation of the aboriginal population of this wilderness was proceeding at a faster rate than was previously supposed and that less than 3500 natives now remained in Arnhem Land.

The exploration of the eastern interior of the island of New Guinea was continued by the Australian authorities of Papua and the Territory of New Guinea (q.v.). During 1938 a patrol of three Australian officers, 20 native constables, and 100 porters traveled from Mount Hagen to the border of Dutch New Guinea and then penetrated the mandated Territory of New Guinea from Papua by way of the Sepik River. The main objective of the expedition was to study a possible route into the interior by one of the southern tributaries of the Sepik. Meanwhile, exploration of the adjacent interior of Dutch New Guinea was being carried on by a large and well-equipped expedition of the American Museum of Natural History under Richard Archbold. The party established its base camp at Hollandia on the north coast of the island and by means of its seaplane established its advance camp in July at Lake Habbema, a large body of water in the heart of the mountainous interior lying near the source of the Idenburg River at an altitude of 11,000 feet. Another camp was established on the Idenburg River about 125 miles southwest of Hollandia. Large parties of scientists were carrying on explorations and studies of the aborigines and of animal and vegetable life at both camps at the year end. The Lake Habbema camp reported the capture of a number of giant rats measuring three feet from the nose to the tip of the tail. Tree-climbing kangaroos frequented the base camp at Hollandia.

North America. Explorations by an expedition from the Field Museum of Natural History in the Cahone Canyon in southwestern Colorado revealed the largest Indian ceremonial temple ever found on the continent. The kiva, excavated near the rim of the canyon, bore evidences of having been swept by fire an estimated 1200 years ago. Exploration of the St. Elias range in Alaska was continued by the National Geographic-Harvard University Expedition under Bradford Washburn. In August mem-

bers of the party made an airplane flight along the backbone of the range which revealed the largest glacier system in the world outside the polar ice caps. The flight demonstrated that a huge river of ice connected and formed the source of the Bering, Seward, and Malaspina Glaciers. They found a vast expanse of unbroken ice several thousand feet thick and extending from the vicinity of Cape St. Elias eastward and southward for some 235 miles.

Exploring old fur-trade routes for the American Museum of Natural History, Mrs. Mary L. Jobe Akeley followed the trail blazed by David Thompson in making the first crossing of the northern Canadian Rockies. During the year the Royal Ontario Museum at Toronto, Canada, received a sword, battle axe, and other Norse relics reported to have been found in northern Ontario. If authenticated, they would indicate that the Norsemen reached the interior of Canada as early as the 10th century.

South America. The interior of British Guiana and Venezuela again continued to attract the attention of explorers and scientists. Air flights along the Kaieteur escarpment of British Guiana during the year revealed several new falls of unusual dimensions. In May Dr. Paul Arthur Zahl of the Haskins Laboratory, Union College, and Art Williams, American aviator operating in Guiana, discovered on a tributary of the Karanang River 80 miles northeast of Mount Roraima a fall which they estimated at no less than 3000 feet. This find was made during an aerial expedition into southern British Guiana and Brazil on which Dr. Zahl made an extensive collection of large ants and other insects. Dr. Zahl left the United States in November on another expedition to the Mount Roraima region of British Guiana.

Another American aviator, James Angell, reported the discovery from the air of a waterfall with a drop of more than 5000 feet in a tributary of the Caroni River in Venezuela, a branch of the Orinoco. A third fall discovered during the year in the Misiones territory of northeastern Argentina was not so high but had unusual features. A tributary of the Acaragua River plunged downward 200 feet, disappeared underground for 200 yards, and upon emerging formed another 80-foot cascade.

The results of the exploration and scientific study of the Auyantepui tableland in the British Guiana highlands by an American Geographical Society expedition were described by G. H. H. Tate, of the American Museum of Natural History, in the July, 1938, issue of the *Geographical Review*. It was calculated that the plants and animals of the tableland had been isolated from the surrounding region for perhaps a million years; they showed distinct coloration and other variations from the flora and fauna of the surrounding lowland territory. The Roraima Plateau was visited during the year by another scientific group, consisting of A. Pinkus of Michigan State Museum, P. S. Peberdy of the British Guiana Museum, and T. Pain of England. Emmet R. Blake, assistant curator of birds of the Field Museum in Chicago, had a narrow escape from drowning when his boat upset in the rapids of the Corentyne River of British Guiana. He lost all of his equipment and about half of the 2400 bird, animal, and reptile specimens that his expedition of 17 members had collected. Richard C. Gill returned late in December from another expedition to the interior of Ecuador in search of rare drugs used by the Indians. Dr. H. B. Wright of Philadel-

phia made similar collections among the Jivaro Indians of Ecuador.

Theodore J. Waldeck, who led an expedition in search of Paul Redfern, American aviator lost in an airplane flight in 1927, announced that he had found definite proof that Redfern had been killed when his plane crashed near the Caroni River in Venezuela. The Terry-Holden expedition returned to the United States in April after six months in the jungles of British Guiana and Brazil collecting for the American Museum of Natural History.

See GEOLOGY for undersea exploration.

FAIR LABOR STANDARDS ACT (WAGES AND HOURS ACT). See UNITED STATES under *Administration* and *Congress*; AUTOMOBILES; CHILD WELFARE; LABOR LEGISLATION; LABOR UNIONS; MINIMUM WAGE.

FALKLAND ISLANDS. A British crown colony in the South Atlantic, comprising East Falkland, West Falkland, and adjacent islands. Total area, 4618 square miles; population (Jan. 1, 1938), 2391. Stanley (capital), had 1200 inhabitants in 1936. Sheep farming is the main occupation of the people. In 1937 imports were valued at £116,752 (provisions, £23,039; hardware, £21,133; timber, £6452); exports, £204,020 (wool, £162,511; hides and skins, £17,923; livestock, £13,773; seal oil, £4200; tallow, £2618); total revenue, £85,599; total expenditure, £81,289; public debt, nil. The government is headed by a governor, advised by an executive council of 5 official and 2 unofficial members. There is a legislative council of 4 official and 4 nominated unofficial members. Governor and Commander-in-Chief, Sir Herbert H. Heaton (appointed Jan. 3, 1935).

Dependencies. The dependencies of the Falkland Islands include South Georgia (1450 sq. mi., statute; population, approximately 700 in the summer and 233 in the winter), South Shetlands, South Orkneys, South Sandwich Islands, and Graham Land. Whaling (October 16 to April 16) and sealing (March 1 to October 31) are the main occupations. In 1937 total imports (including importations for re-exportation) £371,223; total exports (including re-exports of £182,764), £406,640 (whale oil, £305,049; guano, £34,328; seal oil, £32,496; whale meat meal, £26,044); revenue, £12,942; expenditure, £12,492; public debt, nil. The dependencies are subject to the authority of the governor and to the executive and the legislative councils of the Falkland Islands. During February of 1938 it was announced that the body of water separating Graham Land from Alexander I Land had been named George VI Sound.

FAR EASTERN TERRITORY. See RUSSIAN SOVIET FEDERATED SOCIALIST REPUBLIC; SIBERIA.

FARM AID. See UNITED STATES under *Administration*.

FARM CREDIT ADMINISTRATION. See AGRICULTURE; CO-OPERATION.

FARMERS' CO-OPERATIVES. See CO-OPERATION.

FARM INCOME. See AGRICULTURE.

FARM LABOR. See AGRICULTURE.

FARM LOAN ACT. See UNITED STATES under *Congress*.

FARM REAL ESTATE. See AGRICULTURE.

FARM SECURITY. See AGRICULTURE.

FAROE (fär'ö or fär'rö) ISLANDS. A group of 21 islands between Iceland and Scotland, forming a county of Denmark. Bordö, Kalsö, Osterö, Sandö, Strömö, Süderö, Vaagö, and Viderö are the chief islands. Total area, 540 square miles;

population (1935), 25,744. Thorshavn (capital), on the island of Strömö, had 3200 inhabitants. Fish, whale oil, woollen goods, lamb skins, and feathers are the principal exports. Administration is under a prefect named by the King of Denmark. The local parliament of 21 members elects a representative to the Danish Landsting (upper house); the people elect by vote a representative to the Danish Folketing (lower house).

FASCISM. The year 1938 was one of phenomenal gains for fascism of both the Italian and German varieties at the expense of both communism and democracy. The partition of democratic Czecho-Slovakia (q.v.) by the Munich accord of September 29-30 was a world-shaking victory for Fascist ideology and methods. It gave the Fascist powers, grouped about the Rome-Berlin axis, a dominant position in Europe, discredited the great European democracies, and greatly weakened both the strategic and diplomatic position of the Soviet Union. It proved a vast stimulus to Nazi movements in the other countries of Central and Southern Europe, and forced a Fascist regime upon Czecho-Slovakia. The growing danger of German-supported Nazi revolts in Hungary, Rumania, and Bulgaria forced the governments of those countries rapidly toward fascism in self-preservation.

The Metaxas dictatorship in Greece and the quasi-dictatorial regimes in Poland, Lithuania, and Yugoslavia were all strengthened as against democratic opposition movements by the events at Munich. The Fascist sweep was aided also by the incorporation of Austria in Germany, the steady progress of Gen. Francisco Franco—with German and Italian aid—in the Spanish civil war, the victories of Japanese armies in China, and the rapid transformation of Japan into a military-fascist state. After Munich, the Fascist bloc of Europe by threats of economic and military reprisals brought pressure upon the small democracies of Western and Northern Europe and even upon Britain and France to suppress Communist and other anti-Fascist activities and manifestations. The net result of these threats was to strengthen the faith of the remaining democracies in their existing governmental systems and to further discourage indigenous Fascist movements. On the other hand, the influx of Jewish refugees from Germany, Italy, and Czecho-Slovakia into other countries in Europe and overseas lent fuel to anti-Semitic and Fascist agitation throughout the world.

Fascism in the United States. There were three main sources of Fascist propaganda in the United States during the year—pro-Nazi German-American organizations, pro-Fascist Italian groups, and the various native Fascist organizations. Considerable light was shed on the activities of German-American and Italian-American propagandist organizations at hearings conducted during the latter half of the year by the special House Committee on Un-American Activities, headed by Representative Martin Dies of Texas.

The German-American Bund. On August 12 John C. Metcalfe, a native of Germany, a former member of the pro-Nazi German-American Bund, and an investigator for the Dies Committee, testified as did several other German-Americans. Their statements were summarized by the *New York Times* as follows:

Testimony was given that there were in the United States today probably 500,000 persons, men and women, who were members of pro-Nazi organizations or sympathetic with them. A Nazi movement was under way in this country, the real aims and purposes of which were the establishment of a smooth-working, efficient spy system, the

creation of a sabotage machine to operate in an emergency, and the bringing into the Nazi fold of as many German-Americans as possible.

The German-American Bund, of which Fritz Kuhn is the "Fuehrer," was named as the backbone of the Hitler movement. Soon after the present investigation was ordered by the House, Kuhn dispatched letters to all Bund leaders and agents in the United States ordering them "to destroy at once" all evidence in the form of correspondence or otherwise which was un-American in nature or which might directly or indirectly link the Bund in America with the Bund in Germany.

Metcalfe charged that Kuhn had a secret relationship with the Nazi Government in promoting the German-American Bund's activities. He declared the Auslands Bureau of the Nazi Government in Stuttgart, Germany, staffed largely by former German leaders of Nazi activities in the United States, was "actively engaged in directing, planning, and helping to finance under various names the activities and the programs of the German-American Bund in the United States."

During subsequent hearings Metcalfe testified that the Bund had a force of about 5000 Storm Troopers; that German consular officials in the United States helped to finance its radio broadcasts and other propaganda activities; and that Kuhn and other Bund leaders had claimed responsibility for the replacement of Dr. Hans Luther, German Ambassador to Washington, and various consular officials with Germans more sympathetic to their views. This testimony led the German Ambassador at Washington, Dr. Hans Heinrich Dieckhoff, formally to deny on September 30 that there was any "secret relationship" between the German Government and the German-American Bund. "The German Government," he said, "has always taken the point of view that the *Amerika-Deutscher Volksbund* is to be considered as a purely American affair. . . . For a long time all German nationals have been strictly prohibited to be or to become members of the Bund, in view of the fact that it is their duty to refrain from any interference in internal American affairs."

It was also charged before the committee that the German-American Bund was seeking to organize all Fascist groups in the United States into one movement under the Bund's leadership, and that the German secret police in 1937 had established a special section for espionage and Nazi propaganda in the United States. As a result of these investigations, Chairman Dies expressed the conviction that 90 per cent of the German-Americans "definitely opposed" the Bund, but that many German war veterans were active in training the Bund's Storm Troops.

The Bund's Program. Meanwhile the Bund's program had been stated in part by Kuhn at Camp Nordland near Andover, N. J., on September 4, following his re-election as national leader. He declared that the Bund stood for the Constitution, the flag, and the lofty ideals of the United States but that it demanded "a socially just, white, gentile-ruled United States and gentile-controlled American labor unions free of Jewish-Moscow-directed domination"; the exclusion of Jews from "positions of importance" in government, national defense forces, and educational institutions; and a "thorough cleaning of our most important medium of propaganda and entertainment, the Hollywood film industry."

He also called for severance of diplomatic relations with the Soviet Union, the outlawing of the Communist party in the United States, prosecution of all known Communists "for high treason," termination of all foreign entanglements, severance of

all connections with the League of Nations, immediate cessation of "all dumping of undesirable aliens disguised as political refugees on the shores of this country," and prohibition of "abuse of the freedom of the pulpit, press, radio, and stage, undermining the patriotism and the morals of the American people." Two days later the Bund's national convention in New York City voted to petition for an amendment to the United States Constitution barring Jews from election or appointment to public offices and the courts.

While assuming the role of an "American" political group, the Bund thus supported all of the policies of the Hitler regime in Germany. Its activities were described by Paul B. Taylor in *Foreign Policy Reports* (July 15, 1938) as follows:

The Bund . . . seems to have affiliations with a large number of "patriotic" and especially anti-Semitic American organizations. Its weekly paper, the *Deutscher Weckruf und Beobachter*, appears in New York, Philadelphia, Chicago, and San Francisco, and consists largely of diatribes against Jews and defenses of German policy. It seeks to instill National Socialist principles in German-American youth, and its business subsidiaries foster buying from German stores. It now has 22 camps, at some of which visitors have reported that military drill takes place and that a "Nazi" atmosphere prevails. Until May, 1937, at least, the Bund allegedly required an oath to Hitler from its members.

Split in German-American Ranks. The activities of the German-American Bund and developments in Germany during 1938 produced a split in the ranks of the German-American organizations on the Nazi issue. The German-American Conference, including 13 of the leading German-American organizations in New York City, refused to invite the Bund to join in the annual German Day celebration in Madison Square Garden on October 2. This led the German Ambassador at Washington, the Consul General in New York, the German-American Commercial League, and a large number of Bund sympathizers to withhold their support of the celebration. Theodore H. Hoffmann, national president of the Steuben Society, told the Madison Square Garden meeting that it marked "a turning point in the history of German-American movements in this country." Thereafter the Steuben Society leaders and other anti-Bund German-Americans waged open warfare upon the Bund while expressing approval of many Hitler policies in Germany. In an apparent attempt to heal the rift among German-Americans, a new movement known as the German-American Front was launched by the New Jersey section of the Bund on October 11.

Growth of Anti-Nazi Sentiment. The activities of the German-American Bund, carrying a threat to American national unity if its propaganda made headway among Americans of German origin, served to strengthen the antagonism manifested by American public opinion toward Nazi ideology and the domestic and foreign policies of the Reich (see *GERMANY under History*). This antagonism was displayed by the numerous anti-Nazi demonstrations and riots accompanying Bund meetings throughout the country and by legal efforts to restrict Bund activities.

On July 12 a Suffolk Co., N. Y., jury found the German-American Settlement League, Inc., operator of a Nazi camp at Yaphank, L. I., and the league's six incorporators guilty of violating the New York State Civil Rights Law requiring oath-bound organizations to file lists of their members, officers, and regulations with the Secretary of State. County Judge L. Barron Hill fined the league \$10,000 and the six other defendants \$500 each. How-

ever, the Appellate Court in Brooklyn on November 4 unanimously reversed the convictions, dismissed the indictment, and remitted the fines. It held that there was insufficient evidence on which to base an indictment and lack of proper jurisdiction inasmuch as the league required a pledge rather than an oath as a condition of membership.

To restrict Nazi, Fascist, and Communist propaganda, Congress passed the Propaganda Agency Act (approved June 8, 1938), requiring persons engaged in propaganda in behalf of any foreign government to register with the Secretary of State. The Bund refused to register, holding that it was a purely American organization. On November 27 Representative Dies urged the Department of Justice or some other agency to prosecute the Bund and other Fascist and Communist groups for "failure to comply with this act of Congress." Among the American Fascist groups which he suggested be investigated under the Propaganda Agency Act were the Khaki Shirts, organized in 1933 by Art J. Smith; the Silver Shirts, with headquarters at Asheville, N. C.; the Italian Fascists, the American Fascists, the American Aryan Folk Association of Portland, Ore.; American Guard, the American League of the Friends of the New Germany, Portland, Ore.; and the American National Socialist party.

Italian Fascist Propaganda. The Dies Committee also collected evidence concerning Fascist activities and propaganda among Italo-Americans. On October 4 Girolamo Valenti of New York, chairman of the Italian Anti-Fascist Committee, told the committee that a strong Fascist movement had been built up among Italo-Americans by the Italian Government acting through consular officials and other agents in the United States. He charged that Fascist propaganda was disseminated in public and parochial schools by means of lessons in the Italian language, that hundreds of Italo-American children were sent to Italy annually for Fascist indoctrination, and that nearly all Italian-American newspapers and periodicals were under the control of Fascist agents. He declared many Italian-Americans had been organized into "black shirt legions" on a military basis, that large sums were raised among Americans of Italian origin, often by intimidation, to aid the Italian Government, particularly during the war with Ethiopia; and that an Italian consular officer had threatened American citizens of Italian descent who raised funds for the Spanish Loyalists.

Homer Martin, president of the United Automobile Workers Union, testified before the committee on December 1 that Judge Paul V. Gadola of Flint, Mich., had connections with the Fascist movement. He charged that in 1934, Giacomo Ungarelli, Italian vice-consul in Detroit, had attempted to force the local Italian community to support the Italian Government and had threatened to cut off the sources of supply of importers of Italian products if they refused such support. He said the vice-consul was recalled after protests were made to the State Department.

On October 12, 35,000 Italian-Americans attending a Columbus Day ceremony in New York City booed Mayor LaGuardia, who was well known for his anti-Fascist sympathies. The *New York Times* reported that the meeting "was definitely sympathetic toward the Fascist regime in Italy." The anti-Semitic decrees of the Italian Government aroused controversies in the ranks of the American Sons of Italy and other Italian-American or-

ganizations, with some leading members denouncing and others supporting the decrees.

Symptoms of American Fascism. The growth of anti-Semitism and efforts to withhold constitutional rights from radical political and labor movements were pointed to during the year as evidence of incipient American fascism. The most notable example of this tendency was provided by the city administration of Jersey City, N. J., under Mayor Frank Hague, Democratic boss of New Jersey (see *NEW JERSEY* under *Political and Other Events*). Hague's police deported Norman Thomas, the Socialist leader, Representative Jerry O'Connell of Montana, and various others who attempted to speak in opposition to the Mayor's anti-labor policies.

Charging infringement of their civil liberties, the Committee for Industrial Organization and the Civil Liberties Union took the case to the Federal Courts. On October 27, Judge William Clark, sitting in Newark, found in favor of the plaintiffs and enjoined Jersey City officials from interfering with the plaintiffs in their right to "move freely" in Jersey City, distribute leaflets and circulars, address public meetings in the parks, "subject only to the city's right to carry out the recreational purpose of those parks," and to display placards. However, Hague continued to refuse permits for speeches by "radicals and Reds."

The candidacy of the Rev. Dr. Gerald B. Winrod, free-lance minister of Wichita, Kan., for the Republican Senatorial nomination also raised the issue of fascism versus democracy. Because of utterances construed as favoring fascism and as intolerant toward Catholics, Jews, Negroes, and the Federal Council of Churches, he was nick-named the "Kansas Nazi," and was vigorously opposed by leading Republican politicians as well as by liberal newspapers, ministers, and public figures. In the primary election, he received a few more than 50,000 votes, and finished a poor third.

Latin America. The countries of Latin America were subjected to a growing flood of Fascist propaganda from Germany, Italy, Insurgent Spain, and Japan. This propaganda took the form of radio broadcasts, free news services, lecture tours by German and Italian professors, and other propaganda agents, economic pressure, and incessant activities of German and Italian diplomatic and consular officials. Army, navy, and aviation officials of various Latin-American countries were invited to study developments in their fields in Germany and Italy at the expense of the latter countries. Scores of students went to the two great Fascist countries for study and indoctrination in Nazi-Fascist ideology, with all expenses paid. German and Italian communities in Latin America were organized by cultural attachés and other agents as centers of Nazi and Fascist propaganda in their adopted countries.

American observers agreed that the Nazi propaganda drive had back-fired, especially in Brazil where such propaganda was rigorously curbed after the failure of the pro-Fascist *Integralista* revolt on May 11 (see *BRAZIL* under *History*). In Argentina, Uruguay, and other Latin-American countries, there was resentment at the steps taken by the German Government to register the vote of their German residents in Hitler's plebiscite on the annexation of Austria. Another abortive Fascist revolt was staged by the Chilean *Nacistas* (Nazis) on September 5, but this had no apparent connection with German Nazi propaganda. The subsequent electoral victory of the Popular Front in

Chile was a set-back to pro-Fascist forces in that republic. Democratic administrations were also installed in Argentina and Uruguay. Fascist influences, however, appeared to gain ground in Peru, where Italian and German influence was strong and the Benavides dictatorship receptive to anti-democratic doctrines. The controversy between Mexico on the one hand and the United States and Great Britain on the other over Mexican appropriations of foreign oil properties afforded an opportunity for Fascist propaganda and inroads upon United States trade with Mexico which Germany was not slow to seize. The struggle between democracy and fascism for control of Latin America was waged behind the scenes at the Pan-American Conference (q.v.) at Lima in December.

See all of the countries mentioned above and CANADA, CUBA, DENMARK, FINLAND, GUATEMALA, HONDURAS, NICARAGUA, PORTUGAL, SALVADOR, EL; SIAM, and SWITZERLAND under *History*; COMMUNISM.

FATHERLAND FRONT. See AUSTRIA.

FEDERAL-AID HIGHWAY ACT. See AUTOMOBILES.

FEDERAL ALCOHOL ADMINISTRATION. See LIQUOR TRAFFIC.

FEDERAL BUREAU OF INVESTIGATION. See CRIME.

FEDERAL CAPITAL TERRITORY, AUSTRALIA. An area of 940 square miles within the State of New South Wales, containing Canberra (8400 inhabitants on Dec. 31, 1937), the capital of Australia. Total population (Mar. 31, 1938, estimate), 10,499. The general control of the territory is under the Australian Minister of the Interior but certain services are still maintained by the Department of Health and the Attorney General's Department. See AUSTRALIA.

FEDERAL COUNCIL OF THE CHURCHES OF CHRIST IN AMERICA. An organization established in 1908 by 28 Protestant denominations to act for them in matters of common interest. At the end of 1938 it included most of the major Protestant denominations of the United States, as follows: Northern Baptist Convention; National Baptist Convention; Seventh-Day Baptists; General Council of the Congregational and Christian Churches; Disciples of Christ; Evangelical Church; Evangelical and Reformed Church; Friends; Methodist Episcopal Church; Methodist Episcopal Church, South; African Methodist Episcopal Church; African Methodist Episcopal Zion Church; Colored Methodist Episcopal Church in America; Methodist Protestant Church; Moravian Church; Presbyterian Church in the United States of America; Protestant Episcopal Church; Reformed Church in America; Reformed Episcopal Church; United Brethren in Christ; United Presbyterian Church of North America; United Lutheran Church in America. Of these, all were full and official members with the exception of the United Lutheran Church, whose relationship was consultative, and the Protestant Episcopal Church, whose national council co-operates in certain specified areas of work. Since 1932 the United Church of Canada has been affiliated with the Council.

At the biennial meeting of the Council held in Buffalo, N. Y., Dec. 6-9, 1938, the Syrian Antiochian Orthodox Church in North America was received into membership. This is the first of the Eastern Orthodox group of churches—and the first non-Protestant body—to come into the Council.

The total number of communicant members in-

cluded in the Council's constituency in 1938 was 24,991,281. Co-operating with the Council were such agencies as the Home Missions Council, the Council of Women for Home Missions, the Council of Church Boards of Education, the American Bible Society, the Foreign Missions Conference of North America, and the International Council of Religious Education.

Of the Council's eight departments, the following made a significant contribution during 1938. The department of social service conducted a series of conferences on preparation for marriage and family life; the department of evangelism directed the University Christian Mission in the interest of a spiritual awakening in educational institutions and the department of international justice and good will carried on a special relief appeal in the churches for war sufferers in China and Spain and for German refugees. The radio department sponsored 10 religious programs on the air each week. The department of relations with churches abroad participated in the movement for the creation of a World Council of Churches. The department of research and education issued a report on "Broadcasting and the Public." A commission for the study of Christian unity began its work as a part of the permanent program of the Council. The *Federal Council Bulletin*, a monthly, continued to be issued as the official organ.

Officers during 1938 were: President, the Rev. Edgar DeWitt Jones; vice-president, the Rev. Joseph R. Sizoo; treasurer, Frank H. Mann; and general secretary, the Rev. Samuel McCrea Cavert. National offices are at 297 Fourth Avenue, New York City. An office is also maintained in the Woodward Building, Washington, D. C.

FEDERAL EMERGENCY RELIEF ADMINISTRATION. See RELIEF.

FEDERAL EXPENDITURES AND REVENUES. See PUBLIC FINANCE.

FEDERAL MUSIC PROJECT. See MUSIC.

FEDERAL PRISON INDUSTRIES CORPORATION. See CRIME.

FEDERAL RESERVE BANKS. See BANKS AND BANKING.

FEDERATED MALAY STATES. The four States of the Malay Archipelago, shown in the accompanying table.

State	Sq. mi.	Pop. (1937)	Capital
Negri Sembilan ..	2,580	264,742	Seremban
Pahang	13,820	199,487	Pekan
Perak	7,980	879,632	Taiping
Selangor	3,160	617,536	Kuala Lumpur
Fed. Malay States	27,540	1,961,397	Kuala Lumpur

Chief towns (with 1937 populations): Kuala Lumpur, the capital (136,068), Ipoh (64,343), Taiping (38,083), Seremban (27,363), and Klang (27,030). During 1937 there were 74,196 births (37.8 per 1000) and 39,031 deaths (19.9 per 1000). The 1477 schools (English, Malay, Chinese, and Tamil) had 125,615 students enrolled (1937); in addition, there were technical and trade schools maintained by the government.

Production and Trade. Agriculture and mining form the main industries of the country. The chief products (with 1937 export figures in parentheses, in tons) were rubber (247,386), tin and tin ore (75.5 per cent basis: 75,394), copra (88,915), firewood, timber, and planks (46,825), rice and paddy (6593), pineapples, canned (15,329), palm oil (29,600), palm kernels (4867), tapioca (8166). Gold produced in 1937 totaled 33,828 oz. Livestock (1937 census): 61,859 oxen, 57,502 buffaloes, 10,-

189 sheep, 122,738 goats, 328,167 swine, and 251 horses. In 1937 imports were valued at \$8131,101,350 (the chief items were rice, petroleum, piece goods, and cigarettes); exports, including re-exports, \$8357,247,152 (rubber, \$8171,258,400; tin and tin ore, \$8151,418,742; copra, \$89,530,347). The Straits dollar (S\$) averaged \$0.5797 for 1937.

Communications. The road system, in 1937, comprised a total of 4558 miles of which 2939 miles were paved and graveled. The government controls all of the railways (1068 route miles of meter-gauge track) south of the Siam border. In 1937, 1479 ships aggregating 3,615,833 tons cleared Port Swettenham.

Government. For 1937 revenue totaled S\$80,-864,589; expenditure, S\$71,143,471; public debt, S\$65,285,715, against which the sinking funds amounted to S\$2,719,838. The States, which are under the protection of Great Britain, are governed in matters common to them all by a Federal council comprising the Governor of the Straits Settlements (who is ex officio high commissioner) as president, 15 government officials, and 12 unofficial members nominated by the high commissioner. Each of the four States has a native ruler who is subject to the advice of a British Resident. State councils may legislate in purely local matters. High Commissioner, the Governor of the Straits Settlements—Sir Shenton Thomas (appointed, 1934).

History. The Sultan of Selangor, Sir Ala'idin Suleiman Shah, died in Klang on Mar. 31, 1938, and was succeeded by his third son, the new Sultan, Sir Alam Shah. On Oct. 14, 1938, the Sultan of Perak, Sir Iskandar Shar, died and was succeeded by the new Sultan, Sir Abdul Aziz.

FENCING. See SPORTS.

FERTILIZERS. There was steady advance during 1938 in improving the quality of fertilizers and increasing their efficient use. The fertilizer industry of the United States appears to have had a fairly prosperous year, the estimated sales being 7,371,000 tons as compared with 8,172,000 tons the previous year, which, however, represented the all-time peak for fertilizer sales. It should also be borne in mind that with constant improvement in quality of fertilizers, gross tonnage is not an entirely dependable measure of plant food supplied and used in form of fertilizer.

The steady improvement in grades of fertilizers and in methods of application is beginning to have far-reaching effects on efficiency and economy of use. The plant food content of fertilizer increased from 1880 to 1936 as follows: Nitrogen from 2.3 to 3.8 per cent; phosphoric acid (P_2O_5), 8.9 to 9.3 per cent; potash (K_2O), 2.2 to 5.5 per cent; total, 13.4 to 18.5 per cent.

A committee representing the U.S. Department of Agriculture, many of the State experiment stations, and the National Fertilizer Association on the basis of an exhaustive study of fertilizer placement has formulated explicit directions for most effective placement of fertilizers for various soils and crops, and these are becoming widely known and used with great advantage. It appears from the investigations of the committee that the best method of application for nearly all row crops is in bands an inch or two away from the seed and at its level or just below. This method of placement practically insures against injury to seed or roots and tends to lessen the fixation which occurs when fertilizers are intimately mixed throughout the soil. Farm machinery manufacturers now supply efficient machines for applying fertilizers in this way.

The superiority of localized application is now generally recognized, especially with concentrated fertilizers and heavy applications. For example, the North Carolina Agricultural Experiment Station (Bulletin 318) found that "side placement of fertilizer at 400, 800, and 1200 lbs. per acre of 4-8-4 mixture and at equivalent rates of 8-16-8 fertilizer on the average gave more rapid germination and a higher yield than did under-seed placements. The yield differences between fertilizer placements were much more pronounced at the higher fertilizer rates than at the low rate." Similar results have been obtained with vegetables at the Virginia Truck Station.

It is known that certain fertilizers leave acid residues in the soil which must be neutralized by lime or other alkaline agents if the highest productivity of the soil is to be maintained. The Vermont Agricultural Experiment Station has estimated that it would require an application to Vermont soils of 883 tons of limestone to neutralize the acidity developed by the 10,252 tons of complete fertilizer which were sold in that State in 1936. Dolomitic limestone has been found to be especially effective for neutralizing the residual acidity of fertilizers, and its use for this purpose is increasing.

The U.S. Department of Agriculture reports that the equivalent acidity of mixed fertilizers increased from 115 lb. of CaCO_3 per ton in 1929 to 152 lb. in 1933 and then decreased rapidly to 19 lb. per ton in 1936. The recent drop in acidity is attributed to the increased use of dolomite and of relatively less acid-forming materials in commercial fertilizers.

Efforts to find simple methods of determining the fertilizer needs of plants and soil deficiencies continued during the year with some especially noteworthy results. For example, the New Jersey Agricultural Experiment Station (Bulletin 626) published, with striking illustrations, the results of its studies of the ocular evidence of soil deficiencies in apple culture which furnishes a simple guide to fertilizer use with that fruit.

The U.S. Department of Agriculture published a review of investigations relating to plant symptoms of fertilizer deficiencies covering both major nutrients such as lime, magnesium, phosphoric acid, and potash, and such minor soil constituents as boron, copper, iron, manganese, sulphur, and zinc.

Phosphates. Much interest was aroused during the year in the conservation and more efficient use of the phosphorus resources of the United States by President Roosevelt's declaration that it is "high time for the Nation to adopt a national policy for the production and conservation of phosphate for the benefit of this and coming generations," and by his recommendation to Congress that a comprehensive study be made of the supply, domestic consumption, and exports of phosphate. In view of the almost universal need of phosphate fertilizer, the conservation and proper use of phosphate resources is a matter of prime importance.

The world's known supply of phosphates is estimated to be 17,200,000,000 tons, of which 7,200,000,000 is in the United States. Of the present phosphate situation, Charles J. Brand of the National Fertilizer Association says:

The United States, with 15 per cent of the productive agricultural land of the world, has 40 per cent of the known high-grade deposits of phosphate rock.

Mining of rock in the past 10 years has averaged about 3,000,000 tons a year—2,000,000 tons representing domestic consumption and 1,000,000 tons representing exports.

At the present rate of use the high-grade deposits of rock in our eastern field will last 200 years and those in the western field 2000 years more.

International trade in phosphate, the principal fertilizer item in such trade, increased to 13,500,000 short tons in 1937, an all-time high, with 92 per cent under control of France, the United States, Russia, and Great Britain. The almost universal need of soils for phosphatic fertilizers and their indispensability for normal plant growth is constantly, and in some cases rapidly, increasing the use of such fertilizers.

J. W. Wizeman of the Bureau of Foreign and Domestic Commerce, U.S. Department of Commerce, says:

Some phenomenal changes have occurred during recent years in world consumption of phosphate rock. Russian consumption of domestic supplies has advanced from 25,000 short tons in 1926 to an estimated volume of 1,100,000 tons in 1937. In the United States, the only country other than Russia mining phosphate largely for domestic use, consumption has grown from 2,800,000 tons to 3,400,000 tons. Spectacular gains were made also by Germany, with deliveries showing a gain from 450,000 tons in 1926 to 1,000,000 tons in 1937. Combined Australian and New Zealand deliveries show an increase from 650,000 to 1,150,000 tons. While deliveries to Japan have increased steadily from 600,000 tons in 1926, the trade anticipates that 1938 deliveries will be far below the record of 1,375,000 tons established in 1937 when the trade was free of import control regulations.

France is the only leading world consumer of phosphate rock where consumption lags. Deliveries to France during 1937 of 1,250,000 short tons showed an increase over immediately preceding years but were one-third less than the annual average for five years ended 1930.

An important development of the past year was improved methods and increased production of concentrated phosphatic fertilizer, as, for example, potassium metaphosphate, proposed by the Bureau of Chemistry and Soils of the U.S. Department of Agriculture, which contains 60 per cent of phosphoric acid (P_2O_5) and 40 per cent of potash (K_2O), and calcium metaphosphate, prepared by a method perfected by the TVA, which contains 65 per cent of P_2O_5 and 35 per cent of CaO . Progress was made in the process of preparing pure phosphoric acid for fertilizer use.

It has been found that so-called aluminum toxicity of soils, which in some cases seriously impairs the productiveness of soils, is accentuated by lack of available phosphoric acid due to fixation in the soil by aluminum and can be corrected by application of superphosphate, which not only adds available phosphoric acid but tends to free the fixed phosphoric acid of the soil.

In view of the fact that soluble phosphates applied to the soil are quickly absorbed and fixed in the upper layers of the soil and hence do not reach the lower and more active root zone of plants, the Nevada Agricultural Experiment Station has undertaken to prepare an organic form of phosphate fertilizer which is not so quickly and firmly fixed in the soil and so is capable of penetrating more deeply into the plant-feeding zone. Progress was reported by that station during the year in developing a practical commercial method of preparing such an organo-phosphate by fermenting insoluble phosphates in glucose, and the efficiency of the product is being widely tested under various conditions.

Potash. Both foreign and domestic production and consumption of potash increased during the year. The closing of the Spanish mines has stimulated activity in this respect in other countries. The Soviet Republic has been especially active in developing its potash resources. The world's potash production is estimated to have been 2,950,000 short tons K_2O in 1937.

Domestic production of potash was 270,000 short tons of pure potash (K_2O) in 1937. Imports were about 350,000 tons, exports 62,000 tons, represent-

ing a substantial increase over 1936. Complete figures for 1938 are not yet available. However, an abundant and increasing supply and use of fertilizer-potash for many years to come seems assured.

Nitrogen. There was continued improvement of methods of manufacture and increased use of synthetic nitrogen compounds, assuring an adequate supply of this essential fertilizer constituent, independent of natural deposits. The available Chilean nitrate supply is, however, estimated to be 250,000,000 tons, enough to meet the world's needs for 100 years. In general, the use of nitrogen fertilizers is increasing. The present consumption of different products is estimated to be distributed about as follows: Ammonium sulphate, 47-49 per cent; cyanamid, 11-13 per cent; Chilean nitrate, 9-10 per cent; lime ammonium nitrate, 8-9 per cent; calcium nitrate, 7-8 per cent; synthetic sodium nitrate, 3-4 per cent; other synthetic nitrogen compounds, 9-12 per cent.

The United States is now an exporter as well as an importer of synthetic nitrogen fertilizer and is self-sufficient with regard to nitrogen, as well as phosphates and potash.

Bibliography. Fertilizers as a means of maintaining and increasing soil productivity and scientific research relating thereto are exhaustively treated, with a detailed bibliography, in the *Yearbook of the U.S. Department of Agriculture for 1938*, entitled "Soils and Men."

A book, *Theory and Practice in the Use of Fertilizers*, by F. E. Bear, New York, 1938, serves well its announced purpose of "bringing together in one volume the various points of view concerning fertilizer practice that have been developed by the many workers in this field since the time of Liebig and of Lawes and Gilbert."

Current progress in the production and use of fertilizers and the fertilizer industry and sources of supply in general was as heretofore recorded in *Fertilizer Review*, Washington, D. C.; *American Fertilizer*, Philadelphia, Pa.; *Commercial Fertilizer*, Atlanta, Ga.; *Experiment Station Record*, published monthly by the Office of Experiment Stations of the U.S. Department of Agriculture, with semi-annual indexes; and reports of the U.S. Department of Commerce.

FEY, MAJOR EMIL. An Austrian soldier and politician, committed suicide in Vienna, Mar. 16, 1938, where he was born on Mar. 17, 1888. Educated in the local schools, he saw service with the Austro-Hungarian Army during the World War. After his resignation from the army in 1919 he for a time edited the *Vaterlaendische Abend Zeitung*. Thereafter, he occupied himself with the organization and leadership of ex-service men's associations, and in 1930 he became active in the organization of the Vienna units of the Heimwehr, a private anti-Socialist military force.

On Oct. 17, 1932, Fey was appointed Minister for Security and with the establishment of the authoritarian state, he became vice-chancellor in the Dollfuss Cabinet on Sept. 11, 1933. Active in the fight against Nazis and Socialists, he was given supreme control over the police with the title of Minister of Police. In February, 1934, he was in command of the government and Heimwehr forces that crushed the Socialist movement in a brief civil war. In June he was transferred from the vice-chancellorship to the Ministry of Public Security, and on July 11 was named Commissioner of Emergency Measures for the Defense of the State. His role in the abortive Nazi putsch of July 25, 1934, in which Chancellor Dollfuss was

assassinated, was never fully explained, although he was completely cleared by the Austrian Military Court of Honor in March, 1937.

In the cabinet formed by Dr. Kurt Schuschnigg on July 30, 1934, he became Minister of the Interior, but with the reorganization of the government in October, 1935, he was dropped from this post. After repeated differences with Prince Starhemberg, leader of the Heimwehr, he was ousted from that organization on Oct. 2, 1936, for "subversive activities," but assumed active command of the Vienna Heimwehr, which seceded from the Starhemberg camp. After the annexation of Austria by Germany on Mar. 13, 1938, Fey, fearing for his safety, killed his wife and son and committed suicide. See AUSTRIA and GERMANY under *History*.

FIJĪ (fē'jē) ISLANDS. A British colony in the South Pacific, consisting of some 250 islands (80 inhabited) and its dependency—the islands of Rotuma. The largest islands are Viti Levu (4053 sq. mi.), Vanua Levu (2128 sq. mi.), Taveuni (166 sq. mi.), and Kandavu (165 sq. mi.). Total area, including the islands of Rotuma, 7083 square miles; total population (Jan. 1, 1938, estimate), 205,397 (including 99,595 Fijians, 89,333 East Indians, and 4238 Europeans), as compared with 198,379 (1936 census). During 1936 there were 7634 births, 4056 deaths, and 1828 marriages. Chief towns: Suva (capital, on Viti Levu), 15,522 inhabitants; Levuka (on Ovalau).

Production and Trade. Sugar, copra, molasses, bananas, trocas shell, butter, pineapples, and native foodstuffs were the principal products. A sugar quota of 129,300 long tons was allocated to Fiji for 1938-39; in 1937 the value of sugar exported was £1,388,681. Gold mining is increasing in importance, the value of gold produced in 1937 totaled £192,300, while that for 1938 was estimated at £675,125. There were 2260 miles of roads in 1937; a new road, 324 miles in length, around the island of Viti Levu, was completed during 1938. In 1937 imports were valued at £1,760,744; exports, £2,213,657.

Government. For 1937 revenue totaled £947,497; expenditure, £878,104; public debt, £1,414,030. Budget for 1938, estimated revenue, £926,051; expenditure, £922,306. The government is administered by a governor (appointed by the Crown) assisted by an executive council of 7 members, and a legislative council (of which the governor is president) of 31 members (16 official, 5 European, 5 native, and 5 Indian). Native administration is carried on through the chiefs subject to the governor's supervision. Governor of Fiji and High Commissioner for the Western Pacific, Sir Harry C. Luke, who succeeded Sir Arthur Richards late in 1938.

FILMS. See MOTION PICTURES; PHOTOGRAPHY.

FINANCE. See FINANCIAL REVIEW; PUBLIC FINANCE; UNITED STATES under *Administration* and sections under *Finance* in countries.

FINANCIAL REVIEW. The year 1938 in a number of respects presented a financial situation that was the reverse of that of the year before. Whereas 1937 marked the culmination of the rise in stock prices which began in 1933, and security quotations declined sharply during the closing months of the year, share quotations rose briskly during the last half of 1938 after additional declines had been registered during the first half of the year. Whereas efforts were made by the monetary authorities to reduce bank reserves and to discourage a further expansion of bank credit dur-

ing 1937, 1938 witnessed a major intensification of easy money policies and an effort to bring about a resumption of business recovery through bank credit expansion. The restrictive credit policies pursued in 1937 brought a decline in high-grade bond prices, particularly in the spring and early summer of the year. In 1938, on the other hand, the expansion of excess reserves to record levels caused prices of gilt-edge obligations to rise accordingly.

The war scare in Europe resulting from the crisis over Czecho-Slovakia caused an acceleration of the flight of capital from that continent to the United States. As a result of the capital inflow and the greatly increased export surplus, which amounted to \$1,133,000,000 for the year, almost \$2,000,000,000 of gold was shipped to the United States, chiefly from Great Britain, and the American monetary gold stock rose to a new peak level well above \$14,000,000,000. Owing to the elimination of the inactive gold fund by the Treasury, this great influx of gold was permitted to increase member-bank excess reserves, bringing them to a new high record level by December, 1938.

With business revival in full swing by the end of the year, the question arose whether the credit situation was not getting out of hand and whether the authorities would be able to adopt restrictive measures at some future date should such appear necessary. Owing to the fact that a business recession followed so quickly upon the restrictive measures adopted in 1936-37, the authorities are certain to be far more hesitant about doing so again.

Two main solutions to the problem were under consideration at the end of the year. First, consideration was given to an amendment of the banking act to permit increases in legal reserve requirements by the Board of Governors of the Federal Reserve System beyond the maximum limits authorized in the present law. Secondly, further study was given to ways and means of discouraging the influx of capital from abroad, a problem that had been considered by an interdepartmental Government committee previously without result. An embargo upon gold imports has been regarded as impracticable because it would lead to wide disturbances in the foreign exchange market, and a probable sharp rise in the foreign exchange quotation of the dollar. The imposition of a special tax on foreign capital placed here has been opposed, hitherto, because it would probably lead to reprisals in foreign countries where American capital is invested and because it is inconsistent with the policy of Secretary of State Hull of removing obstacles to freer commerce and financial relations between countries as far as possible.

The volume of new financing remained distinctly sub-normal, as compared to the '20's, but toward the end of the year there was an increase in such activity. While the larger part of the securities offered was again refunding in character, the proportion of flotations representing the raising of new capital was larger than in several recent years. Considerable concern developed among investment bankers, however, because of the sharp increase in the proportion of new offerings effected through private placements with one or two financial institutions, rather than through public flotation. With business recovery, a substantial increase in new financing is anticipated, but this would not prove helpful to investment bankers if a large number of issues are placed privately rather than through banking groups.

The year 1938 was also marked by a substantial

increase in the volume of mortgage financing. Early in the year, Congress approved a number of amendments to the National Housing Act which liberalized the terms under which mortgages could be insured with the FHA. Also, the U.S. Housing Authority launched its program of making loans and grants to local agencies for the construction of slum clearance projects. Life insurance companies and other institutional investors increased their holdings of mortgages freely, and a sharp rise in the volume of residential building during the closing months of the year was in part stimulated by the ready access of builders to the mortgage market.

Security Markets. The New York Times average of quotations of 50 stocks reached the low-level for the year in March at \$69.70, while the high point was touched in November at \$110.74. Stock prices underwent a series of irregular advances and declines during the first half of the year, but on June 20 a decisive upturn began which was accelerated when the steel manufacturing companies reduced their prices and reports began to be received that buying of manufactured goods and raw materials was on the increase following the contraction in inventories during the preceding nine months, when production ruled well below the current level of consumption in many industries. The recovery in stock prices that began in June continued without significant interruption until early in September, when the European war scare brought a substantial decline, as it was widely feared that the outbreak of hostilities in Europe would cause the closing of the security markets, just as in 1914. With the reaching of an agreement among the European powers at Munich, the rise in stock prices was resumed and, by November, a new high level was reached roughly comparable to that of October, 1937. In the closing weeks of the year, the pause in the business recovery, relatively heavy selling to realize tax losses, which was encouraged by the liberalization of the capital gains tax early in the year, and renewed uneasiness over the European situation caused considerable irregularity in security prices. High and low prices month by month during 1938 were as follows:

NEW YORK TIMES STOCK MARKET AVERAGE
FOR 1938

[50 Stocks—25 Rails and 25 Industrials]

	High	Low	Last
January	96.01	83.99	86.27
February	95.21	82.76	92.46
March	94.18	69.70	70.80
April	84.98	72.31	77.92
May	84.95	75.05	76.14
June	97.67	75.97	94.85
July	103.94	94.44	99.49
August	103.23	94.99	98.23
September	100.61	89.43	98.88
October	108.58	99.49	106.27
November	110.74	101.15	103.95
December	108.82	101.44	108.51

Sales on the New York Stock Exchange in 1938 were reported to aggregate 297,446,059 shares, as compared with 409,468,885 in 1937. Sales of bonds on the Exchange totaled \$1,859,525,825, which compared with \$2,790,323,300 in 1937. The total value of all listed stocks on Nov. 30, 1938, was \$40,081,000,000, as against \$46,716,000,000 on Nov. 30, 1937.

Statistics published by the Securities and Exchange Commission revealed that small investors continued to absorb stocks on a large scale during the first four months of the year. These figures on odd-lot trading, which are published regularly, showed that odd-lot purchases exceeded odd-lot

sales by several million shares during that period. When the market turned up sharply in June, however, the situation was reversed and a moderate amount of odd-lot liquidation occurred. It was indicated once again that the small investor in stocks tends to be a "bargain hunter," and that odd-lot buying is particularly heavy on balance during a sharp decline in security prices and when quotations are maintained at a relatively low level.

High-grade bond prices displayed a rising tendency during most of the year, under the stimulus of rising bank reserves and a relative paucity of new issues. Even the announcement of a greatly extended Government spending program, with its promise of an increased volume of new Treasury issues, depressed quotations only momentarily. Speculative bonds advanced with stocks during the second half of the year, as expanding business activity promised an increase in corporate earnings. The course of corporate bond prices, as measured by indices of the Standard Statistics Company, was as follows:

AVERAGES OF BOND PRICES

	Total	Corporate		
		Industrial	Railroad	Utility
Number of issues ...	60	20	20	20
1938—January	80.6	81.7	66.2	94.0
February	79.3	80.6	65.0	92.2
March	76.0	79.5	57.3	91.2
April	73.8	77.8	53.5	90.2
May	76.5	80.4	55.1	94.0
June	75.3	80.0	52.0	94.0
July	80.8	85.0	60.2	97.3
August	81.3	85.7	60.0	98.1
September	78.7	84.2	55.7	96.3
October	81.8	86.8	59.5	98.6
November	82.1	86.9	60.2	99.3
December	81.8	86.0	58.6	98.7

Stock Exchange Regulation. Sweeping and far-reaching changes in the organization of the New York Stock Exchange were effected during 1938. The Securities and Exchange Commission, which acquired broad regulatory powers over the Exchange under the Securities Exchange Act of 1934, had been very critical of a number of practices that had prevailed for a number of years past, but had found the then administration of the New York Stock Exchange averse to making many of the fundamental changes that it proposed. While the S.E.C. possessed the power to regulate the Exchange directly in any way that it pleased, it preferred not to assume the responsibility, but rather wanted the Exchange's officials to make the desired changes themselves. This finally led to the appointment of a Committee for the Study of the Organization and Administration of the New York Stock Exchange on Dec. 10, 1937, which was headed by Carle C. Conway, Chairman of the Board of the Continental Can Company. The committee included several other non-members of the New York Stock Exchange, to indicate that the interests of the nation's industry and the public at large, as well as of Exchange members, would be considered. This committee reported to Charles R. Gay, the then president of the Exchange, on January 27. It recommended that the presidency of the Exchange be made a salaried office, to give it more independence, and that the administration of the institution be strengthened generally by divorcing it from the membership, so that it would be less subject to pressure from members. It proposed that the Board of Governors, the governing body within the Exchange, be reduced in number from 50 to 32, of whom only 15 would be members of the Exchange, 6 non-member partners of New

York member firms, 6 partners of firms outside of New York City, and 3 public representatives. The paid president and the chairman of the board of the Exchange would be the other two governors. It was also proposed by the committee on organization and administration that constant study be made of financial trends to assure that the Exchange machinery would be kept up to date to serve the public as circumstances required.

This plan of organization was adopted by the exchange membership, which marked the end of the period of friction between the New York Stock Exchange and the Securities and Exchange Commission. William McC. Martin, Jr., who was secretary of the committee on organization and administration, was elected president of the Stock Exchange on May 9, and he immediately made co-operation with the S.E.C. a cardinal feature of his administration.

At the same time, the Stock Exchange authorities embarked upon a program designed to permit the members of the Exchange to conduct their business profitably despite the sharp contraction in the volume of turnover, partly attributable to restrictions on margin trading, floor trading, and transactions by officers, directors, and large stockholders imposed by the Securities Exchange Act of 1934. Among the measures actively considered were an increase in the number of listed issues through the listing of the securities of smaller companies, the admission of associate members to the Exchange to encourage non-member firms and financial institutions to bring business to the floor of the Exchange, further increases in commission rates, and the adoption of measures for reducing operating expenses of member firms. One step in this direction was the adoption of a semi-weekly settlement system in place of the "skip-a-day" system of settlement previously in effect. However, after several weeks of experience with the system of two settlements a week, which was expected to eliminate a good deal of bookkeeping in commission houses, it was found unsatisfactory and in December the members returned to the skip-a-day settlement system. Many brokers believed that if the settlement had been made on a weekly basis, the economies would have been sufficient to establish the change permanently.

The failure of Richard Whitney and Company on March 8 proved a particularly severe blow to the "old guard" among stock-exchange members, and resulted in the complete collapse of resistance to the changes proposed by the S.E.C. and the committee on organization and administration. Because Mr. Whitney had been the president of the Exchange during the period when Federal regulation was most strenuously opposed, and led the faction which insisted that regulation would seriously impair the ability of the institution to maintain a free and open market for securities, the disclosure that clients' securities had been stolen by the former president of the institution proved particularly shocking. The S.E.C. made a thorough investigation of the circumstances, and proposed a number of changes which the Exchange adopted for giving additional protection to clients of brokerage houses through audits and restrictions on the use of funds belonging to customers by members. It was also proposed by the S.E.C. that an independent trust company be established to hold clients' securities and cash for brokers, and studies to carry out this recommendation were launched by the Stock Exchange.

Congress adopted in June a series of amend-

ments to the Securities Exchange Act of 1934 largely extending the jurisdiction of the S.E.C. over the over-the-counter markets. The measure, known as the Maloney Act, provided that over-the-counter security dealers, aside from municipal dealers, are to be organized into a national association, which in turn may be divided into various local or specialized groups of dealers. The Securities and Exchange Commission is then to use these associations to regulate over-the-counter dealers just as the stock exchanges have been used to regulate their members. A committee of the New York Stock Exchange also urged that securities traded in by members of these associations be subject to some of the requirements for the disclosure of information that are applicable to registered securities on national security exchanges.

New Financing. Depressed business conditions and inactivity in the security markets during the first half of the year greatly reduced the volume of private financing in the first six months of 1938. Therefore, rising quotations and the greatly improved business outlook brought a substantial revival of both refunding and issues to raise new capital. At the end of the year, investment houses reported that they were working actively on a large volume of new offerings for 1939.

Out of the total of \$4,384,201,545 of new financing consummated during 1938, \$2,057,013,919 was for refunding purposes. Thus, 47 per cent of new issues were refunding in character in 1938, about the same proportion as in 1937.

Public offerings of new securities varied from month to month as follows:

NEW PUBLIC FINANCING, 1938

[Thousands of dollars]

Month	Total	New capital	Refunding
January	121,444	92,387	29,056
February	199,188	82,072	117,116
March	245,178	126,260	118,918
April	352,020	197,448	154,572
May	216,724	156,640	60,084
June	505,517	345,257	160,260
July	464,920	389,896	75,024
August	415,474	180,228	235,247
September	196,697	120,362	76,335
October	762,948	164,682	598,266
November	388,588	218,907	169,680
December	452,677	218,478	234,199

Institutional investors displayed a very keen interest in high-grade security issues throughout the year. The life insurance companies, which had added \$672,000,000 of Government bonds to their portfolios in 1937, reported an increase of only \$188,000,000 in such holdings for 1938. On the other hand, they increased their holdings of railroad, public utility, and industrial corporation

issues by \$719,000,000, as against an increase of \$656,000,000 in 1937. In their eagerness to acquire additional obligations, many of the larger institutions bought whole issues of securities directly from the issuers, such private placements for 1938 being estimated at \$650,000,000, as against some \$500,000,000 in 1937. New security issues consummated during 1938 compared with the volume of previous years as shown in table at bottom of this page.

The Federal Government, which had restricted itself largely to refunding during 1937, raised substantial amounts of new money during 1938 in order to finance the beginning of the vast lending-spending program authorized by Congress in the spring of the year. The Treasury increased its debt by more than \$2,000,000,000 through sales of bonds and notes, and also arranged for separate financing by the Reconstruction Finance Corporation and the Commodity Credit Corporation during the year. The banks furnished the chief market for these sales of additional issues to finance the Federal deficit.

Foreign financing was again at a very low ebb, owing to the unwillingness of investors to purchase bonds of countries in default on private obligations and the restriction on financing by countries in default in debts to the United States Government under the Johnson Act. An Argentine loan, however, was placed in New York without difficulty in November.

International Capital Movements. "Hot money" again became one of the most urgent and difficult financial problems confronting the United States during the last half year of 1938. The European war scare brought a resumption of the large-scale transfer of capital from Europe to the United States, although in the first six months there was considerable repatriation of foreign capital from this country. During the third quarter of the year, the inflow of foreign capital aggregated \$407,100,000, which compared with reported net capital imports of \$350,000,000 in the corresponding period of 1937. As in 1937, incoming foreign capital was deposited almost entirely in American banks, only small amounts being used to purchase securities. The quarterly statements of capital movements, as published by the Treasury Department, are given on page 252.

As a result of the renewed shift of nervous money from Europe to the United States, as well as the greatly increased export surplus, gold imports into this country during the year assumed record proportions. They fell to a low level during the first seven months of the year, but the Czechoslovakian crisis brought a veritable flood of foreign capital to the United States. The size of the

SUMMARY OF NEW FINANCING

[In millions of dollars]

Year	Total (New and refunding)	Total new capital	Total domestic	New State and municipal ^a	New Federal agencies ^b	Corporate Bonds & notes	Stocks	Foreign ^c	Total refunding
1928	9,992	8,114	6,789	1,379	64	2,385	2,961	1,325	1,877
1929	11,592	10,183	9,420	1,418	0	2,078	5,924	763	1,409
1930	7,677	7,023	6,004	2,980	87	2,980	1,503	1,019	654
1931	4,023	3,116	2,860	1,235	75	1,239	311	256	907
1932	1,730	1,192	1,165	762	77	305	20	27	538
1933	1,054	710	708	483	64	40	120	2	344
1934	2,212	1,386	1,386	803	405	144	35	0	826
1935	4,752	1,412	1,409	855	150	334	69	3	3,340
1936	6,254	1,973	1,972	735	22	839	352	25	4,281
1937	4,003	2,103	2,096	712	157	819	408	7	1,901
1938	4,384	2,327	2,297	962	481	790	64	30	2,057

^a Includes issues of noncontiguous U.S. Territories and Possessions.

^b Includes publicly offered issues of Federal land banks, Federal intermediate credit banks, Federal Farm Mortgage Corporation, and Home Owners' Loan Corporation; excludes direct obligations of U.S. Treasury.

^c Figures do not include funds obtained by States and municipalities from any agency of the Federal government.

CAPITAL MOVEMENTS INTO THE UNITED STATES

[In millions of dollars]

Jan. 2, 1935, through	Total	Total	In bank balances			In securities		
			Increase in foreign funds in U.S.	Decrease in U.S. funds abroad	In broker-age balances	Total	Domestic	Foreign
1935 Dec. 31	1,412.5	964.6	603.3	361.4	6.0	441.8	316.7	125.2
1936 Dec. 30	2,608.4	1,362.0	930.5	431.5	12.9	1,233.6	917.4	316.2
1937 Dec. 29	3,410.3	1,617.6	1,168.5	449.1	47.5	1,745.2	1,162.0	583.2
1938 Mar. 30	3,197.2	1,374.1	949.8	424.4	54.2	1,768.9	1,150.4	618.5
June 29	3,035.8	1,179.5	786.2	393.3	57.8	1,798.4	1,153.3	643.1
Sept. 28	3,442.9	1,628.4	1,161.2	467.2	64.1	1,750.4	1,125.4	625.0

CAPITAL MOVEMENT, BY COUNTRIES

[In millions of dollars]

Jan. 2, 1935, through	Total	United Kingdom	France	Netherlands	Switzerland	Germany	Italy	Other Europe	Total Europe	Canada	Latin America	Far East	All Other
1935 Dec. 31 ...	1,412.5	554.9	210.2	114.5	130.4	36.6	24.0	130.0	1,200.6	(*)	70.9	128.3	12.7
1936 Dec. 30 ...	2,608.4	829.3	299.5	229.7	335.5	83.1	45.6	228.5	2,051.3	150.5	201.2	184.0	21.4
1937 Dec. 29 ...	3,410.3	993.7	281.7	311.9	607.5	123.9	22.1	312.2	2,653.0	106.3	410.6	224.6	15.9
1938 Mar. 30 ...	3,197.2	938.2	266.4	260.2	544.1	125.8	15.7	315.3	2,465.8	124.7	400.3	187.7	18.8
June 29 ...	3,035.8	889.7	237.4	266.0	484.1	137.7	21.4	313.4	2,349.7	114.1	412.0	140.5	19.5
Sept. 28 ...	3,442.9	983.2	308.7	298.2	504.3	131.5	20.6	434.5	2,681.1	114.8	442.9	167.1	37.1

* Inflow less than \$50,000.

gold imports into the United States and the chief sources from which they came are shown in the table below.

It will be noted that the bulk of the gold came from Great Britain. This did not mean that the influx of capital was chiefly British-owned. Rather, it indicated that nervous money which had previously been transferred from other countries to London

the United States and building up foreign deposit balances in this country. Should this continue, the U.S. Government is likely to make a more serious attempt to check the inflow of gold, or at least to work out ways and means for preventing the inflation of bank reserves because of these huge capital transfers. Since the policy of the Government was to encourage credit inflation during the

GOLD MOVEMENTS TO AND FROM THE UNITED STATES

[In thousands of dollars, at approximately \$35 an ounce]

Year	Total net imports or net exports (—)	United Kingdom	France	Belgium	Net imports from or net exports (—) to					British India
					Netherlands	Switzerland	Canada	Japan		
1934	1,131,994	499,870	260,223	8,902	94,348	12,402	86,829	4		76,820
1935	1,739,019	315,727	934,243	3	227,185	968	95,171	.....		75,268
1936	1,116,584	174,093	573,671	3,351	71,006	7,511	72,648	.....		77,892
1937	1,585,503	891,531	—13,710	90,859	6,461	54,452	111,480	246,464		50,762
1938	1,973,569	1,208,728	81,135	15,488	163,049	1,363	76,315	168,740		16,159

was largely shifted to the United States because of the tense European political situation. Even after Munich the fear prevailed that war scares might become chronic on that continent. At the same time, the improved economic outlook in the United States and the strong isolationist sentiment in this country were regarded as making the United States more desirable than ever as a haven for refugee capital. Furthermore, the declining trend in quotations of European currencies in the foreign exchange markets during the latter half of the year and the increased taxation threatened in Europe by the enlargement of armament programs encouraged further transfers of capital from European countries, including Great Britain, to the United States.

The monetary gold stock of the United States rose to unprecedentedly high levels during the year. This may be seen from the accompanying table.

Under these conditions, the surplus gold problem is naturally attracting increasing attention. As this country absorbs an increasing percentage of the world stock of gold, the monetary role played by the yellow metal dwindles. It is no longer being used as a means of stabilizing foreign exchange rates automatically, as was the case when leading countries were on the gold standard, and it is no longer being allowed by central bank authorities to regulate currency and credit conditions within each country. The primary role of gold now is to furnish a means for transferring capital to

year, the problem did not receive as much attention in 1938 as is likely to be the case during 1939 and thereafter, should the heavy gold inflow persist.

Another phase of this heavy capital influx was weakness in the leading European exchanges, particularly the pound sterling. From a level above \$5 early in the year, sterling fell to a low point around \$4.60 during the September international

ANALYSIS OF CHANGES IN UNITED STATES MONETARY GOLD STOCKS

[In millions of dollars]

Year or month	Gold stock at end of year or month	Increase in total gold stock	Net gold import	Net release from ear-mark	Domestic gold production
1932	4,226	52.9	—446.2	457.5	50.6
1933	4,036	190.4	—173.5	—58.0	89.5
1934	8,238	4,202.5	1,133.9	82.6	96.3
1935	10,125	1,887.2	1,739.0	—2	110.7
1936	11,258	26.5	1,132.5	—85.9	131.6
1937	12,760	1,229.9	1,502.5	—200.4	143.9
1938—Jan.	12,756	1,223.5	—4.6	2.1	1.1
Feb.	12,776	1,200.6	20.7	8.0	18.2
Mar.	12,795	1,183.0	18.5	52.9	—6
Apr.	12,869	.....	74.3	71.1	—1.2
May	12,919	.....	49.8	52.8	—53.9
June	12,963	.....	44.2	55.3	—15.5
July	13,017	.....	54.5	63.8	—20.9
Aug.	13,136	.....	118.3	166.0	—28.8
Sept.	13,760	.....	623.8	520.9	—13.3
Oct.	14,065	.....	305.0	562.4	—110.2
Nov.	14,312	.....	247.5	177.8	—7.4
Dec.	14,512	.....	199.6	240.5	—62.4

crisis, and did not rally much from that low level thereafter. Further weakness in the leading European currencies would probably raise the question as to whether the monetary policy of the United States should be reconsidered, particularly if lower sterling should be accompanied by declining prices for commodities enjoying a world market, such as grains and cotton.

FINE ARTS. See ART EXHIBITIONS; ART MUSEUMS; LITERATURE, ENGLISH AND AMERICAN; PAINTINGS; SCULPTURE, ETC.

FINLAND. A republic of Northern Europe. Capital, Helsinki (Helsingfors).

Area and Population. Finland has a land area of 134,547 square miles and a population estimated at 3,807,163 in 1936 (3,667,067 at the 1930 census). Of the 1936 population, 3,012,986 lived in rural and 794,177 in urban communities. Finnish-speaking inhabitants comprised 89.4 per cent of the total; Swedish-speaking, 10.1 per cent. Living births in 1936 numbered 68,895 (19.2 per 1000); deaths, 49,723 (13.8 per 1000); marriages, 29,841 (8.3). Estimated populations of the chief cities in 1936 were: Helsinki (Helsingfors), 283,598; Viipuri (Viborg), 73,227; Turku (Åbo), 70,688; Tampere (Tammerfors), 61,208; Vaasa (Vasa), 31,499; Oulu (Uleåborg), 26,446; Lahti, 24,371; Kuopio, 24,337. Swedish place names are given above in parentheses.

Education and Religion. Less than 1 per cent of the adult population was illiterate in 1930. The population of school age (7 to 15 years) was 586,594 in 1935. School attendance was: Primary, 502,189 in 1935-36; secondary, 50,276 in 1935-36; universities and schools for higher education, 8121 in 1936-37. The population on Jan. 1, 1937, included 3,654,751 Lutherans, 70,445 Greek Catholics, 9909 Baptists and other evangelical church members, 1541 Roman Catholics, 1756 Jews, and 347 Moslems.

Production. At the 1930 census 60 per cent of the working population was engaged in agriculture and 16.8 per cent in industry. About 6,310,000 acres (7.3 per cent of the total area) were under cultivation in 1936. Crops harvested in 1937 were valued at about 7,025,000,000 marks. Yields of the chief cereals in 1938 were (in metric tons): Wheat, 217,000; barley, 199,000; rye, 373,000; oats, 817,000. The 1937 potato crop was 50,979,000 bu.; flax and hemp, 2,278,000 lb.; hay (1936), 3,708,000 metric tons. Livestock statistics for 1936 were: Cattle, 1,879,000; sheep, 1,023,000; goats, 13,000; swine, 459,000; horses, 369,000; reindeer, 100,000. Animal products in the same year were: Butter, 61,363,000 lb.; cheese, 22,011,000 lb. Some asbestos, copper, gold, lead, peat, and zinc are mined.

Industrial production in 1936 was valued at 16,122,000 marks. The principal industrial products for that year were: Wood pulp, 1,975,932 metric tons; paper (excluding wallpaper), 1,164,154,000 lb.; cardboard, 274,872,000 lb.; lumber, 2,386,000 bd. ft.; spools (for thread), 3,879,000 gross; shoes and galoshes, 4,310,000 pairs; cotton yarn and fabric, 24,923,000 lb.; bricks, 121,053,000; matches, 369,701,000 boxes; cigarettes, 3,620,000,000; margarine, 25,889,000 lb.

Foreign Trade. General imports in 1938 totaled 8,612,300,000 marks (9,306,423,000 in 1937) and general exports were 8,431,100,000 marks (9,379,724,000 in 1937). The chief 1937 imports in order of value were metals and their manufactures, machinery, coal and coke, chemicals, and medicines. The principal exports were sawn and unplanned wood, wood pulp, newsprint and other paper, ply-

wood veneers. The United Kingdom supplied 19 per cent of the 1937 imports by value, Germany 16.4, and the United States 9.3. Of the exports, 43.1 per cent went to the United Kingdom, 12.8 to Germany, and 7.9 to the United States. Imports from the United States in 1938 were valued at 893,549,000 marks; exports to the United States, 776,126,000 marks.

Finance. The budget estimates (ordinary and extraordinary) for 1939 placed revenue at 5,211,300,000 marks and expenditure at 5,208,800,000 as compared with the estimates of 4,436,200,000 and 4,435,300,000, respectively, for 1938. Actual revenue in 1937 totaled 5,984,500,000 marks and expenditure 5,898,100,000, leaving a surplus of 86,400,000. The public debt was 3,251,300,000 marks on Dec. 31, 1938, compared with 3,452,500,000 marks on Dec. 31, 1937. The average exchange value of the mark was \$0.0219 for 1936, \$0.0218 for 1937, and \$0.0216 for 1938.

Transportation. The railway mileage on Jan. 1, 1937, was 3582 (state lines, 3424). A new line from Pori to Haapamäki (119 miles) was opened officially on Oct. 15, 1938. Highways and roads aggregated 40,910 miles in 1937; the number of automobiles (Jan. 1, 1938) was 42,267. The state lines in 1936 carried 20,856,948 passengers and 13,671,000 metric tons of freight, the gross receipts totaling 925,908,000 marks. Statistics of internal civil aviation in 1937 were: Miles flown, 204,300; passengers, 7513; cargo, 369,800 lb. The gross tonnage of the Finnish merchant marine on June 30, 1938, was 579,600 (549,100 on June 30, 1937). A total of 8022 vessels of 5,850,000 net registered tons entered Finnish ports in the foreign trade during 1936.

Government. Executive power is vested in a president elected for six years by 300 electors, chosen by direct suffrage in the same manner as members of the Diet. Legislative power rests with the unicameral Diet and the President. The 200 members of the Diet are elected by direct vote of all citizens, male and female, 24 years or more of age. The cabinet is appointed by the President, but is responsible to the Diet. President in 1938, Kyösti Kallio, who assumed office Mar. 1, 1937. Premier, Aimo Kaarlo Cajander (National Progressive), heading a cabinet comprising representatives of the Social Democratic, Agrarian, and National Progressive parties. The standing of the parties in the Diet following the election of July, 1936, was: Social Democrats, 83; Agrarians, 53; Swedish People's party, 21; National Coalition, 20; Patriotic National Movement (pro-Fascist), 14; National Progressives, 7; others, 2.

History. The struggle between liberal and anti-liberal forces in Finland continued during 1938 following the victory of the pro-democratic groups in the 1937 presidential election (see 1937 YEAR BOOK, p. 251). The resignation of Foreign Minister Rudolf Holsti on November 16 was considered a triumph for the conservative and anti-liberal elements. His ardent democratic sympathies had earned him the animosity of the German Government, which was reported to have made strong representations to the Finnish Government concerning his criticisms of Chancellor Hitler at the League of Nations Assembly meeting in Geneva in September. His resignation brought no change in Finland's foreign policy as outlined by President Kallio in 1937. It was followed on November 22 by the dissolution of the pro-Fascist Patriotic National Movement and the suspension of the party's 18 newspapers.

Meanwhile, Finland had been speeding prepara-

tions to preserve its neutrality in an expected Russo-German war by strengthening national defenses and by closer diplomatic and economic collaboration with the other Scandinavian and Baltic states. The Diet on May 20 passed a law raising the income and property taxes for the years 1939 to 1943 by 20 per cent to finance an enlarged armament program for the period 1938-44, calling for an expenditure of 2,710,000,000 marks. The law provided for the issuance of a loan if it became necessary to complete the arms program before the appointed date. Finland joined with Sweden, Norway, and Denmark in formulating a common neutrality program and with all of the other Oslo powers in repudiating the sanctions obligations of the League Covenant and following a common commercial policy. See DENMARK under *History* for details.

To forestall the expected race between Germany and the Soviet Union to seize control of the strategically important Åland Islands upon the outbreak of a European war, the Finnish Government reached an agreement with Sweden early in September for revision of the demilitarization treaty of 1921 to permit fortification of the islands. The announcement of this program was followed on September 12 by a visit to Finland of Gen. Olof Thornell, chief of the Swedish defense staff, to inspect the Finnish frontier defenses. Fortification of the Åland Islands, which form a department of Finland, encountered the almost unanimous opposition of the 30,000 inhabitants of the islands and their autonomous parliament. They likewise opposed the introduction of military conscription. Conferences on the Åland Islands issue were held in Helsinki commencing November 4 by the Finnish Cabinet, a Swedish delegation headed by Foreign Minister Sandler, and representatives of the Åland parliament. But no agreement with the Åland islanders and with the League of Nations had been reached by the end of 1938.

During the European crisis over Czecho-Slovakia in September the Finnish Government protested to Moscow (September 19) against alleged violations of Finland's territorial waters and land frontiers by Soviet submarines and airplanes, respectively. It was announced on December 26, however, that the final delimitation of the Finnish-Soviet frontier had been completed with the exchange of notes between the two governments. Finnish hostility toward the Soviet Union was spurred by the campaign of forcible denationalization carried on by Soviet authorities among the Finnish-speaking inhabitants of Soviet Karelia, adjoining Finland's eastern frontier.

The Fascist movement within Finland received a new lease on life on December 1 when the Magistrate's Court at Helsinki refused to enforce the government's order dissolving the Patriotic National Movement. Consequently, the ban on the party and its newspapers was ended immediately. The government then appealed from the Magistrate's Court decision. On December 13 Premier Cajander displayed his resistance to both Fascist and German pressure by appointing Elias Erkkö, a liberal publisher and member of the Progressive party, as Foreign Minister in place of Dr. Holsti.

FIRE INSURANCE. See **INSURANCE.**

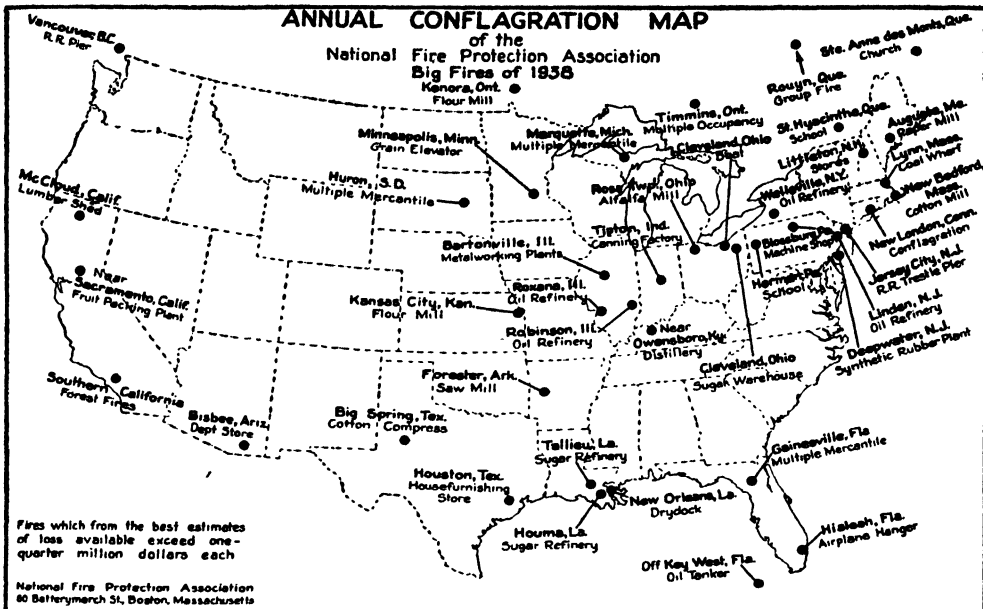
FIRE PROTECTION. The increase in the 1938 fire loss over that of 1937, swinging back to and somewhat exceeding the total for 1936, is subject to no special interpretation. The increase of 13 "large loss" fires over those of 1937 is not a complete explanation. There was no drop in fire-

prevention activities and the increased losses were pretty well distributed throughout the year. The hurricane and floods that devastated large areas on Long Island and in New England in September, like other catastrophes that have been visited upon other sections of the country from time to time, placed an overwhelming burden upon the fire-protection forces of the regions affected. Fire, to the public mind, is a minor and incidental feature of such disasters, but it is only through herculean efforts of the public fire departments, and the fire-protection fraternity in general, that fire does not multiply many fold the destruction wrought by the elements. With normal fire-protection facilities seriously impaired, the fire-protection forces must cope with extraordinary hazards, as well as meeting all sorts of emergency calls outside the line of usual fire duty.

With the unique combination of flood, hurricane, and tidal wave it is indeed fortunate that fire did not take a greater toll. The New London, Conn., conflagration was stopped by the New London fire department with its limited personnel and equipment, the outside aid that might otherwise have been quickly assembled from other communities being unavailable because of blocked roads. The fire in Peterboro, N. H., though involving a much smaller monetary loss, was equally serious in proportion to the size of the community. Despite crippling of fire-alarm service, tremendous damage to electric power lines and communication service, thousands of chimneys fallen or cracked, roofs off buildings, gasoline and oil tanks damaged by flood or wind, and other damage too extensive to enumerate, the only major fires reported were those in New London and Peterboro. It is possible that during 1939 the heavy fall of timber in New England, due to the hurricane, may be responsible for many additional fires. The devastation of forests was too great to make early clearing of the fallen trees possible and they still lie, in countless numbers, slowly drying into quickly ignitable material. See **FORESTRY.**

Training and instruction schools for firemen have gone on multiplying during 1938 at an accelerated pace. Firemen's training programs, operated on a state-wide basis, last year reached over 50,000 firemen. The schools have already been recognized as of incalculable importance in making it possible for firemen to save more lives and property and to advance the all-around efficiency of fire departments.

Firemen's training did not receive very rapid acceptance by the fire departments of the country. In 1883 one of the first fire department drill schools (as we know them today) was established in New York City. The idea was to give firemen practice in the use of scaling ladders, to develop agility, and to accustom them to working on the upper stories of buildings. Twenty years later, firemen were still relatively untrained in the majority of fire departments in the United States and Canada. Even today we find a large city like Cleveland without a drill school. However, there are now about 500 cities in the United States and Canada with populations in excess of 20,000; of these we find 160 with drill towers and more than 250 have some sort of training program. Every one of the cities with these drill-school facilities has been generous in opening its drill sessions to firemen from neighboring cities and towns which do not have training equipment. The experienced drill masters of these cities have co-operated in most of the state-wide programs to provide training to all firemen.



The George-Deen Federal act of 1936 provided an appropriation of \$4,000,000 available to the states for industrial training. The act specifically authorizes the training of public employees under this classification. The vocational education departments, having already studied firemen's training work and finding it a field in which they could register immediate results, have been able to more effectively take hold of local training programs. More important, they have modest appropriations which may be applied to the employment of itinerant instructors and to reimbursing instructors from fire departments for traveling expenses when they are working outside their own city.

Another Federal act may not prove so helpful in furthering the fire-prevention cause. The watchman is a traditionally important element in fire protection. The Wages and Hours legislation will, according to views of some employers, make it economically difficult to continue watchman service under the conditions that have formerly obtained. In many plants compliance with the law would mean practically doubling the number of watchmen in order to secure the same protection. The alternative of employing men physically or mentally handicapped for this particular service, thus securing an exemption from the application of the minimum-wage requirement, might be unfortunate as regards fire protection.

A very considerable interest in visual education through the medium of the motion picture has been awakened during the past year by the production of forceful and attractive films which have made their appearance in different sections of the country led by *U.S. Fire Fighters*, the striking picture of March of Time released in September. One of these films, produced on the Pacific coast, emphasizes the hazards of Fourth of July celebrations and is destined to be very helpful in advancing the campaign for state regulation of fireworks which is now getting effectively under way, supported by various public welfare organizations.

The 1938 U.S. Fire Loss. The preliminary estimate of the fire loss in the United States for the year 1938 is \$302,050,000 (based on estimates com-

plied by the National Board of Fire Underwriters). This is \$17,330,000 more than the 1937 preliminary loss estimate, and shows the result of the upward swing in losses begun in July.

COMPARATIVE MONTHLY LOSS ESTIMATES

	1936	1937	1938
January	\$ 27,729,930	\$ 25,069,895	\$ 27,673,337
February	30,909,896	28,654,962	26,472,626
March	29,177,406	29,319,029	29,050,968
April	25,786,835	26,663,854	25,616,112
May	21,479,380	21,437,739	22,917,577
June	20,407,485	19,524,765	19,473,617
July	22,357,020	19,812,485	20,434,688
August	21,714,495	19,767,314	20,821,184
September	20,413,537	19,349,756	23,372,528
October	20,439,136	21,097,670	24,797,624
November	20,808,497	23,849,673	28,658,695
December	30,133,628	30,172,952	32,758,044
Total	\$293,357,245	\$284,720,094	\$302,050,000

Adjusted loss figures ... \$266,659,449 \$253,859,796 (*)

* Released later in year.

NOTE. It may be noted that the final loss figures for both 1936 and 1937 are less than the preliminary loss figures for those years. It may be assumed, therefore, that the adjusted loss figure for 1938 will also be lower than the preliminary estimate.

The 1938 fire loss brings the total fire waste in the United States during the past 23 years up to \$9,234,980,237, which is an annual average about \$400,000,000. The following table gives the annual fire losses by years since 1916.

1916	\$258,377,952	1928	\$464,607,102
1917	289,535,050	1929	459,445,778
1918	353,878,876	1930	501,980,624
1919	320,540,399	1931	451,643,866
1920	447,886,677	1932	406,885,959
1921	495,406,012	1933	271,453,189
1922	506,541,001	1934	271,197,296
1923	535,372,782	1935	235,263,401
1924	549,062,124	1936	266,659,449
1925	559,418,184	1937	253,859,796
1926	561,980,751	1938 .. (Est.)	302,050,000
1927	472,933,969		

During the year 1938 there were reported to the N.F.P.A. Department of Fire Record 36 fires in the United States, involving a loss estimated at

\$250,000 or more each. This is an increase of 13 fires over 1937, but is only three fires above the average number of such fires for the past five years. During 1938 there were six fires in this classification in Canada, which compares with two fires in 1937. The locations of these 42 large-loss fires are shown on the accompanying annual conflagration map.

Seventeen fires caused losses of \$500,000 or more, including five which were of \$1,000,000 or more. The largest loss of the year, aside from the \$3,000,000 loss in the series of forest fires in southern California, during the week of November 23, was the whiskey distillery fire in Owensboro, Ky., on November 12, with a loss of \$1,800,000.

A total of 61 lives were lost in 6 of these 41 big fires of the year. Forty-six of these lives were lost in the school fire in St. Hyacinthe, Que., on January 18.

FIRESTONE, HARVEY SAMUEL. A pioneer in the American rubber industry, died in Miami Beach, Fla., Feb. 7, 1938; born Columbiana County, Ohio, Dec. 20, 1868. The son of a farmer, he was graduated from local schools and later attended business college in Cleveland. He entered business as a bookkeeper, and subsequently sold flavoring extracts until he obtained, in 1894, a position with the Columbus Buggy Co.

The solid rubber tire for buggies, introduced in America in the early 1890's, convinced Mr. Firestone that rubber tires offered great promise in the future of transportation. He established a small business in Chicago under the name of the Firestone-Victor Rubber Co. in 1896. In 1889 he sold this company at a substantial profit, and on Aug. 3, 1900, founded the Firestone Tire & Rubber Co. in Akron, Ohio. That business developed rapidly with the growth of the automobile industry and within a few years began the establishment of sales outlets in foreign countries. The number of employees of the company grew from 17 at its organization to over 48,000 in 1937.

The early days of the company were marked by frequent clashes with patent pools which then dominated the rubber industry, but gradually Mr. Firestone's efforts freed the industry of shackles that stifled growth and would have cost car owners many millions of dollars. Outstanding developments of the company include: The "straight-side" tire, replacing the "clincher" type; the first all-rubber non-skid tread; the first commercially practicable demountable rim; the first balloon tire; and the first tire for tractors and other wheeled farm implements.

At the close of the World War, when railroad yards were clogged and shipments lagged, Mr. Firestone organized the "ship-by-truck" movement to help relieve the country's transportation crisis. The motor truck was relatively new, but Mr. Firestone believed that, with effective organization, it could perform the task. He established bureaus in 80 cities, offering free service to shippers and truck operators in the co-ordination of their needs and facilities. The impetus supplied by this plan introduced in the movement of goods by truck upon a broad scale. In 1920 Mr. Firestone instituted a campaign for good roads which rendered effective service in promoting America's present system of improved highways.

Upon the enactment of the Stevenson Rubber Restriction scheme of 1922, Mr. Firestone proclaimed the plan economically wrong and opened offices in Washington for a campaign against it. In 1928, after defeat of the restriction, his friends

and admirers presented him with a medal in recognition of his services in breaking the English rubber price control, which had cost American motorists millions of dollars each year of its existence.

His interest in the assurance to America of an independent source of supply of rubber led Mr. Firestone to investigate the rubber-growing possibilities in many tropical countries. These investigations convinced him that Liberia, in West Africa, had great potentialities as a source of rubber for the United States. In 1925 he obtained the right to lease for 99 years up to 1,000,000 acres of land in Liberia, and by 1938, 70,000 acres had been planted to rubber and additional large tracts were under development by Firestone Plantations Company.

Mr. Firestone was the first rubber manufacturer to establish a system of auto supply and service stores to supplement and assist independent dealers. In 1938 his company had established more than 600 of these retail outlets.

In 1932 Mr. Firestone retired as president to become chairman of the board of directors of the parent Firestone company and its major subsidiaries in America and abroad.

During the World War, Mr. Firestone was a member of the Ohio Council of National Defense; was instrumental in organizing the rubber division of the War Industries Board; and served as president of the Rubber Manufacturers' Association (1916-18), organizing the Association's war activities. He was president of the Ohio Council of Churches during 1923-24; president of the City Planning Commission of Akron for several years; and a member of many other religious, public, and charitable organizations. In 1922 he published *Rubber: Its History and Development*; and in 1926, in collaboration with Samuel Crowther, *Men and Rubber*. He was honored by Kenyon College with the degree of Doctor of Laws and by Mount Union College with the degree of Doctor of Business Administration.

Mr. Firestone was one of the famous quartet whose other members were John Burroughs, Thomas A. Edison, and Henry Ford, friends of long standing. Their annual vacation camping trips aroused widespread interest.

FISH. See ZOOLOGY.

FISK UNIVERSITY, a coeducational institution for colored people in Nashville, Tenn., founded in 1866. The total enrollment of 470 for the autumn of 1938 included 192 men and 278 women. The faculty numbered 55. The productive endowment for 1937-38 amounted to \$2,173,906, and the total income, \$411,878. The library contained 64,923 volumes. The total enrollment of 178 for the summer of 1938 included 67 men and 111 women. President, Thomas Elsa Jones, Ph.D.

FLAX. The flaxseed production in 1938 of 13 countries reporting to the International Institute of Agriculture was estimated at 95,654,000 bu. produced on 12,263,000 acres, respectively 2.1 per cent and 5.3 per cent below the average for the five years 1932-36. The yields of the leading countries, exclusive of the United States, were reported as follows: India 18,280,000 bu., Canada 1,359,000 bu., Lithuania 1,182,000 bu. (including hempseed), and Germany, not including Austria, 897,000 bu. For the crop year 1938-39 Argentina estimated its yield at 63,777,000 bu. In the five years 1932-36, the Soviet Republics yielded a yearly average of 29,213,000 bu.

According to reports by the U.S. Department of Agriculture, the 1938 flaxseed crop of the United States was estimated at 8,171,000 bu., produced

on 954,000 acres. The average yield per acre, 8.6 bu., was the highest since 1927 and above the 10-year average in each of the 11 reporting states except Michigan. The states leading in production and their yields were as follows: Minnesota 4,756,000 bu., North Dakota 1,490,000 bu., California 684,000 bu., South Dakota 382,000 bu., and Kansas 367,000 bu. These states produced over 90 per cent of the nation's crop. Minnesota and North Dakota led in acreage harvested with 453,000 and 298,000 acres respectively.

In the fiscal year ended June 30, 1938, the United States exported 232,000 tons of linseed cake, 17,000 tons of linseed meal, 821,000 lb. of linseed oil and imported 2000 tons of hackled and other flax, 10,880,000 lb. of linseed oil-cake and oil-meal, 17,218,000 lb. of flaxseed screenings, 17,861,000 bu. of flaxseed, and 243,000 lb. of linseed oil.

Eleven countries, not including the Soviet Republics, reporting flax-fiber production to the International Institute of Agriculture, produced in 1938 a total of 295,676,000 lb. on 716,000 acres. The production was 4.2 per cent under that of 1937 and 50.5 per cent above the average for the five years 1932-36, and the acreage 6.8 per cent under the area of 1937 and 45.7 per cent above the five-year average. The yields of the leading countries were reported as follows: Germany, not including Austria, 64,335,000 lb., Lithuania 57,786,000 lb. of flax and hemp fiber, Latvia 48,392,000 lb., and the Netherlands 37,602,000 lb. For the Soviet Republics an average production of 1,172,894,000 lb. for the five years 1932-36 is recorded. No fiber flax production was reported for any of the countries in North and South America.

FLOOD CONTROL. In June, Congress enacted a new flood-control law through which the Federal Government extends its claim to full control of all rivers in the United States, a claim first made in the Act of 1936. The right of the Federal Government to control navigable streams by virtue of the interstate commerce clause has long been recognized, but this right has been limited to the interests of navigation. The U.S. Bureau of Reclamation has carefully considered State rights and other earlier activities under the Water Power and even the TVA acts refer specifically to the Federal right to improve navigation. The new Act, however, departing from this precedent, asserts that the Federal Government cannot only undertake flood-control work on any river but also can take ownership of both the water and the power incidental to such works.

This new law seems to be a definite answer to the New England States which sought from Congress the authority to form an interstate compact in order that they might work out their own flood problems and have vigorously denied the authority of the Federal Government to take over the power rights incidental to flood works. At a meeting of the Connecticut Society of Engineers in Hartford in March, the rights of the States under the Constitution to form a compact and to control the water power developed were strongly defended. The newly elected governors in this area also stated that no TVA is wanted in the Connecticut River Valley. On August 1, however, President Roosevelt, writing to Governor Cross of Connecticut, stated:

I cannot approve any compact which deals with the water resources of the nation or their development. It is my profound conviction that these matters are properly the subject of Federal legislation and not of interstate compacts.

The deadlock continued to the end of the year, with the Federal Government refusing funds for flood works and the New England States determined to protect their State rights. In the meantime, the hurricane of September 21 led many to conclude that flood constructions cannot be indefinitely delayed. While the Connecticut River at Hartford reached a stage 2.2 ft. below that of the record flood of 1936, the Merrimack at Lowell was 8 ft. below the 1936 level and the New England area (excepting the shore of Long Island Sound where a high tide plus wind flooded roads, towns, and cities with a level about 10 ft. above that previously experienced) thus narrowly escaped a major flood disaster.

The work of the U.S. Engineers on the Merrimack River—in fact, all work in the Boston district, which includes New Hampshire, Massachusetts, and Connecticut—was shut down on December 23.

Muskingum. On July 1, the U.S. Army Engineers turned over to the Muskingum Conservancy District the completed flood-control works which will protect this valley from Marietta northward. Created by the Ohio legislature in 1933, and made possible by a PWA allotment of \$44,000,000, this project involved the construction of 14 dams plus various minor improvements.

Pittsburgh. Bids were opened on December 17 for the Crooked Creek Dam, first of a series of nine which will form part of the Pittsburgh Flood-Control project and, on the following day, for a second dam on the Allegheny, the Tionesta Dam.

Operation. Late in July a sudden flood on the Colorado River of Texas led to severe criticism of the operation of the Buchanan Dam—one of a series of four under the Lower Colorado River Authority. It was claimed that an abnormal amount of water had been held back of the dam for power-purposes and that storage was not available to properly reduce the flood flow. This experience was widely quoted by those who see grave dangers in these so-called, multi-purpose reservoirs and point out that the temptation is always present to over-emphasize power, because it is an income factor, and thus to neglect the basic purpose which is flood control.

Another flood on the Southern California Coastal plain, March 2-5, demonstrated the excellent functioning of the completed flood works on the Los Angeles River. Some 15 inches of rain fell in one day with a maximum of 11 inches in eight hours.

FLOOD CONTROL ACT. See UNITED STATES under Congress.

FLOODS. In general, the floods which occur when natural streams of inland regions overflow their banks may be grouped into two classes. One type is the local type over the land bordering a small stream, which is confined to a relatively small region; if the small region is not densely populated little damage is done, but if it is thickly settled great damage may be caused by a local flood. The other type is the flood over land bordering a large stream. Both classes of floods are caused by heavy rains (occasionally supplemented by melting snow). While there is no sharp line of demarcation between the two types of floods, it may be said that: (1) The average intensity of the rainfall over the drainage area which causes a local flood must be considerably greater than that causing a flood in a large stream, before much outside public interest is attracted to the local flood; (2) local floods are of short duration while floods in large streams may last weeks or months; (3) in the present state of the meteorological and hydrological sciences it is

impossible to predict the occurrence of local floods, while floods in large streams can usually be accurately predicted, and most governments maintain services for this purpose. A seacoast sometimes experiences a flood of a third class; such floods are not due to rains, but result from the so-called tidal waves caused by earthquakes or terrific windstorms.

The present year was an unusual one for floods in that the United States experienced the most damaging flood of the third class in its history. This was the flood which accompanied the tropical hurricane which passed over New England in September. While this was by far the worst disaster caused by a tidal wave in the history of the country when the property damage is considered, the loss of life was small as compared with the Galveston disaster of 1900.

Aside from the tidal flood in New England there were numerous other floods in the United States during the year, although if this exception be made, the year can not be regarded as an outstanding flood year. The most accurate statistics available show that during the 36 year period, 1902-37 inclusive, the average annual property loss caused by floods in rivers and small streams was \$58,000,000. Property damage due to tidal floods, such floods being usually most numerous on the coasts of the southeastern states, has not been included in this figure. This figure, \$58,000,000, even though it is based on the most accurate statistics available, is not only too small because of the exclusion of damage caused by tidal floods, but it is also too small due to the difficulty of obtaining accurate estimates of losses caused by floods in the small streams. The property damage for the present year is shown in the accompanying table and floods in rivers and small streams account for only \$52,675,123 damage. The damage caused along the New England Coast line by the tidal flood was \$150,000,000 and this sum has been omitted from the table so that it will be comparable with the corresponding table published for previous years in this YEAR BOOK. For the same reason the loss of life along the New England coast (488 lives) has been omitted from the table.

FLOOD LOSSES IN THE UNITED STATES IN 1938

Drainage Basin *	Reported losses ^b	Lives
St. Lawrence	\$ 237,350	..
Atlantic Slope	25,896,825	..
Gulf (except Mississippi)	7,615,475	6
Mississippi (except Ohio)	9,385,638	63
Ohio	3,464,035	..
Pacific Slope	6,075,340	..
Total	\$52,675,123	69

* There were no losses reported in other Drainage Areas.

^b Probably about 75 per cent of actual.

^c Tidal flood in New England, September 21, omitted.

In the upper Sacramento Basin a period of heavy rain began near the end of January and continued throughout the first two weeks of February. A major flood resulted and affected all of the Sacramento-San Joaquin delta region. This was followed by another devastating flood in these rivers during March.

A disastrous flood occurred in the Rock River in Illinois during January and February. It was caused by heavy rain falling on frozen ground; ice gorges were formed which added to the destruction.

Important floods took place in the rivers of the East Gulf States during April. These floods were general but were most severe in the Coosa and

Alabama Rivers. Wetumpka, Alabama, on the Coosa River had the highest gauge reading since 1886. The maximum discharge at Montgomery for this flood equaled that for the 1929 flood (one of the highest of record here) but due either to a change in channel conditions or to unusual behavior of backwater, the crest discharge at Montgomery gave only a crest stage of 54.2 feet in this flood as compared with 56.9 feet for the same peak discharge in the 1929 flood.

Severe floods occurred during June in Kansas. There were four overflows in the Neosho River this month and one in the Smoky Hill River. The overflows in the Neosho did not approach previous records at any place but the duration was unusual. The flood along the upper Smoky Hill was one of the greatest ever known, generally speaking it was the greatest flood since 1903.

On the night of June 18-19 there was a sudden and disastrous flood in the Custer Creek near Miles City, Mont. Most of the time little or no water flows in this creek. On this night a severe storm took place when about five inches of rain fell in the short time of three hours. The wreck of the Chicago, Milwaukee, St. Paul, and Pacific Train No. 15 (*The Olympian*) occurred at the bridge over Custer Creek. Shortly after 10 p.m. a train crossed the bridge safely, and about 10:30 p.m. a track walker crossed it; at that time water was flowing in the creek but was well within the banks and did not appear at all dangerous. It kept rising, however, and evidently weakened the bridge to such an extent that when *The Olympian* came along about 12:40 a.m. it was not strong enough to support the locomotive which went down followed by seven cars, four remaining on the track. The water was deep enough that one car, a sleeper, was completely submerged. Forty-eight persons lost their lives and 64 others were injured.

In July there were damaging floods in the White River in Indiana and in the Missouri River. The Missouri River flood was most severe in and around Nebraska City but even here it was not an outstanding flood.

There was a very severe flood in the Colorado River of Texas from July 22 to August 3. It inundated portions of 12 counties. Rainfall was very heavy during the week July 18-25, over 21 inches being recorded at Sloan, Tex. Flood damage was both heavy and general along the banks of this river from Austin, Tex., to the Gulf.

On September 21, a tropical hurricane visited New England. An examination of records since 1788 indicates that this hurricane was not unprecedented (although hurricanes in New England are very infrequent) in violence in the New England area but the great increase in population and property values here since the early part of the 19th century accounts for economic losses in this hurricane being unprecedented. This hurricane caused damage in three different ways: First by its violent winds which blew down trees, houses, and telephone, telegraph, and electric transmission wires; second by the unusually high tidal wave which accompanied it and flooded the coast, and third by the torrential rains which caused all the small streams and rivers to overflow and flood inland areas along their banks. It is difficult to apportion accurately property damage among these three classes but the combined property damage caused by this hurricane makes it the worst in the history of the United States.

Considering first the tidal wave, along the shores of Long Island and New England, rises of water

caused by these hurricane winds exceeded all records at a number of points. Along the coast of Connecticut, Rhode Island, and on the shores of Narragansett and Buzzards Bays, the highest tide ranged from 12 to 25 feet above mean low water, being highest on the southern shores of Massachusetts. At the Point Judith Coast Guard Station the water rose 18 feet above mean low water, at Fairhaven, 25 feet; at Pocasset, 20 feet; at the Nobska Point Light Station, 15 feet. At Fall River the water came up rapidly in a great surge. Along the coast damage was naturally most severe in the large cities, Providence, R. I., and New London, Conn., suffering the worst. In both of these cities electric power failed for a few days. While property damage was most severe in these cities this was because there was more property to be damaged in them; the damage was general along the entire southern coast of New England.

Considering the damage caused by floods in the inland streams, most of the streams were already practically bankfull at the time the hurricane rains proper began. Over most of this area rain had been falling for about a week prior to the hurricane. The hurricane rains thus fell on wet ground with streams well above average stage. Along the Connecticut River near Hartford, Conn., and also at Springfield, Mass., flood damage was light compared to that in 1936. This was due to flood protection works erected since 1936. In the case of Hartford, however, credit for part of this achievement of saving property from flood damage goes to volunteer workmen and others who built a sandbag wall 4000 feet long and 5 feet high during the wet night of September 21 on top of the low section of the dike. At other places and on other streams flood damage was extensive and severe, although flood protection works along the Merrimack River proved their value.

In October there was a flood in the Upper Mississippi River extending from La Crosse, Wisc., to Louisiana, Mo. This flood did not do great property damage but it was very unusual in that floods in the Upper Mississippi River at this time of the year (in fact, except during the months of March to June inclusive) are very rare.

FLORIDA. Area and Population. Area, 58,666 square miles: included (1930) water, 3805 square miles. Population: Apr. 1, 1930 (census), 1,468,211; July 1, 1937 (Federal estimate), 1,670,000; 1920 (census), 968,470. Jacksonville had (1930) 129,549 inhabitants; Miami, 110,637; Tampa, 101,161; Tallahassee, the capital, 10,700.

Agriculture. Acreage, production, and value of the chief crops of Florida, for 1938 and 1937, appear in the accompanying table:

Crop	Year	Acreage	Prod. Bu.	Value
Oranges	1938		29,500,000 ^a	\$13,835,000
	1937		26,000,000 ^a	18,155,000
Grapefruit	1938		21,000,000 ^a	6,000,000
	1937		14,600,000 ^a	7,850,000
Corn	1938 805,000		8,452,000	4,902,000
	1937 789,000		7,890,000	5,996,000
Potatoes	1938 34,000		4,488,000	3,186,000
	1937 34,000		4,114,000	5,595,000
Tobacco	1938 19,200		19,392,000 ^b	5,211,000
	1937 19,600		16,786,000 ^b	4,388,000
Cotton	1938 85,000		25,000 ^c	1,150,000
	1937 118,000		40,000 ^c	1,736,000
Sweet potatoes .	1938 21,000		1,400,000	1,330,000
	1937 21,000		1,365,000	1,324,000

^a Boxes. ^b Pounds. ^c Bales.

Mineral Production. The mining of phosphate rock in Florida was exceptionally active in 1937. The yearly total of this product rose to 2,996,820

long tons (1937), from 2,624,900 (1936); by value, to \$9,142,985, from \$8,528,523.

Finance. Florida's State expenditures in the year ended June 30, 1937, as reported by the U.S. Bureau of the Census, were: For maintaining and operating governmental departments, \$41,177,733 (of which \$13,105,918 was for highways and \$11,888,885 was for local education); for capital outlay, \$8,112,581. Revenues were \$49,396,619. Of these, property taxes furnished \$2,312,051; sales taxes, \$25,466,305 (including tax on gasoline, \$21,413,102); departmental earnings, \$3,100,870; inheritance taxes, \$1,156,392; sale of licenses, \$13,498,944; Federal or other grants-in-aid, \$2,760,626. Funded debt was nil. On an assessed valuation of \$325,276,254, exclusive of intangible property and exempt value in homesteads, the State levied in the year ad-valorem taxes of \$814,534.

Education. Enrollments of pupils in the public schools of Florida in the academic year 1937-38 numbered 396,675; this comprised 261,211 in elementary studies (through the sixth grade), 134,645 in high schools (grades 7 to 12, inclusive), and 819 in kindergartens. The year's expenditures for public-school education included \$18,621,252 for current costs, \$2,503,441 for outlay, and \$4,758,885 for service of debt. There were 9549 teachers. Their salaries for the year averaged \$1002.80; by groups, \$1136.36 for white and \$569.49 for colored teachers.

Florida adopted a State constitutional amendment designed to assure sufficient State revenue toward support of public schools; a new school code went into effect; vocational training was augmented.

Political and Other Events. An automobile highway was built from the mainland to Key West on the structure of the abandoned Florida East Coast R.R. The enterprise was carried out by the Overseas Road and Toll Bridges District, aided by loans from the PWA. The railroad's line, which had cost about \$30,000,000, was purchased for \$640,000 in 1936, as the railroad company had found operation unprofitable in its later years and lacked money to rebuild. The route was to be operated as a toll road. For years after the hurricane of 1935, Key West had lacked connection with the rest of the Union by land.

The collection of a tax of one-half of 1 per cent on gross receipts, imposed by the State, was a subject of much protest among merchants. Georgia's quarantine against cattle and other live stock from Florida was somewhat modified in January. At Fernandina (January 14) was dedicated the first unit of a paper mill designed to cost \$9,000,000. The purpose of the undertaking was to produce white paper from Southern pine, in accordance with the researches of the chemist Charles W. Herty (q.v.), whose results had awakened anticipation of the growth of an important paper-making industry in the South, in addition to the already developed production of kraft paper.

Elections. Senator Claude Pepper (Dem.) was re-elected (November 8), and five Democrats were elected U.S. Representatives. Pepper had a Republican opponent, Thomas E. Swanson, but his election was a foregone conclusion. In the Democratic primary election (May 3) he won renomination with the aid of an indorsement from James Roosevelt, acting as spokesman for the President. Pepper's chief opponent in the primary, J. Mark Wilcox, was defeated by a heavy majority.

Officers. The chief officers of Florida, serving in 1938, were: Governor, Fred P. Cone (Dem.); Secretary of State, R. A. Gray; Attorney-General,

George Couper Gibbs; Comptroller, J. M. Lee; Treasurer, W. V. Knott; Commissioner of Agriculture, Nathan Mayo; Superintendent of Public Instruction, Colin English.

Judiciary. Supreme Court: Chief Justice, Glenn Terrell; Associate Justices, J. B. Whitfield, Rivers Buford, Armstead Brown, Roy Chapman, Elwyn Thomas.

FLORIDA, UNIVERSITY OF. A State institution of higher education for men, in Gainesville, Fla., established in 1853. In the fall of 1938 the registration totaled 3311; in the summer session of 1938 it was 2631. The faculty numbered 189. The endowment was \$288,347 and the instructional and operating cost was \$1,067,269. The library contained 140,884 volumes. The P. K. Yonge Laboratory School had an enrollment of 459 students. The General College, a two-year general curriculum for all entering students, had an enrollment of 1968 students. President, John James Tigert, LL.D.

FLORIDA STATE COLLEGE FOR WOMEN. An institution for the higher education of women in Tallahassee, Fla., founded in 1905. The enrollment for the first semester of 1938 was 1816, with a faculty of 161 members including five new positions. There were 870 enrolled in the 1938 summer session. The income from State appropriations was \$537,500, and from other sources \$92,699. The library contains 72,645 volumes. During the summer and fall of 1938 construction was begun on four new buildings on the campus, viz.: New dormitory, Student Union Building, Infirmary, and Dining Hall. Edward Conradi, Ph.D., is President.

FLUORESCENT LAMPS. See ELECTRICAL ILLUMINATION.

FOOD, DRUG, AND COSMETIC ACT. See UNITED STATES under *Congress*.

FOOTBALL. See SPORTS.

FORDHAM UNIVERSITY. A Roman Catholic institution for higher education, under the Society of Jesus in New York City, founded as St. John's College in 1841. It is one of the largest Roman Catholic educational institutions in the country. The enrollment for 1938-39 was 7851, including 1452 in the School of Education and 842 in the Graduate School, and a distribution among the other colleges as follows: Law, 864; Fordham College (two divisions), 1780; School of Business, 528; Pharmacy, 143; Social Service, 460; Preparatory School, 456. The registration for the summer session 1938 was 1325. There were 404 faculty members. The endowment fund totaled \$685,260. There were 172,000 volumes in the library. On Sept. 1, 1938, the Teachers College became the School of Education of the University, in keeping with requirements of a re-organization plan calling for the merging of the programs of Teachers College and the Department of Education of the Graduate School so as to provide for (1) better integration and co-ordination of the teacher-training program, (2) control of undergraduate and graduate work in Education by one administration. President, the Rev. Robert I. Gannon, S.J.

FOREIGN RELATIONS. See UNITED STATES under *Administration*.

FORESTRY. Recovery from the doldrums of the recession marked the year 1938 in the field of commercial forestry. The year was in many ways the exact counterpart of 1937 when, after a promising beginning, all the gains were lost in the sharp slump in the latter half of the year. Perhaps the outstanding feature of the 1938 period was the increasing consciousness of the need of planned management of the nation's forests and forest

lands. President Roosevelt, in a special message to the Congress on March 14, stressed the intimate relationship between forest resources and the economic and social welfare of the nation. He emphasized the fact that some means must be found to make forest lands and forest resources contribute their full share to the economic welfare and stability of the nation and thereby to the security of the people. F. A. Silcox, Chief of the Forest Service, in his annual report to the Secretary of Agriculture, asserted strongly that the essential need is not more forest land in the United States but rather more and better forests on the lands already available. He pointed out that in the three centuries or more that have passed since the colonization of America by the white settlers the forests have been exploited with meager thought as to their renewal. Potentially that portion of the nation's forest lands, publicly or privately owned, that lies near population centers affords an immense work reservoir of special significance in times of economic stress. However, with some 630 millions of acres involved, the immensity of the task of developing and putting into action a constructive program becomes self-evident.

The Lumber Situation. A statement by the National Lumber Manufacturers' Association on December 28, to the effect that new orders booked in September, October, and November were 19 per cent above those of the comparable period in 1937, was indicative of a definite recovery from the recession. Orders for the entire year of 1938 were only 5 per cent less than in 1937. Demand for lumber for building was about equal in 1938 to that of 1937, due to gains in residential building in the last half of the year. Two important sources of demand, namely, exports and railroad purchasing, lagged considerably, with exports in 1938 the lowest in 16 years. The war in the Orient and disturbed conditions in Europe precluded any rapid recovery in the export lumber trade in the near future. Prices for lumber during 1938 were lower than in 1937. Using as an index 1926 prices as 100, the average for the first 10 months of 1938 was 90.4 as compared with 99 in 1937. There was, however, a moderate upward trend toward the close of the year.

The National Forests. Including slightly more than one million acres approved for purchase, the National Forest system as of June 30 comprised 175,238,168 acres. More than 1,280,000 feet of lumber were cut from the National Forests in 1938 under silvicultural practices that insured continuity of the stands. The National Forests provided a living for almost a million people and furnished recreational facilities that were enjoyed by 30 million citizens. These forests served as a refuge for most of the remaining big game animals, supplied forage for nearly seven millions of domestic livestock, and water for many cities and towns. The greatest value of the National Forest properties is not immediate monetary returns but rather in the preservation for future generations of productive forests which have always been such a potent factor in the national welfare and defense. Approximately 400 Civilian Conservation Corps camps were maintained on National Forest properties, serving at once two valuable purposes, notably the improvement of the forests and the improvement of the young men that comprised the personnel. More and more it is demonstrated that the nation's forests are a bulwark of strength and a necessary and integral part of the nation's welfare.

Forest Fires. November witnessed a series of calamitous brush and forest fires in Southern California, causing an estimated damage of five million dollars in property and denuded watersheds. Chief damage was in the Santa Monica and San Bernardino ranges. More than 10,000 acres were burned over on the mountains behind the city of San Bernardino, creating a serious flood-control problem.

Early October brush and forest fires on the Minnesota-Canada border took a toll of 17 lives, mostly members of settlers' families, whose homes were caught in the path of the rapidly spreading flames. Man and lightning ranked about equal as causes of fires on the National Forest areas in the year 1938. Chief Forester Silcox points out that there is little that can be done to prevent lightning-caused fires although much can be done to reduce the resulting damage by prompt suppression measures. Man-caused fires, on the other hand, could be greatly decreased or entirely eliminated by proper care. The CCC rendered material aid not only in direct fire fighting but in removing inflammable material along roads and trails and in constructing and maintaining roads, telephone lines, and lookout towers. Rarely has there been a more grievous problem of fire prevention than that which exists in New England following the hurricane of late September.

The New England Hurricane. According to an article by Prof. Robert T. Clapp of Yale University in the December number of the *Journal of Forestry*, the hurricane of September 21 caused a total loss in the New England States of between three and 4 billion board feet of timber. Most of the fallen timber was white pine, although in northern New Hampshire and Vermont much spruce and hardwood was destroyed. In Connecticut the loss was mostly hardwood. Salvaging operations sponsored by the Federal and State governments will save a considerable portion of the down timber but can not prevent tremendous losses. The fire hazard will be serious for several years despite active measures to open forest roads and to burn slash under safe conditions. The cost of slash disposal was considered prohibitive in the larger forest areas, leaving to Nature the task of removing the debris by decay, insect attack, and unavoidable fires, such as those caused by lightning. Incidental to the lumber loss will be the decreased maple-syrup crop for many years to come. The 40 CCC camps with their 8000 odd workers rendered important services in helping to clear away the debris and reduce the potential hazards.

Community Forests. According to a press notice issued by the U.S. Department of Agriculture on Jan. 9, 1939, more than 143 million trees have been planted on the 1500 community forests in the United States. Most of the planting has been done since 1910 by cities, counties, townships, villages, school districts, and other local governmental units which own small public forests for the production of timber crops, recreation, watershed protection, and various other purposes. Some of the community forests are being developed as an aid toward the reduction of local taxes. The Forest Service estimates that the eventual net returns from properly managed community forests may range from three to five dollars an acre annually.

New York has made a special effort to encourage community forests by supplying free trees to communities interested in developing such timber-producing areas, and reports that more than 70 million trees have been planted by county, township, city,

village, and school districts on formerly abandoned or idle land. Nine New York counties have planted from 2,000,000 to 3,500,000 trees each and cities which have planted from 500,000 to 3,000,000 or more trees include Middletown, Rochester, Little Falls, Glens Falls, Carthage, Oneonta, and Gloversville. New York City has planted more than 5,500,000 trees on its three watersheds. In Wisconsin about 32 million trees have been planted on 25 county forests and about a million trees have been set out in 149 school forests.

Massachusetts has planted more than 6,500,000 trees on its 102 town forests, and many additional thousands have been planted on the 75 watershed forests in that State. The Metropolitan Water District of Boston has planted more than 1,500,000 trees. Michigan has planted more than 5,800,000 trees on a variety of community forests, including school, watershed, and other types.

Pennsylvania has planted more than 5,000,000 trees on 134 community forests. New Hampshire has planted more than 2,000,000 trees on its 101 community forests, and Vermont has planted 3,000,000; New Jersey 3,000,000 and Connecticut about 4,000,000 trees. Washington reports the planting of more than 4,000,000 trees, largely on the Seattle city watershed. Georgia and North Carolina have each planted more than 1,000,000 trees and, to a lesser extent, other States have participated in the program.

Miscellany. The annual meeting of the Society of American Foresters was held at Columbus, Ohio, December 15-17, Dr. C. F. Korstian, President, in the chair. Among the prominent speakers were F. A. Silcox, Chief, U.S. Forest Service, G. H. Collingwood, Forester, American Forestry Association, and W. V. Garstka of the Soil Conservation Service.

Dr. John N. Spaeth, formerly associate professor of forestry at Cornell University, was named head of the newly created department of forestry at the University of Illinois.

Duke University, Durham, N. C., announced the opening in the autumn of 1938 of a graduate school of forestry under the leadership of Dr. Clarence F. Korstian. The new school offered work leading to the degrees of M.F. and Ph.D. The Duke Forest of nearly 5000 acres, located adjacent to the university was to be used as a field laboratory for investigations.

Willis M. Baker, formerly director of the Central States F.E.S. at Columbus, Ohio, was appointed, effective June 16, chief forester of the Tennessee Valley Authority with headquarters at Norris, Tenn.

The American Forestry Association, James G. K. McClure, Jr., President, held its 63d annual meeting at Old Point Comfort, Va., May 5-7.

The Olympic National Park, on the Olympic Peninsula, Washington, was established on June 29, when President Roosevelt signed the authorizing bill. The new park, including approximately 991 square miles, becomes the fourth largest national park, being only exceeded in size by the Yellowstone, Mt. McKinley, and Glacier Parks. Included within the new park are magnificent stands of virgin Douglas fir, spruce, hemlock, and cedar, the total merchantable timber being estimated at over 11 billion board feet. Included also are numerous glaciers and meadows covered with Alpine flowers, all of which contribute to make the new area one of the beauty spots of the nation.

Necrology. Dr. Charles H. Herty (q.v.), whose studies in paper pulp manufacture led to the de-

velopment of a tremendous industry in the Southern pines area, died July 27. The important research studies conducted under Dr. Hertzy's leadership will be continued by his associate, Dr. Charles H. Carpenter.

Bibliography. C. P. Ackers, *Practical British Forestry*, London, 1938; S. W. Allen, *An Introduction to American Forestry*, New York, 1938; R. G. Bateson, *Timber Drying and the Behavior of Seasoned Timber in Use*, London, 1938; E. H. B. Boulton, *A Dictionary of Wood*, London, 1938; R. Coke, *How to Make Forestry Pay*, Cambridge, 1938; H. E. Desch, *Timber, Its Structure and Properties*, London, 1938; W. A. Du Puy, *The Nation's Forests*, New York, 1938; W. A. Eliot and G. B. McLean, *Forest Trees of the Pacific Coast*, New York, 1938; C. N. Elliott and M. D. Mobley, *Southern Forestry*, Atlanta, 1938; E. P. Felt, *Our Shade Trees*, New York, 1938; W. Fry and J. R. White, *Big Trees*, Stanford University, 1938; S. H. Holbrook, *Holy Old Mackinaw, A Natural History of the Lumberjack*, New York, 1938; F. H. Lamb, *Sagas of the Evergreens*, New York, 1938.

FORMOSA (TAIWAN). An island belonging to Japan. Area, 13,890 square miles including the 12 islands called the Pescadores (Boko-to) with an area of about 50 square miles. Population (1936 estimate), 5,310,000. The chief towns are: Taihoku, the capital (1935 population: 274,157), Tainan (1934: 109,887), Keelung (1934: 84,650), Takao (1934: 81,583), Kagi (1934: 70,083), Taichu (1934: 68,414), Schinchiku (1934: 54,110). On Mar. 31, 1935, the 1135 schools of all kinds had a total of 446,645 students.

Production and Trade. Production of chief crops, in 1936, in metric tons, was: Wheat, 500; barley, 500; maize, 1700; tobacco, 2200; tea, 10,800; sesame, 1400; soybeans, 4400; groundnuts, 54,900; jute, 9000. In 1937-38 the estimated production of rice was 1,713,600 metric tons; sugar cane, 1,175,000 metric tons. Mineral production, in metric tons, was: Coal, 1,744,000 (1936); salt, 225,000 (1936); copper ore, 4000 (1935 estimate); copper, 2600 (1937 estimate); silver, 6200 (1934); superphosphates of lime, 23,000 (1936). In 1936 it was estimated that 2650 kilograms of gold were produced. Livestock (Dec. 31, 1936): Buffaloes, 292,326; pigs, 1,813,049; cattle, 78,629; goats, 75,380; horses, 590. In 1937 the estimated value of general imports was \$54,000,000 (1936, \$52,000,000); exports, \$74,800,000 (1936, \$66,600,000).

Communications. There were, in 1937, some 10,740 miles of roads and almost all of them were surfaced with gravel. In 1933, 1863 vessels (4,038,256 tons) entered Formosan ports from Japan and other countries.

Government. The budget for 1938-39 was estimated to balance at ¥175,211,353 (yen averaged \$0.2845 for 1938). Formosa was ceded to Japan by China according to the treaty which was ratified on May 8, 1895, and on June 2 of that year Japan took formal possession. On Mar. 31, 1896, Japanese civil government in Formosa commenced. The government is under the administration of a Japanese governor-general. Governor-General, Seizo Kobayashi. See JAPAN under *History*.

FOUNDATIONS. Theory. The recently developed science of soil mechanics has continued to grow apace during the year, with engineering schools all over the country developing soils laboratories and the volume of research piling up year by year. Two schools of thought seem to have developed. There are those who claim the subject

is so involved and difficult that it must remain highly specialized and that the engineer in normal practice must go to the expert for the solution of his soils problems. There are others, however, who insist that soils problems today are being confused by the specialists and that, ultimately, this so-called science must be brought within the comprehension and scope of use of the profession at large.

Certain it is that there is still a wide gap to be spanned between much of the recent research and theory on the one hand, and the actual application of this new knowledge in practice and design on the other. The two major fields of application are in the design and construction of earth structures—levees, dams, embankments, etc.—and in the planning of foundation and of foundation methods. Apparently, progress in the application of modern theories has been more rapid in connection with the former where soil tests and methods of controlling construction have been devised. Further development in foundation work, in fact, seems to rest not only on the extension of laboratory procedure and theory but, perhaps primarily, on the accumulation of actual experience data—on the careful recording of behavior, settlement, etc., in various constructions over fairly long periods of time. Apparently it is only in this way that theory may be tempered to practice and the results of modern laboratory studies be fully evaluated and intelligently applied in design. Engineers have probably been remiss in not keeping continuous records of the behavior of many structures in the years following completion.

Practice. No distinctly new methods of foundation construction have developed during the year but older methods have been refined in detail and perfected in technique. For example, a remarkable piece of caisson work has been completed in constructing the piers for the Deer Island-Sedgwick suspension bridge in Maine (1080 ft. span). Two 28 by 60 ft. caissons were to be sunk in 50 to 75 ft. of water and were to rest on an irregular rock surface having a very thin cover of river drift. The caissons were "tailor-made," the lower edge being cut to fit the rock surface as indicated by careful soundings, and were dropped into place by a huge floating derrick. A perfect fit was secured in one case and, for the other, a small section of the edge had to be removed to fit an irregularity in the rock surface which was not revealed by the soundings.

Another remarkably accurate piece of work was accomplished in sinking an 82 ft. diam. circular caisson for the Cincinnati Gas and Power Co. It was necessary to bring this caisson as close to the desired grade at a depth of 70 ft. as possible. The huge tube was so carefully controlled in sinking that the deviation was only $\frac{1}{2}$ in.

Another notable application of the sand-island method, first used in sinking the piers of the Suisun Bay railroad bridge near San Francisco, is to be recorded in the construction of the new highway and railroad bridge over the Mississippi about 6 mi. above Baton Rouge, La. This bridge, a 5-span continuous-truss 3326 ft. in total length, requires two piers which will be carried 180 ft. below low water and one that is to reach 160 ft. Through the use of cofferdams formed of steel sheet piling and filled with sand, the "sand islands" were formed on which, and down through which, the shafts were sunk for the piers by the open dredging method. This identical plan was followed in the construction of the railroad bridge above New Orleans where a depth of 170 ft. was reached. The record for open dredging, however, is still held

by the Bay Bridge at San Francisco, where the suspension piers reached 230 ft. below the level of San Francisco Bay without the use of sand islands.

Unfortunately the work on the Baton Rouge piers has been much delayed, largely by difficulties in sinking the caissons. The piers are so light in section that there was, apparently, insufficient weight to overcome the frictional resistance between the sides of the caisson and the surrounding material. It is understood that this pier work, however, although long delayed, has at last been practically completed.

FRANCE. Area and Population. The area is 212,722 square miles. The population was estimated at 41,950,000 on June 30, 1937, as compared with 41,905,962 (domiciled) at the 1936 census. Foreigners resident in France in 1936 numbered 2,453,507 (including Italians, 887,732; Poles, 463,143; Spaniards, 410,183). Live births in 1937 numbered 616,863 (14.7 per 1000); deaths, 628,603 (15.0); marriages, 274,122 (6.6 per 1000). Populations of the chief cities at the 1936 census were: Paris proper, 2,829,746; Marseille, 914,232; Lyon, 570,622; Bordeaux, 258,348; Nice, 241,916; Toulouse, 213,220; Lille, 200,575; Nantes, 195,185; Strasbourg, 193,119; Saint-Etienne, 190,236; Le Havre, 164,083; Toulon, 150,310; Rouen, 122,832; Nancy, 121,310; Reims, 116,687; Roubaix, 107,105; Clermont-Ferrand, 101,128.

Religion and Education. With the exception of about 1,000,000 Protestants and a few thousand Jews, the French people profess the Roman Catholic faith. At the 1931 census there were 2,286,273 persons of five years or over (7 per cent of the total) unable to read or write. The school enrollment was: Elementary (Dec. 1, 1935), 5,260,534; secondary (1936-37), 253,583; higher public instruction (July 31, 1935), 82,218.

Agriculture. About 38 per cent of the working population is directly supported by agriculture, 31 per cent by industry, and 11.5 per cent by commerce. There were 51,955,000 acres of arable land (38.16 per cent of the total) in 1935. Yields of the chief cereals in 1938 (1937 figures in parentheses) were, in metric tons: Wheat, 9,120,000 (7,017,300); barley, 1,272,500 (1,016,600); rye, 804,300 (739,700); oats, 5,449,200 (4,346,600); corn (1937), 514,500. Output of other crops in 1937 was: Potatoes, 584,643,000 bu.; sugar beets, 8,666,000 metric tons; beet sugar (1937-38), 942,000 metric tons; wine, 1,357,236,000 gal.; olives, (1937-38), 83,775,000 lb.; olive oil (1937-38), 1,882,000 gal.; hay (sown), 11,792,000 metric tons; fodder beets, 32,170,000 metric tons; green forage, 11,635,000 metric tons. Livestock statistics for 1937 showed 15,755,000 cattle, 7,117,000 swine, 9,994,000 sheep, 1,447,000 goats, and 3,048,000 horses, mules, and asses.

Mining and Manufacturing. Mineral and metallurgical production in 1937 (preliminary) was, in metric tons: Coal and lignite, 45,333,000; coke, 7,802,000; briquets, 6,160,000; iron ore, 37,769,000; iron pyrites, 146,000; potash (K₂O content), 490,000; bauxite, 688,000; pig iron, 7,916,000; steel ingots and castings, 7,902,000; iron and steel (finished products), 5,318,000. The output of electric power in 1937 was 12,554,645,000 kilowatt-hours. The production of other leading manufactures in 1937 (preliminary) was: Silk (conditioned at Lyon), 4,363,000 lb.; wool (conditioned at Roubaix-Tourcoing and Mazamet), 196,130,000 lb.; cotton consumption, including waste, 640,635,000 lb.; rayon, 72,752,000 lb.; alcohol, 109,701,000 gal.; vessels launched, 25,000 gross tons. The chief

manufacturing lines, in order of the number of workers employed, were metal-working and machinery, textiles and textile working, foodstuffs, wood working.

Foreign Trade. Merchandise imports for consumption and exports of French products in 1936-38 and 1929 are shown in the accompanying table. The recent increases shown in the franc value of trade reflects successive declines in the foreign exchange value of the franc since September, 1936.

FRENCH FOREIGN TRADE

Year	Imports		Exports	
	Million francs	Million dollars *	Million francs	Million dollars *
1938	45,981	1,322	30,586	881
1937	42,316	1,683	23,935	952
1936	25,414	1,521	15,492	927
1929	58,221	2,282	50,139	1,965

* Conversions to dollars made at average yearly exchange rates.

The distribution of French trade by leading countries in 1936 and 1937 is shown in the accompanying table.

FRENCH TRADE BY COUNTRIES, 1936 AND 1937 [Millions of francs]

Country	Imports		Exports	
	1936	1937	1936	1937
Germany	1,771	3,247	667	1,415
United States	2,535	4,000	877	1,535
United Kingdom	1,798	3,380	1,912	2,721
Belgium	1,644	3,057	1,857	3,145
Netherlands	579	1,056	459	832
Switzerland	577	813	972	1,446

The value of the leading 1937 imports was (in current U.S. dollars): Bituminous coal, \$129,449,000; wines, \$95,108,000; oilseeds, \$92,781,000; raw cotton, \$82,998,000; wool, in bulk, \$72,921,000; machinery, \$67,028,000. The value of the chief exports was: Wool, all sorts, \$67,355,000; chemicals, dyes, etc., \$64,253,000; cotton fabrics, \$42,425,000; machinery, \$36,820,000; iron ore, \$30,906,000; wine, \$28,786,000.

Finance. Gross general budget receipts and expenditures for the calendar years 1935 through 1938 are shown in the accompanying table from the *Statistical Year-Book of the League of Nations, 1937-38*. The figures exclude transactions of the Amortization Fund, special services of the Treasury, and other special funds including defense and other appropriations of 6,265,100,000 francs in 1936, 16,025,700,000 in 1937, and 14,231,500,000 in 1938.

FRENCH BUDGETS, 1935-38

[In millions of francs]

Year	Receipts	Expenditures	Surplus (+) or deficit (-)
1935	39,485.3	49,868.1	-10,382.8
1936 *	40,449.9	40,306.8	+ 143.1
1937 *	43,481.9	48,281.2	- 4,799.3
1938 *	54,776.2	54,739.1	+ 37.1

* Estimates.

The budget for 1939 estimated ordinary receipts at 66,388,068,027 and ordinary expenditures at 66,564,624,059 francs. The 1939 extraordinary, or capital, budget for defense needs, to be met mainly by borrowing, was estimated at the beginning of 1939, with some entries incomplete, at 27,034,014,000 francs (14,201,490,000 at the beginning of 1938). Seven annex budgets, regarded as self-liquidating, were balanced for 1939 at 10,714,471,204 francs and for 1938 at 9,200,333,566 francs. Included among these, as the largest account, was the post, telephones, and telegraphs budget of 6,815,874,903 francs for 1939. Actual budget receipts in

1938 were 51,703,978,000 francs, excluding special budgets (41,741,595,000 in 1937).

The internal debt on Sept. 30, 1937, was 384,849,000,000 francs. The external debt was estimated at 7,476,000,000 francs on July 31, 1936. Service of the debt in 1938 required 13,811,000,000 francs. The average exchange rate of the franc was \$0.0611 in 1936, \$0.0405 in 1937, and \$0.0288 in 1938.

Transportation. The railway network comprises 7 large systems, 2 under state ownership and 5 privately owned but state operated. The total length of line in 1937 was 26,528 miles; passengers carried, 627,473,000; freight carried, 246,836,000 metric tons; gross receipts, 12,630,000,000 francs (14,865,018,000 francs in 1938). Roads and highways aggregated 393,761 miles in 1937; navigable rivers, 3800 miles; canals, 3300 miles. The number of automobiles in operation Jan. 1, 1938, was 2,192,471. The water-borne internal traffic in 1937 totaled 47,115,000 metric tons. Air France, the principal air line, carried 90,000 passengers (including crews) and 1,984,140 lb. of express freight in 1937. Its route from Marseille to Hanoi, French Indo-China, was extended to Hong Kong on Aug. 4, 1938. A total of 27,429 vessels of 54,746,000 net register tons capacity entered French ports in the foreign trade during 1937. The leading ports, in order of traffic handled, were Marseille, Le Havre, Cherbourg, Rouen, Dunkirk, Bordeaux, and Boulogne.

Government. The Constitution of 1875 vests executive power in the President, acting through a ministry selected by him but responsible to Parliament. Legislative power rests in the Chamber of Deputies and the Senate, the members of which jointly elect the President for seven years. The Senate has an authorized membership of 314, all 40 years or more of age and chosen by an electoral college for terms of nine years. The Chamber has an authorized membership of 618, elected by direct manhood suffrage for four years. Premier at the beginning of 1938, Camille Chautemps (Radical Socialist), heading a Popular Front ministry of Radical Socialists and Socialists which enjoyed Communist support. For changes in 1938, see *History*.

HISTORY

Domestic Affairs. The fatal cycle of financial and economic convulsions, cabinet crises, and social conflicts continued its course throughout 1938. It brought France deep humiliations and tragic setbacks in the international field and caused the collapse of the Popular Front, which had ruled France since the 1936 parliamentary elections. In search of national security and prosperity, the nation turned gradually toward a greater degree of executive government under conservative direction, arousing fears of dictatorship.

The Fall of Chautemps. The situation in France at the beginning of 1938 resembled that in the United States in many respects. The sweeping Popular Front social and economic reforms (see 1936 and 1937 YEAR BOOKS) had been followed by a "breathing spell" designed to give business an opportunity to recover of its own initiative. But the distrust between business and government hampered the economic revival. Moreover, France's reserves of wealth and credit were insufficient to meet the costs of the reforms and at the same time to finance the intensive rearmament needed to match Germany's tremendous armament program. Capital, handicapped by higher costs and a smaller turnover, demanded modification or repeal of the

reforms. Labor, on the other hand, agitated for higher pay to meet the rapidly increasing cost of living. In December, 1937, and January a recrudescence of strikes served to lower production and widen the rift within the Popular Front between the conservative wing, represented by the Radical Socialists, and the more radical Socialists and Communists.

With capital once more leaving the country owing to industrial unrest and the Treasury compelled to borrow five billion francs from the Bank of France to meet its current expenses, conservatives within and without the government insisted that Premier Chautemps break with the Communists and take representatives of the Center parties into his cabinet in order to restore business confidence. The Socialists and Communists demanded more social reforms and the establishment of exchange control to prevent capitalists from "sabotaging" the Popular Front by exporting their funds. This basic conflict led the Communists to withdraw parliamentary support of the cabinet. The Socialists then withdrew from the government and Premier Chautemps was forced to resign on January 14.

After the Socialist former Premier, Léon Blum, and Georges Bonnet, conservative Radical Socialist Finance Minister in the Chautemps Cabinet, had both failed in efforts to form a new government, President Lebrun again entrusted Chautemps with the Premiership. On January 18 he formed a new ministry composed of Radical Socialists with the exception of a few members of small allied groups. Although the new government controlled only 166 out of 618 seats in the Chamber, it won a vote of confidence by 502 to 1 on January 19. Chautemps then undertook to solve the pressing problems raised by the capital-labor conflict through enactment of a modern labor code.

The first of six labor bills, including provision for adjustment of wages to variations in living costs, was passed on March 4 over the strong opposition of conservatives in the Senate. Meanwhile, the government had co-ordinated the military, naval, and air forces under a single political and a single military chief—Édouard Daladier, Minister of National Defense, and Gen. Marie Gustav Gamelin, respectively. It adopted a fairly strong foreign policy based on support of Czecho-Slovakia and adherence to the Franco-Soviet mutual assistance pact. Like all of its immediate predecessors, the government also sought to obtain from Parliament extraordinary decree powers to prevent the ever-threatened financial collapse. But the Socialists and Communists refused to approve the decree powers, fearing Chautemps would use them to abolish the Popular Front social and economic reforms. Consequently, the Chautemps Government resigned on March 10 before the remainder of the labor bills could be enacted.

The Blum Government. While the French parliamentarians maneuvered to find a new head for their leaderless government, Hitler seized the opportunity to annex Austria (q.v.) on March 12-13. On March 13 Léon Blum succeeded in forming a new Popular Front ministry of Socialists and Radical Socialists supported by the Communists. Despite the growing threat across the Rhine, the Center parties refused his invitation to form a Left-Center cabinet of national union. Blum took over the Finance portfolio and retained Daladier as Minister of National Defense. For the first time a Minister of Propaganda was added to the cabinet to counteract German and Italian propagandist activities.

Blum's return to the Premiership was the signal for a new wave of strikes and lockouts. French aircraft and armament industries were virtually paralyzed at a time when the country's production of war materials had already fallen far behind that of the totalitarian states. The Treasury was empty, as usual, and when Blum sought to raise the limit on advances from the Bank of France to the government by the sum of nine billion francs, the conservative Senate reduced the increase to five billions.

Aware that his ministry was doomed, Blum advanced a comprehensive plan for the economic and financial rehabilitation of France through abandonment of a liberal economic regime in favor of a partially controlled economy organized on a "semi-war basis." The plan called for a capital levy, suspension of amortization of the public debt, a camouflaged form of exchange control, revaluation of the Bank of France's gold reserves, increased taxes, modification of the 40-hour-week law to permit increased production in the armament industries, price control, an old-age pension system, etc. When Blum asked Parliament for decree powers to put this program into effect, the Chamber granted the request on April 6, 311 to 250, with part of the Radical Socialists voting in opposition. In the Senate, however, the Premier suffered a crushing defeat on April 8, 223 to 49, and his government collapsed.

Daladier Ministry. The formation of a new government on April 10 by Édouard Daladier marked the final collapse of the Popular Front. Daladier belonged to the conservative wing of the Radical Socialist party. He had been forced to resign as Premier following the great February (1934) riots in Paris but had regained popularity through his able services as Minister of War and National Defense in the four successive Popular Front governments. He now formed a government of Radical Socialists and representatives of several Center parties and elaborated a program calling for increased industrial production, a balanced budget, and the encouragement of expatriated capital to return by affording opportunities for profitable investment and a stable monetary unit.

Daladier easily obtained from Parliament the decree powers that had been denied Blum and on May 3 issued the first of a series of decrees designed to achieve his objectives. These included a flat 8 per cent increase in all state taxes; tax remissions to companies modernizing or expanding their plants; reduction of railway fares and gasoline prices to tourists; and revision of the 40-hour week to permit overtime work. On May 4 the franc was devalued for the third time since September, 1936. This time a new minimum parity of 179 francs to the pound sterling, or 35.8 francs to the dollar, was established. Devaluation brought much hoarded money back into circulation and a repatriation of capital from abroad.

A second series of decrees issued May 25 provided mainly for additional spending to stimulate recovery. A three-year public works program costing 11 billion francs was launched, the work to include ports, waterways, aviation fields, highways, hospitals, schools, water-supply projects, housing, and slum clearance. Other decrees extended easier credits to business and changed the base of the 40-hour-week laws from 50 weeks annually of 40 hours each to 2000 hours annually, thus benefiting seasonal industries.

Effect of Czech Crisis. Daladier's policy was based upon a return of business confidence that

would permit a rise in production and a revival of foreign trade. Some progress was made in this direction as a result of the above decrees, but the European crisis over Czecho-Slovakia in September proved a severe setback to the Premier's domestic program. The immediate cost of mobilization and other preparedness measures during September amounted to some 10 billion francs, practically all of which had to be borrowed from the Bank of France. Moreover, the growing danger of war dissipated much of the business confidence engendered by the Daladier decrees.

After Munich, France faced the necessity for further drastic sacrifices and the curtailment of economic freedom in order to speed up rearmament sufficiently to catch up with Germany and Italy. The great issue before the government and country was how to apportion these sacrifices among the various classes. Angered because Daladier and Foreign Minister Bonnet had virtually abrogated the Franco-Soviet alliance during the September crisis, the Communists deserted their Popular Front associates in Parliament on October 4 and voted against the government's foreign policy. The next day they voted to reject Daladier's request for an extension of his decree powers until November 15. The Socialists abstained from voting while the Radical Socialists and conservative parties voted to grant the Premier's request.

The Struggle with Labor. The labor organizations allied with the Popular Front notified Daladier that they were unwilling to accept further sacrifices unless capital bore its share of the burden. Yet the government's whole program rested upon the retention and strengthening of business confidence. Rather than sacrifice that program, Daladier and his associates decided to cut loose completely from their more radical Popular Front allies. They were encouraged to adopt this course by a swing to the Right in the Senatorial elections of October 23.

A significant reshuffling of the cabinet took place on November 1 when Paul Reynaud, a conservative financier, replaced Paul Marchandeau as Minister of Finance. He formulated another recovery program that was launched by means of a series of decrees issued November 13. The gold stock of the Bank of France was revalued at the rate of 170 francs to the pound sterling, yielding a "profit" of 31.5 billion francs which was used to repay most of the inflationary advances made to the Treasury by the Bank of France in preceding months. The 40-hour week was further emasculated. Employers were authorized to increase working hours as much as 10 hours weekly provided they paid slightly higher hourly wages and a 10 per cent tax on profits earned by such extra work. Other decrees raised postal and telephone rates, transit fares in Paris, taxes on coffee, gasoline, tobacco, sugar, and wine, and taxes on income and factory production. At the same time a special committee was created to weed out superfluous civil servants. Increased working hours permitted the transfer of 40,000 workers from the railways to national-defense industries. Public works projects of non-military value were abandoned to permit concentration on rearmament. As partial compensation to the workers, M. Reynaud promised that a system of old-age pensions would be established. On November 14 the national lottery established five years before was suppressed.

General Strike Broken. These decrees caused much uneasiness among various political groups, including some of Daladier's Radical Socialists,

but were most bitterly denounced by the Communists, Socialists, and the General Confederation of Labor. The radicals declared the decrees largely negated the 1936 social reforms without imposing commensurate sacrifices upon capital. The Communists sought to exploit this general resentment to force the resignation of the government. Communist-led demonstrations against the decrees broke out in Paris on November 17 and sit-down strikes began to spread through the armament and other industries. The Socialists likewise organized protest demonstrations, though not for revolutionary purposes.

The Daladier Government took firm measures to end the sit-downs, ejecting the strikers from occupied factories and fining and imprisoning the ringleaders. On November 22 the General Confederation of Labor called a 24-hour general strike for November 30 in protest against the Daladier decrees and the measures taken against strikers. Premier Daladier declared the general strike was an illegal political weapon aimed at the government. On November 26 he requisitioned all the principal railways and other public services for military purposes, thus subjecting all strikers operating these services to discipline by court-martial. Cabinet officials also addressed radio appeals to the country to aid in upholding the government and foiling Communist maneuvers.

In the face of the government's determination, the strike proved a failure. Most of the employees of the railways and public services remained at work, except for the crews of some of the big French Line ships. Between 25 and 50 per cent of the workers in private industries walked out but returned to work quickly. There were minor strike disorders in eight cities. But many strike leaders were arrested, striking ship crews were replaced temporarily by men from the navy, and by December 10 the general strike was liquidated.

Daladier Faces Parliament. As soon as it was evident that the strike was a failure, the Premier called Parliament into session on December 8 to pass upon his policies. On December 10 he won a vote of confidence in the Chamber of Deputies, 315 to 241. The Socialists for the first time joined the Communists in voting solidly against the government, thus testifying to the complete disintegration of the Popular Front. Daladier's support came from the Radical Socialists, the Center, and the Right. In the ensuing debates on the budget and the government's economic and foreign policies, however, Daladier had several narrow escapes. His majority was cut to three in a vote of confidence taken on December 22.

Meanwhile the government's conservative tendencies had greatly aided business confidence and speeded the return of capital that had fled abroad. The substantial improvement in the economic situation enabled Finance Minister Reynaud to refund foreign obligations of the French railways, amounting to 3,500,000,000 francs, at a lower interest rate on December 27. The 1939 budget (see *Finance*) showed a substantial improvement in the general financial situation.

Other Internal Events. Armament expenditures increased from 11.4 to 26 billion francs between 1934 and 1938, and a further expansion was provided for in the 1939 budget. Yet French armaments lagged behind those of Germany, particularly in the air. In 1933 the French had the most powerful air force in Europe; in 1938 it was rated a poor fifth. A substantial part of the 1938 defense expenditures went into the modernizing and ex-

pansion of military aircraft plants. A program was adopted calling for 5000 modern planes to cost 16 billion francs, but the average monthly output in 1937 was only 38 planes and at the end of 1938 only 62. However, the Air Minister on November 30 promised the Chamber of Deputies that production would reach 200 planes monthly early in 1939. Large-scale rebuilding of the merchant marine as a national economy and defense measure was started under the decrees of May 2.

French concern over national defenses was increased by the development in Alsace of an agitation for autonomy, sponsored in part by Nazi propaganda. Some French officials feared that the Maginot line might not prove impregnable to a German attack if Nazi elements among the Alsations aided the invaders. The partition of Czechoslovakia on the ground of "self determination" also encouraged the relatively unimportant autonomist agitation in Brittany. Thousands of additional refugees from Austria, Germany, Spain, and Czechoslovakia poured into France during 1938, adding to the problems caused by the already large alien influx since the World War. On December 2 the government notified the Inter-Governmental Committee on Refugees that it would find room for 10,000 refugees in its colonial empire. But it was estimated that there were more than 200,000 recent political exiles in France at that time, and the government was considering steps to prevent a further influx.

Foreign Relations. Between 1933, when Hitler assumed power in Germany, and the beginning of 1938 French security and political influence in Europe had been progressively shattered by the hammer blows of Nazi diplomacy backed by armed force (see 1937 YEAR BOOK, pp. 260 f.). In 1938 this process was accelerated. The French diplomatic retreat became a rout. Reaping the bitter fruits of weak leadership and national disunity, France saw herself isolated in Western Europe. The great chain of alliances with which she had ringed Germany was almost completely broken. The only comfort France garnered from this debacle was that growing fear of Germany welded the Anglo-French understanding of 1936 into a hard and fast military alliance.

Czecho-Slovakia Abandoned. Rendered leaderless by one of its periodical cabinet crises, France stood helplessly by while Hitler annexed Austria on March 12-13, thus nullifying another provision of the World War peace treaties and removing another prop to the French security system. The collapse of Austria greatly weakened Czechoslovakia, France's most faithful ally in Central Europe, and exposed the Prague Government to the full force of the German diplomatic offensive. Aware that a crisis over Czechoslovakia was approaching, successive French Premiers and Foreign Ministers gave Prague repeated assurances that they would fulfill their treaty obligation to aid Czechoslovakia against an unprovoked German attack. But when the crisis came to a head in September, the Daladier Government yielded to defeatist elements in the Cabinet and country led by Foreign Minister Georges Bonnet and to pressure from both London and Berlin. On the morning of September 21 the French Minister in Prague notified President Beneš that if Czechoslovakia refused to cede her Sudeten districts to Germany and war resulted, France would repudiate her treaty obligations. The result was the capitulation of Czechoslovakia and its ensuing transformation from a strong ally of France, commanding 30 di-

visions of highly trained and well-equipped troops, to a helpless vassal of Germany. See CZECHOSLOVAKIA under *History*.

Alliances Weakened. The dissolution of the Franco-Czech alliance nullified or greatly weakened the French alliance with Poland, the mutual assistance pact with the Soviet Union, and understandings with Rumania and Yugoslavia. After Munich none of the latter governments could count on French aid against Germany or Italy unless France herself was directly threatened with attack. With the breakup of the Popular Front in France and Premier Daladier's open break with the French Communist party, Franco-Soviet relations became progressively worse. On October 4 a Moscow journal reflecting the views of the Soviet Foreign Office declared that France "no longer has an ally in Europe except Britain." And on November 26 the Soviet Ambassador at Paris warned Foreign Minister Bonnet that if Daladier outlawed the French Communist party the Soviet Union would withdraw completely from its mutual assistance treaty. In November, King Carol went to Paris seeking French aid against the Nazi threat to Rumania, but received no encouragement or support. Yugoslavia had long before drifted out of the French orbit toward an understanding with Germany and Italy.

Post-Munich Relations with Germany. After Munich the Daladier Government frankly admitted the collapse of the long-term French foreign policy based upon the League of Nations and the eastern European alliances. It abandoned the contest with Germany for European hegemony and turned to the defense of French national security through increased emphasis on the development of the colonial empire and the maintenance of communications between the empire and the mother country.

In return for French acquiescence in Germany's domination of central and eastern Europe, Foreign Minister Bonnet obtained from the Reich a pledge to "recognize as definitive" the existing Franco-German frontier. This was the sole concrete stipulation in a vague declaration of amity signed in Paris on December 6 by the French and German Foreign Ministers. The declaration also stated that "no question of a territorial order remains in suspense" between the two countries, leading some observers to conclude that Hitler had agreed not to press his colonial claims against France so long as the French gave him a free hand in eastern Europe. The Daladier Government had previously declared that it would energetically reject all claims of a territorial type and limit negotiations regarding colonies exclusively to a study of fair redistribution of raw materials. German official sources, however, continued to demand the return of all colonies lost in the World War. Moreover, the French people as a whole placed no faith in Hitler's frontier pledge, remembering that in *Mein Kampf* he had described France as the "eternal enemy" that must be crushed.

Friction with Italy. The French Government's plan to cut its losses in eastern Europe and fall back upon the empire encountered formidable obstacles. Nationalist agitations were assuming serious proportions in North Africa, Syria, and French Indo-China. Even if these movements could not hope to win immediate independence from France they could greatly hinder the peaceful and profitable exploitation of colonial resources (see ALGERIA, MOROCCO, SYRIA, and TUNISIA under *History*). Moreover, the colonial empire and French

communications thereto were increasingly threatened by Italian expansion in the Mediterranean and particularly by the Italian intervention on the side of the Insurgents in Spain.

Friction between France and Italy over the Spanish situation grew steadily worse during the year, impeding British efforts to effect a Franco-Italian reconciliation. The progress of the Spanish Insurgent armies resulting from Italian and German military aid confronted France with the danger of a German-Italian-Spanish alliance, exposing her to attack from three sides. The Italian and German military, naval, and air forces in the Balearic Islands and on the Spanish mainland were in a position to hinder or sever French communications with North Africa in case of a European war. But despite this danger and the failure of the non-intervention agreement to end Italo-German aid to the Insurgents, the French took no measures to aid the hard-pressed Loyalists except for the opening of the frontier from March until June to permit the Loyalists to import arms and munitions. The closing of the border by the Daladier Government in June appeared to seal the fate of the Loyalists. During the subsequent Czecho-Slovak war crisis, General Franco, the Insurgent leader, announced that he would remain neutral.

Italo-French negotiations for a general settlement came to a standstill after Mussolini on May 14 declared that the French and Italians were on "opposite sides of the barricades" in the Spanish struggle. After the Munich accord, however, France decided to recognize Italy's conquest of Ethiopia and appointed an Ambassador to Rome to renew negotiations. Mussolini, however, placed a high price upon his friendship, namely, the cession by France to Italy of the port of Djibouti in French Somaliland and the Djibouti-Addis Ababa railway as well as an Italian share in the control of the Suez Canal and the administration of Tunisia. He also demanded French recognition of General Franco's status as a belligerent.

Mussolini took advantage of the French general strike movement in November to press his demands. A demonstration demanding Tunisia, Corsica, Nice, and Savoy was staged in the Italian Chamber of Deputies on November 30 and supported by a vigorous press campaign. This aroused counter-demonstrations against Italy in Corsica and Tunisia. Premier Daladier and Foreign Minister Bonnet made separate declarations that France would not cede an inch of territory beyond that mentioned in the Italo-French agreement of 1935 (see 1935 YEAR BOOK, p. 344). This stand was affirmed in a note of December 26 to Italy. Small military and naval reinforcements were sent to Djibouti and the Tunisia defenses were strengthened. In the middle of December the Italian Government announced that it no longer considered the 1935 agreement valid; it had never been ratified. The year end found Mussolini still standing behind his claims, Premier Daladier preparing for an inspection of the Corsican and Tunisian defenses, and relations between the two countries in an extreme state of tension. See map under ITALY.

The Anglo-French Alliance. Following Hitler's military occupation of the demilitarized Rhineland zone in March, 1936, the British had persuaded France to acquiesce in this violation of the Versailles Treaty in return for a British pledge to defend France against an unprovoked German attack. Consultations between the French and British general staffs were agreed upon. Thus understanding was broadened into a military alli-

ance in the Anglo-French conversations in London on Apr. 28-29, 1938. They agreed to unify all their armed forces in case of another European conflict, with a French general commanding their combined armies, a British admiral directing the navies, and a British officer controlling the air forces. Joint economic measures were agreed upon in preparation for a possible conflict. They were to pool their purchases of war materials and supplies and to accumulate joint reserve stores of war materials, ammunition, and oil in France. In return for the British alliance, France agreed to follow the British lead in permitting Franco to win in Spain with German and Italian aid, in recognizing Italy's Ethiopian conquest, and seeking a settlement with Italy.

Later British pressure aided the defeatist elements in France in bringing about the repudiation of the Czecho-Slovak alliance and the French withdrawal from central and eastern Europe. The alliance was solidified by the visit of the British sovereigns to France on July 19-21. On November 23-25 further Anglo-French conversations were held in Paris, with both Premiers and Foreign Ministers participating. They agreed to coordinate and increase their armaments. However, the many setbacks to Prime Minister Chamberlain's appeasement policy, accompanied by the progressive deterioration of the French security system, led many Frenchmen to wonder if they were not paying too high a price for the British alliance.

British co-operation proved valuable in the Far East, however, where a joint Anglo-French warning served, temporarily at least, to avert the projected Japanese occupation of Hainan Island, threatening French Indo-China (q.v.). On July 3 the French position in the eastern Mediterranean was safeguarded by an agreement with Turkey concerning the Sanjak of Alexandretta in Syria (q.v.) and paving the way, it was believed, for joint Franco-Turkish co-operation in the event of a European war. Meanwhile the French Government had decided not to ratify the 1936 treaties granting independence to Syria and Lebanon. Preparations were being made at the year end for sending a mission to Syria to arrange a new agreement that would better safeguard French imperial interests in that region.

See ALGERIA, AUSTRIA, BELGIUM, CHINA, CZECHO-SLOVAKIA, GERMANY, GREAT BRITAIN, ITALY, MOROCCO, POLAND, RUMANIA, SPAIN, SYRIA, TUNISIA, TURKEY, and YUGOSLAVIA under *History*; LITTLE ENTENTE, MILITARY PROGRESS, NAVAL PROGRESS, REPARATIONS AND WAR DEBTS, STRIKES AND LOCKOUTS.

FREE CHURCH FELLOWSHIP, THE. A co-operative movement of liberal churches and individuals, first organized in 1933 under the name of the Free Church of America. The name was changed to the Free Church Fellowship as more accurately describing an enterprise which is not a new denomination or an organic merger of existing denominations but a liberal federation of churches and individuals.

The principles of the Free Church Fellowship are stated as follows:

1. We believe that Religion is ethical, that ethics is social, and that the church is the organized conscience of society.
2. We conceive our task to be: First, the cultivation of excellence, the promotion of character, the encouragement of the individual in his endeavor to realize, through all his relationships, the principles of integrity and honor; and second, the uniting of individuals and churches for the upbuilding of human welfare.
3. We propose that the Free Church Fellowship shall be

a union of religious liberals, a home for the emancipated spirit of man, whatever the forms of religious faith and worship.

The American Unitarian Association and the Universalist General Convention are the only denominational members of the Fellowship, but individual Methodist, Community, Federated, and Independent Churches belong, and individuals from other denominations are included in the Council and the Roll of Fellows. By virtue of denominational membership, all Unitarian and Universalist churches become members of the Fellowship by their own vote. All other churches become members by the vote of the Council of the Fellowship, and individuals by the vote of the Council or the Executive Committee.

The President is the Rev. John Howland Lathrop, D.D., of Brooklyn, N. Y., and the secretary is the Rev. Max Kapp, 150 Clinton St. S., Rochester, N. Y. The headquarters of the Free Church Fellowship are at 16 and 25 Beacon Street, Boston, Mass.

FREEMASONRY "is not so much form and ritual as a way of life and a challenge to service. It is a social philosophy and a call to fraternal living," said the retiring Grand Master, S. C. Klinck, addressing over 5000 Masons, representing New York State's 1037 lodges, on May 3, at which D. C. Beard, a founder of the Boy Scouts, received the Grand Master's medal. The Grand Lodge of Parahiba, Brazil, announcing, on June 13, its resumption of labor, after suppression, quotes from its constitution's preamble: "Masonry in essence is an universal institution whose fundamentals are—love of God, humanity, country, and family."

Activities. Architectural. Ground was broken on November 14 for the new Scottish Rite Temple in Washington City. The site on 16th St. adjoins the Mormon chapel lot. Commencement of a new Masonic Hall in Glasgow in 1939, to cost £100,000, is planned.

Cornerstones have been laid Masonically for two centuries. Among those in 1938 were:

On March 26, for the new Scottish Rite Temple in Manila, by the Philippine Grand Lodge (a notable occasion, witnessed by a large concourse, including High Com. McNutt and Maj. Gen. McArthur, the principal address being given by Jno. W. Hausermann, leading American of the islands); on May 18, for the new Hall of Government of George Washington University, at the nation's capital, by the Grand Lodge of the District of Columbia; on July 16, for St. Oswald's church, Coney, Gloucester (Eng.), by the Provincial Grand Master; on the same date, for Cay Maternity Home, Leamington (Eng.), by the Warwickshire Provincial Grand Master (both of these were "foundation stones"); on August 6, for the new Post Office at Shelton, Wash., by the State's Grand Lodge; on September 17, for the new grade school building at Crown Point, Ind., by the State's Grand Lodge; on September 28, for the 12th Shriners' Crippled Children's Hospital at Spokane, Wash., by the State's Grand Lodge.

Dedications. Among these may be mentioned: On July 11, by the N.C. Grand Council of Royal & Select Masters, the dedication of a Masonic Shrine and Monument, built of 300 stones from many countries, at Black Camp Gap, on the edge of Great Smoky Mt. Park; on July 24, the dedication of the Masonic Hall on an elevation overlooking Nairobi, Kenya, attended by many from various parts of East Africa; on October 1, the dedication of the \$250,000 Scottish Rite Temple at Fresno, Calif.; on October 11, the dedication of the \$110,000 Masonic Temple at Charlotte, N. C.; on October 14, the dedication of the Shrine "Mosque" at Peoria, Ill., and on November 19, that of the Scottish Rite Temple at Manila, P. I.



© International

THE FRANCO-GERMAN AMITY PACT

Foreign Ministers Joachim von Ribbentrop of Germany and Georges Bonnet of France signing the "good neighbor" agreement of Dec. 6, 1938, in Paris



Brown Brothers

THE ANGLO-FRENCH ALLIANCE

Premier Édouard Daladier and Foreign Minister Georges Bonnet of France leaving No. 10 Downing Street, official residence of the British Prime Minister, during one of their successive 1938 visits to London that transformed Anglo-French collaboration into a close military alliance



Keystone

THE GENERAL STRIKE

A group of Mobile Guards in Toulouse entirely surrounded by strikers during the unsuccessful general strike begun Nov. 30, 1938, against the Daladier Government's decree laws



Keystone

PARIS WELCOMES BRITISH SOVEREIGNS

The solidity of Anglo-French friendship was evidenced by the state visit of King George and Queen Elizabeth to the French capital on July 19-21, 1938. The picture shows the King and President Lebrun (in automobile) en route to the Quai d'Orsay

Charitable. With the hospital at Spokane, the Shriners will be operating not only 12 hospitals but five mobile units. On their advisory board are five of the country's most eminent orthopedists. Contributions to the Royal Masonic Benevolent Institution were reported, at its 96th annual festival in London, February 26, as nearly £100,000. The Philippine Grand Lodge, at its annual communication, voted P1000 toward relief work in China from its service fund and authorized solicitation, for the same object, from subordinate lodges and members. The Scottish Rite (Mother) Supreme Council also donated funds which were allocated, one half each, to the National Christian Council and the Chinese Red Cross in Shanghai. The Northern Supreme Council appropriated \$10,000 for New England flood sufferers and \$45,000 for continuing dementia praecox research.

Educational. The Philippine Grand Lodge, at the same communication, adopted unanimously, by a rising vote, a resolution expressing its

most emphatic opposition to the plan of certain members of the National Assembly to introduce religious instruction of a denominational character, in all public schools . . . during regular school hours, and directing the presentation of a copy to President Quezon.

A bill embodying the "plan," in a form ostensibly optional, was passed by the Assembly on May 12, after heated debates, in which the Sergeant-at-Arms was obliged to intervene; but it was finally vetoed on June 7 by President Quezon, who pronounced it "unconstitutional" and challenged its champions to test its popularity in the then impending elections. The 140th Festival of the Royal Masonic Institution for Boys, held in the Masonic Peace Memorial, London, June 8, realized for the school's maintenance over £61,052. The 150th annual Festival of the corresponding Institution for Girls, on May 1, realized over £95,736. The Michigan Knights Templar Educational fund provided 57 loans in 1938, aggregating \$11,000.

Settlement of its long controversy with the "four oldest" Grand Lodges was also effected at the same communication of the Philippine Grand Lodge, by its ratification of an "agreement" for an "advisory council" in China, "with no mandatory or coercive power . . . to limit the rights of membership of any subordinate lodge" or "the sovereign rights of any grand jurisdiction," each of which has but one vote and it "does not bind the respective jurisdictions," each of which "may withdraw and be relieved of any obligations." Such an agreement could probably have been reached at any time in the preceding five years, and would have saved the fraternity much unfortunate and unnecessary strife.

Statistics. *British Commonwealth and Empire.* "The United Grand Lodge of England . . . showed a membership increase of 100,000" in 1938, according to Grand Master Perry of Massachusetts. "English Freemasonry is regarded as one of the props of the Empire," adds the *Masonic Journal* of South Africa. *Canada*, with 9 Provincial Grand Lodges, had 1381 subordinate lodges and 173,654 members. *United States*, with 50 Grand Lodges (including that of Puerto Rico) had 15,719 subordinate lodges and 2,557,028 members. *Other countries*, owing to abnormal conditions (see *infra* Anti-Masonry) are often unable to furnish reliable figures. In the "totalitarian" parts, Masons dare not acknowledge their craft membership.

Anniversaries. Among the many anniversaries celebrated were:

March 22, sesquicentennial of Prince of Wales Lodge No. 259, London.

April 23, Diamond Jubilee of Wisconsin, Scottish Rite Consistory.

May 1, sesquicentennial of Royal Institution for Girls, London.

June 10-12, bicentennial of Masonry in Canada, at Annapolis, Nova Scotia, under auspices of the Grand Lodge of that province.

June 23, 70th anniversary of Mark Benevolent Fund, London, Provincial Grand Master for Lincolnshire, presiding.

July 9, bicentenary of the settlement at Ft. Johnson, N. Y., of Sir William Johnson, British Superintendent of Indians, first Master of St. Patrick's Lodge No. 4 at Johnstown (first Masonic body west of the Hudson) whose present membership, on July 31, assembled at its Hall and marched thence to Sir William's grave in St. John's Churchyard, where commemorative rites were conducted.

August 11, 84th anniversary of first Masonic Lodge meeting in Kansas, observed under the auspices of Wyandotte Lodge No. 3, assisted by the six other lodges of the 4th (Kansas) Masonic District, at Victory Hills Golf Course, near Kansas City.

In September, the Venezuelan Grand Lodge celebrated at Caracas, the centenary of its continuous activity; wreaths were laid on the statue of Bolivar (a Mason) and Urbaneja, first Grand Master there, and a program for the future was discussed.

Anti-Masonry. Austria. At 3 a.m. of March 12, fateful day of the Nazi invasion, police entered the Vienna Grand Lodge headquarters, the keys of which were delivered to them under duress, confiscated its property, and turned the building into an Anti-Communist museum and Nazi library. The grand officers were all arrested, including the venerable Dr. Schlesinger (78), Grand Master (who died shortly afterward), subjected to repeated indignities and insults, and those of Jewish blood held in continuous custody. All Masonic lodges were closed and entrance thereto forbidden. Leo Fischer, who had visited that Grand Lodge and kept in touch with it, wrote in the *Far Eastern Freemason*:

With a select membership of enthusiastic and intellectual men, it dispensed charity, patronized the arts and sciences, and practiced the Royal Art for 20 years. Its official organ, *Wiener Freimaurer-Zeitung*, was a great source of inspiration and information to Masonic journalists the world over. Masonry is better because the Grand Lodge of Vienna has lived.

Czecho-Slovakia. A Prague despatch of October 13, less than two weeks after the much-heralded "Munich Pact" (see INTERNATIONAL LAW), stated that "all Masonic Lodges had decided upon self-dissolution." The "motive" was disclosed in another part of the item, which explained that, in Slovakia, lodges not so dissolving would be forcibly suppressed. Accordingly, the two Grand Lodges—the National, working in Czech, and *Lesung zu Drei Ringen*, in German, which had long worked in harmony—announced their dissolution; but the Grand Commander of the Czech Supreme Council expressed his intention of attending the International Conference at Boston in 1939.

Germany. The "Nazi Primer . . . for Hitler Youth," recites that "the racial ideals of National Socialism have implacable opponents. Freemasons, Marxists, and the Christian Church join hands in brotherly accord on this point." To celebrate the seizure of Austria, Hitler proclaimed "amnesty" for Nazi party members charged with "offenses" committed before April 10, including former Freemasons who had not taken the highest degrees.

Hungary, where Masonry was officially banned soon after the World War, but where Masonic charities were allowed to continue, is now so much under Fascist-Nazi domination that even such forms of activity are regarded as menaced.

Ireland. A bomb was exploded on the night of March 28, in the garden of an ancient structure in Belfast, used by 23 Masonic Lodges and the Ma-

sonic charity organization. Fortunately little damage resulted.

Philippines. The (R.C.) bishop of Jaro, in a pastoral letter, referred to the school system introduced by the American government as "this purely civil education, maintained and propagated by the Masonic sect," and called upon Vice-President Osmeña, Secretary of Public Instruction, and a Catholic, to support the compulsory religious instruction bill (see *supra*, p. 269). The latter replied:

You refer to enemies. . . . Masons and Protestants. . . . You are mistaken in believing that the Government can make any distinction between Masons, Protestants, and Catholics.

Poland. Following closely upon the anniversary (October 8) of the death of Count Pulaski, a Mason, came the announcement on November 24 that the Polish Government had "outlawed the once powerful organization of Scottish Rite Masons" in that country, and that "Masonic property was ordered confiscated for the benefit of charitable organizations."

Assemblies, Congresses, Conventions, ETC. (*National and International*):

February 21-23, annual National Grand Masters' Conference and meeting of George Washington National Masonic Memorial Assn. at Washington, D. C. and Alexandria, Va.

April 27, annual Grand Festival of premier (Eng.) Grand Lodge at Freemasons' Hall, London.

June 1-4, 33d annual convention of National League of (400) Masonic Clubs (aggregating over 100,000 members) at Philadelphia.

June 7-9, annual Convocation of Shriners (A.A.O.N.-M.S.) at Los Angeles, attended by over 100,000 members; A. D. Rahn of Minneapolis, elected Imperial Potentate.

June 7-9, annual convention, National Sojourners at Detroit.

June 26-30, 49th annual convention, Mystic Order of Veiled Prophets, Cleveland.

September 1-4, International Masonic Assn. meeting at Lucerne, Switzerland.

September 3-6, Universal League of Freemasons meeting at Paris; international Masonic *rapprochement*, chief subject of discussion.

September 24-29, 126th annual session, Northern (U.S.) Supreme Council, Scottish Rite Masons, Columbus, O.

October 1, Supreme Council of Colombia met at Cartagena; differences with seceding members healed and headquarters moved to Bogotá.

October 3-5, Canadian Supreme Council's annual session at Halifax, N. S.; closed with an "historical pilgrimage" to Grand Pré and Annapolis Royal.

November 21-23, Centenary of Arkansas Grand Lodge celebrated at Little Rock, in Memorial Temple, named for Albert Pike, active in its affairs after 1850.

Bibliography. The most important Masonic historical publication of the year is the critical (limited) edition of the *Two Earliest Masonic Manuscripts* ("The Regius" and "The Cooke") by Douglas Knoop, G. P. Jones, and Douglas Hamer. Although published before the invasion of Czecho-Slovakia, *Po estak ke Kralovskemu uměnu* (*Steps Leading to the Royal Art* [Freemasonry], pp. 200), by Jiri V. Sedmik, former Grand Secretary for Foreign Affairs of the now suppressed National Grand Lodge of that country, should prove of special interest at this time.

FRENCH CAMEROON. See CAMEROON, FRENCH.

FRENCH CONGO. See FRENCH EQUATORIAL AFRICA.

FRENCH EQUATORIAL AFRICA. A French colonial territory, comprising the colonies of Gabon (93,219 sq. mi.; pop., 409,739), Chad (461,202 sq. mi.; pop., 1,432,555), Middle Congo (166,069 sq. mi.; pop., 746,605), Ubangi-Shari (259,388 sq. mi.; pop., 833,916). Total area, 979,878 square miles; total population (1937 estimate), 3,422,815. Chief towns: Brazzaville, the capital, 4000 inhabitants; Fort Lamy, 6000; Libreville,

4500; Bangui, 13,500; Port Gentil; Pointe-Noire. In 1937 there were 18,952 pupils enrolled in the 203 schools.

Production and Trade. The natural resources of the country are undeveloped. Many species of trees of industrial value, including wild rubber, grow in tropical forests having a total area of some 300,000 square miles. Cotton, groundnuts, maize, coffee, sesame, palm oil and kernels, cacao, wild rubber, copper, zinc, lead, and ivory were the chief products. In the colony of Chad, large numbers of cattle, sheep, asses, camels, horses, and ostriches are raised. Gold exported in 1937 amounted to 21,187 troy ounces. In 1937 (in old U.S. gold dollars) merchandise imports were estimated at \$7,600,000 (\$6,300,000 in 1936); merchandise exports, \$7,200,000 (\$5,800,000 in 1936). A railway connects Brazzaville with Pointe-Noire on the Atlantic, a distance of 318 miles.

Finance. The system of government introduced by the decree of June 30, 1934, allows only a general budget for the whole of French Equatorial Africa, and no individual budgets for the colonies. Local revenues are obtained mainly from customs duties; there are native poll taxes. For 1938 ordinary revenue and expenditure were estimated to balance at Fr139,794,516; extraordinary expenditure totaled Fr28,374,360; public debt, Fr16,536,955 (franc was worth \$0.0279 on June 16, 1938).

Government. According to the decree of June 30, 1934, French Equatorial Africa was consolidated into a single administrative unit under a governor-general aided by an administrative council and a secretary-general who assumes control during the governor-general's absence. Governor-General, J. F. Reste (appointed March, 1936).

FRENCH GUIANA (gê-à'na) **AND IN- INI.** A French colony in South America. Area, about 34,740 square miles; population (1936), 30,906. Cayenne, the capital, has 11,704 inhabitants; the other 14 communes have a total of 11,994 persons exclusive of the penal settlement of Maroni, the floating population of miners without fixed residence, and officials, troops, and native tribes. There are three ports—Cayenne, St. Laurent-du-Maroni, and Oyapoc.

Production and Trade. Rice, maize, manioc, cacao, coffee, and sugar cane are the main crops. The forests are rich in timber and commercial gums. Gold mining (1417 kilograms exported in 1936) is the main industry. In 1936 imports were valued at 45,343,821 francs; exports, 26,536,884 francs (franc averaged \$0.0611 for 1936). In 1937 there were 203 miles of roads.

Government. The budget for 1937 was balanced at 17,704,755 francs. A governor administers the colony aided by a privy council, and a council-general elected by the French residents of the colony. One deputy represents the colony in the French parliament. By the Decree of July 6, 1930, French Guiana was divided into two independent divisions—the coastal division remained French Guiana and the interior was named Territory of Inini.

FRENCH GUINEA. See FRENCH WEST AFRICA.

FRENCH INDIA. The colonies of France in India, consisting of Chandernagor, Karikal, Mahé, Pondichéry, and Yanaon. Total area, about 196 square miles; population (1936 estimate), 300,000. Pondichéry (capital) had 48,896 inhabitants (1936 estimate). The chief products (with 1936-37 production figures, in metric tons, in parentheses) are: Rice (23,700); groundnuts (5200); and manioc.

Livestock in the colonies (Dec. 31, 1936): 59,717 cattle, 24,300 sheep, and 33,505 goats. In 1937 the estimated value of general imports (in old U.S. gold dollars) was \$4,300,000 (1936, \$3,500,000); exports, \$3,600,000 (1936, \$2,900,000).

The local budget for 1936 showed revenue of Rs3,269,715 and expenditure of Rs3,239,715 (rupee averaged \$0.3752 for 1936). The colonies are administered by a governor (nominated by the President of France) aided by an executive council of 5 members and an elective general council of 28 members. In the French parliament the colonies are represented by a senator and a deputy.

FRENCH INDO-CHINA. A French dependency in southeastern Asia comprising the divisions shown in the accompanying table.

<i>Division</i>	<i>Sq. m.</i>	<i>Pop. (1936)</i>	<i>Capital</i>
Annam ^a	39,758	5,653,200	Huê
Cambodia ^a	67,550	3,047,100	Pnom-Penh
Cochin China ^b	26,476	4,618,600	Saigon
Kwangchowan ^c	200	200,000	Fort Bayard
Laos ^a	89,320	1,010,800	Vientiane
Tonkin (Tongking) ^a	40,530	8,699,500	Hanoi
French Indo-China	263,834	23,229,200	Hanoi ^d

^a Protectorate. ^b Colony. ^c Also known as Kwangchow. Leased from China for 99 years in 1898 (territory increased in 1899) and placed under the authority of the Governor-General of French Indo-China. ^d The capital city is Hanoi, but during certain seasons of the year, when climatic conditions are oppressive, the government offices move to Saigon.

Chief towns: Hanoi, the capital, 148,633 inhabitants (1936); Haiphong, 122,000; Saigon, 111,000 (1936); Pnom-Penh, 102,678 (1936); Cholon, 145,000 (1931); Binh-Dinh, 147,199 (1931); Tchekam, 35,000 (1935); Huê, 33,222 (1934); Battambang, 22,000 (1931); Fort Bayard, 12,000 (1935); Vientiane, 28,000 (1931). In 1936 the 6532 primary, secondary, and professional schools (exclusive of many private schools) had a total of 439,150 students; the university of Hanoi had 541 students.

Production and Trade. The output (in metric tons) of the chief products for 1936-37 was rice (rough), 6,316,200; maize, 459,600; rubber, 44,070 (57,000 for 1938); cane sugar, 41,500; tobacco, 14,300; groundnuts, 15,300; copra, 10,700; pepper, 3791 (exported); coffee, 2300; cottonseed, 3000; sesamum, 2100; cotton, 1300; tea, 1100; coal, 2,198,000; phosphates, 11,000; zinc, 4200; manganese, 1900; salt, 142,000; tin, 1500. The production of alcohol in 1937 totaled 10,329,086 gallons (U.S.). Gold, produced in 1937, totaled 5051½ troy oz. In 1937, excluding bullion and specie, imports were valued at 1,578,600,000 francs; exports, 2,589,200,000 francs (franc averaged \$0.0405 for 1937).

Communications. There were, in 1937, 21,021 miles of highways and 2087 miles of railway line of which 1565 miles belonged to the government. A weekly air service between Saigon and Batavia (Netherlands Indies) was inaugurated during the year; it is an extension of the Batavia to Singapore service. Air France operated air services between Hanoi and Vientiane, and from Saigon to Bangkok (Siam). In 1936 there were 5441 miles of telephone line, 12,057 miles of telegraph line, and a radio-telephonic service to Europe from Saigon.

Finance. The budget for 1938 was balanced at 89,206,800 piasters (1 piaster equals 10 French francs), which was an increase of 18,828,000 piasters over the revised 1937 budget. A rise in prices as a result of the devaluation of the French franc was the reason given for the increase. On Jan. 1, 1937, the public debt amounted to 1,971,120,000 francs.

Government. The government for the whole of French Indo-China is administered by a governor assisted by a secretary-general, a government council, and a grand council for economic affairs. Cochin China, which is a direct French colony, is headed by a governor aided by a colonial council, and each of the four protectorates is headed by a resident-superior assisted by a protectorate council and a council of economic affairs. Governor-General, M. Jules Brevié (appointed, Sept. 13, 1936).

History. The Japanese advance in South China during 1938 and Japanese efforts to establish a dominating influence over Siam greatly alarmed the French Government as to the safety of French Indo-China. Fearing that a Japanese landing on Hainan Island, dominating the Gulf of Tonkin, was imminent, the French with British support warned Japan in June that such a move would threaten their peaceful relations. A Japanese attempt was made to occupy the strategically placed Paracel Islands, claimed by both France and China. This led the French authorities early in July to send a small armed force to the islands as a warning that they would not tolerate a Japanese base there.

The French also feared a direct Japanese attack upon Indo-China from either the east coast or overland from Siam. Japanese warships cruising along the coast, flights by Japanese airplanes over Haiphong, and anti-French propaganda entering Indo-China from Siam, apparently under Japanese sponsorship, all contributed to this fear. To meet this threat, the French Government decided to fortify the harbor of Cam Ranh in southern Annam and to make it the principal French naval base in the Far East. Work was started on this project during 1938 as part of the French colonial defense program undertaken with a 400,000,000-franc loan. A 33,000,000-piaster loan was raised in French Indo-China early in July, permitting the enlistment of 20,000 additional native soldiers and other military preparations.

Early in the year the Japanese Consul at Hanoi demanded that the French authorities prohibit the transport of war material into China over the Haiphong-Nanning (Yunnanfu) railway. He threatened a Japanese aerial bombardment of that part of the line running through China if the munitions traffic continued. The French at first rejected this demand on the ground that Japan had not declared war on China and that Japanese ships were using Indo-Chinese ports to load coal, ore, salt, sand, and cement. But after the Japanese occupation of Canton in October, the Japanese attitude became so threatening that the French terminated the munitions traffic, reportedly in return for a Japanese pledge not to invade Hainan Island. See CHINA and SIAM under *History*.

The devaluation of the French franc on May 6, 1938, increased currency difficulties in French Indo-China and adversely affected business. Devaluation made the contents of the silver piaster coin worth about 10 per cent more than the exchange value of 10 francs. This led to an abnormal exchange of paper piasters for silver coins, which were melted down and sold on the bullion market.

FRENCH IVORY COAST. See FRENCH WEST AFRICA.

FRENCH LITERATURE. This was an exceptional year for French Literature; they founded no new academy, they inaugurated nothing on the stage, no new *ism* has been added to the already endless list of them, no rising star has been discovered in any field. There were, however, some

celebrations: The third centenary of the birth of Le Roi Soleil was the occasion of great festivities at Versailles, which were combined with the festivities in honor of the King and Queen of England, June 19-24. Lulli's opera *Acis et Galatée* was performed on the newly restored Théâtre Montausier. At the Opéra in Paris, two other ballets of Lulli were represented; the Comédie Française revived Racine's *Esther*, the Odéon and other theaters also revived 17th century plays. Shortly after, there was the celebration of the restoration of the Reims cathedral in July, with a special play by the famous Catholic poet Henri Ghéon, *Les Grandes Heures de Reims* (Baptême de Clovis, Sacre de Charles VII, Passion de Reims), and the Théophiliens (see earlier YEAR BOOKS) gave the famous 12th-century mystery play *Le Jeu d'Adam* in front of the Cathedral. A great deal of attention was paid to the centenary of the Société des Gens de Lettres: receptions by the President of the Republic, by the City of Paris, and by the French Academy at Chantilly. A royal celebration, commemorating 50 years of a life devoted to art, was given Yvette Guilbert, the famous singer, at the famous Salle Pleyel, June 21, in the presence of the Minister of Public Education and of representatives of the French Academy, of the Goncourt Academy, of the Société des Gens de Lettres, and of the clergy. The third centenary of Malherbe was remembered in a solemn meeting at the Sorbonne, on July 2. Let us finally record a new attack on modernism—here the cinema—by Duhamel, at the joint meeting of the five Academies in October.

Literary Prizes. The increasing number of "Prix littéraires" makes it impossible to mention any except a few outstanding ones: "Grand Prix de litt." (Académie) in June, Tristan Derème (increased from 10,000 to 20,000 francs); "Grand Prix du roman" (Académie) in June, J. de la Varende, for *Le Centaure de Dieu*; "Grand Prix d'Académie," Alex. Arnoux, for *Le Rossignol napolitain*; "Prix Broquette" (Académie), Paul Cazin; "Prix de litt. coloniale," René Guillot, for *Frontières de la Brousse* (short stories); "Prix de la Critique": Yves Gandon (of the *Nowelles litt.*) and Marius Richard (of the *Revue de France*); "Prix Lasserre," Marcel Jouhandeau, for *Chroniquea maritales* and *Le jardin de Cordoue*; the "Prix Léon Barthou," given for the first time to a woman for "l'ensemble de son œuvre," to Marcelle Tinayre. The December awards were: "Prix Goncourt," to Henri Troyat, for *L'Araigne* (he had won the "Prix populiste" in 1935); "Prix Femina," to Félix de Chadourne, for *Caroline ou le départ pour les îles*; "Prix Renaudot," to Pierre-Jean Launay, for *Léonie la bienheureuse*; "Prix interallié," to Paul Nizan, for *La Conspiration*. For the "Prix de poésie," see a long list in *Mercur de France*, March, 1938, awards made by the Comité de la société des poètes français.

Poetry. In this domain, there is not much that calls for mention. Whoever desires more details should look up the regular accounts in the *Mercur de France* by André Fontainas, a veteran in the field. Here the following names will suffice: P. Claudel, *Un poète regarde la Croix*; Nicolas Beaudouin, *Dans le songe des dieux*; Pierre Jolabert, *La couronne de lumière*; Roger Lannes, *Les voyageurs étrangers*; Henriette Charasson, *Sur la plus haute branche*—all excellent and pertaining to the style of traditional or religious poetry. Tristan Derème (the laureate of the French Academy) continued his fanciful series (see former YEAR BOOK) with *Le poème des Griffons*, while Henry

Charpentier (newly elected to the Académie Mallarmé) wrote in the "Symboliste-romane" note of Moréas in *Signes*, and in *Dyptiques* he imitated Virgil in lines reminding of the "Vers baïfins" of the Renaissance. Jean Dyssord, in his cryptic *Les dés sont jetés*, has embarrassed critics not a little.

By Charles Massonne, in a collection called *Vers et Versets*, a new attempt was made—they were frequent in recent years—to construct in French a "vers accentuel," that is, adopting instead of the syllabic verse of traditional French prosody, the count by accented syllables as in the old classical meter (he counts as many as seven "syllabes accentuelles" in a line). Yvan Goll patronizes all sorts of modernisms in *Jean sans Terre* (the title itself being allegorical). An interesting account of modern Belgian poetry was given by G. Charlier in *Revue de France* (August number). The first lesson of P. Valéry at the Collège de France, last winter on the essence of poetry, is reprinted in *Introduction à la poésie* (*Nouv. Rev. fr.*).

Plays. Tragic plays outnumbered others in 1938. The year opened with Jean Arnouilh's *La sauvage*, played by Mme. Pitoëff: a girl brought up in a sordid milieu of café-concert, has a chance to know the life of the fortunate ones, accepts first, but the memory of the miserable life of her own people causes her to tear her beautiful dresses and return to share the miseries of her own people. Just as discouraging is Paul Vialar's *Les indifférents* (from a novel by Moravia), a world of blasés with not a trace of energy left to "live." Roger Vildrac's *Les Demoiselles du large* is the type of play given at the Théâtre de l'Oeuvre—three suicides. Marcel Achard thinks that the world does not know enough yet of Freud and abnormal beings and offers *Adam*, the rivalry of a man and of a woman for the love of a man—he calls it a comedy (!). Jouvet, at the Athénée, gave another play by Achard which aroused a good deal of curiosity—*Le Corsaire*. It takes place in Hollywood and illustrates the theory of the reincarnation. An actress is supposed to fall in love with a pirate; this woman, while rehearsing, suddenly recognizes the whole story on the ship: she is the reincarnation of the woman of a time long past.

Five plays at the end of the year made a special appeal to the public: Salacrou's *La Terre est ronde*, which puts on the stage the history of Savonarola (Dullin)—first a young libertine, then the fiery apostle of regeneration in Florence, and finally burned as a fanatic; Sacha Guitry's *Un monde fou*, a not very novel idea—that men and women perfectly reasonable in life become "fou" when in love—but the story is so wittily presented that the theme looks new; the third is a very curious attempt by Gaston Baty to make a play with *Dulcinée* as the chief character: on his deathbed Don Quichote blesses her, she believes herself to be a saint destined to reform the world, is mocked copiously by the people, but insists on dying with her belief that she is what Don Quichote held her to be (Sancho Pança plays an important part in the whole plot); F. Cocteau's *Les parents terribles*—more painful, if possible, than his earlier *Les enfants terribles*; and *Duo*, arranged by Géraud from Mme. Colette's novel (see YEAR BOOK, 1937). A single representation was given at the Théâtre Français of Gabriel Marcel's one-act play *Le Fanal*, a sort of plea for moral regeneration. Julien Luchaire (who triumphed last year with *Altitude 3,200*) tried this year, apparently with less success, a play in the vein of Giraudoux called *Une femme qui s'en va*: It is the story of the

Bérénice of Racine treated ironically; when Bérénice hears that Titus, the Roman Emperor, has decided to sacrifice his love to his imperial throne, she turns her back on him with utter contempt—just an emperor, not a man! Giraudoux himself gave a one-act play—wit on love—*Cantique des Cantiques* (Comédie fr.).

The lighter plays of the year were few, but successful. It was once more the remarkable talent of the actor V. Boucher that made Armont et Marchand's *Le valet et le maître*; Arnouilh's *Le Bal des voleurs*, a comédie-ballet, reminds one of the gay vaudevilles of Labiche. Then two plays had a great run: Claude-André Puget's *Les jours heureux*, which brought to the pen of several critics the name of Alfred de Musset—an honor indeed!—and Paul Vandenberghe's *J'ai 17 ans*, an episode in the life of a young man who is young in the good old sense of the word, spontaneous, somewhat naïve, but with a big heart, and who meets as a man a painful family situation.

Saint-George de Bouhélier gives another of his historical plays, *Le Roi Soleil*, a subject chosen in connection with the tercentenary of Louis XIV. Another historical play was *Tricolore*, by Lestrin-guez—once more the heroine of Revolutionary Days, Théroigne de Méricourt.

The great number of "reprises" must be taken as an indication that relatively few masterpieces were offered to stage directors: Racine, Molière, Musset furnish, it seems, more than the usual crop of classic plays at the Théâtre français; a good deal of comment was brought about by an amusing revival of one of Labiche's most amusing farces, *Le Chapeau de paille d'Italie*. A new interpretation of the *Misanthrope* with oriental costumes and scenery was tried at the Ambassadeurs. The centenary of Hugo's *Ruy-Blas* (Th. français) caused surprise to many who did not think that Hugo would today produce such an impression. Foreign playwrights also were called upon to fill programs: Sarment adapted *Othello* at Monte-Carlo (himself playing Iago) and Henri Lenormand adapted an apocryphal Shakespeare play *Aden de l'aversham*, one of the interesting features being the staging by the famous Baty. To note also, at the théâtres d'Avant-garde as they are called: Dullin (Atelier) reconstituted Aristophanes's *Plutus* with great success, and followed it with Fr. Garcia Lorca's extremely tragic Spanish and violent *Noces de sang*. Spain triumphed also at the Théâtre du Peuple (Place du Châtelet) when Jean Cassou and Jean Camp adapted Lope de Vega's *Pont-aux-Cabres*, a popular drama, very tense, of a sort of Joan of Arc who leads an uprising of the peasants of Spain against the lords.

The Novel. The crop was abundant, but not more than in previous years. Familiar names are those of: Henri Bordeaux (*Affaire de la rue Lepic*), P. Benoît (*Betsabé*), H. Bachelin (*M. Hilde-jonse*), Ferdinand Herold (*Amants hazardés*—the symbolist vein). Several novels that attracted attention were inspired by world political events: *Le Volontaire*, a study of Fascist devotion, by Pierre Frondaie; *Roc de Gibraltar*, a spy story, by Joseph Peyre; *Glaïeul noir*, very exciting adventures of a woman connected with the Red Cross in Spain, by Lucien Malvault. *Cinq de Campagne*, by M. E. Grancher, takes the reader back to the World War, but, this time, in an alert although not flippant mood, reminding of the style of the famous *Gaspard* by R. Benjamin way back in 1915.

L. Pergaud's *La guerre des Boutons* is an amusing satire on war, or rather the flimsy causes of

many wars, which is well known in this country by the film *The Generals without Buttons*. The "roman paysan" or "roman régionaliste," which has been so popular since Giono, Ramuz, Raymonde Vincent, Roussel, Rogissant (see YEAR BOOK, 1937), was represented in 1938 by R. Genevoix's *Bernard* (whose hero is the son of Benoit Chambarcaud of Tête baissée in a preceding novel) and by Ramuz's *Si le soleil ne revenait pas*, again a drama in a valley of the Swiss Alps.

Novels in the realm of the mysterious world: Gabriel Mourey's *L'amateur de fantômes* offers a sort of philosophical story of a man who suffers from concussion of the brain after an automobile accident, lives over an early existence when he was a Greek of the glorious age of Pericles; and, when he awakes, he finds that man is ever the same, that all the exterior progress of civilization has not altered the meaning of life much; C. J. Odiat's *l'Ombre de la Barraquer*—a weird story—the phantom of a suicide returns to earth to drag into his nets a living creature, this brings about another suicide and then the "ombre" dissolves, its aim being fulfilled; Plisnier (author of *Faux Passe-ports*, 1937 "Prix Goncourt") publishes *Le Sacre*; and another Belgian author, Marie Gevers, in *La ligne de vie*, tells the story of a sorcerer in Flanders, back in the 17th century. The greatest success, however, in this domain was *Léonie la bienheureuse*, by Pierre J. Launay, which carried the "Prix interallié" in December; Léonie is a good and pious peasant woman whose husband is lead astray by a frivolous rival; Léonie, after having tried regular prayer to bring her husband back to her, accepts the services of a sorcerer; but she gives up when she witnesses the weird ceremonies; she dies finally in an accident, offering her soul to God.

In addition, one has to take into consideration a number of even more terribly pessimistic stories, for they are of indisputable merit; one is more gloomy than the other, none, however, being morbid: Andrée Sirkoska's *Vent de mort*—two beings completely broken by ill luck; J. P. Sartre's *La nausée*, very highly praised by Ed Jaloux in spite of its distressing content; Jean Guirec's (author of *La Maison au bord de l'eau*, 1937) *L'enchantement de la nuit*—a story of a girl fundamentally honest who is brought up in a sordid milieu; finally, one day, she falls and then commits suicide; André Richaud's *La Barrette rouge*, which takes place in a former palace of a cardinal; there a man having known a childhood in horrid slums, and who deems himself cursed, revolts and in his madness assassinates a young woman. Cécil Lothe, the "populist" writer, adds *Maman Joujou* to her earlier novels of the slums. In some of these novels the Freudian note is easily traced: Ch. Braibant's *Le soleil de mars*, a sincere and painful story of a child too early initiated to the secrets of sexual life; Chr. Mégret's *Ils sont déjà des hommes*, which deals with an institution of orphans, children born of parents who were in artistic professions; Robert Francis's *La jeune fille secrète*; Francis de Roux's *Brune*, one of the novels especially well received by critics as a remarkable psychoanalytical study of a love-thirsty woman.

Other authors hailed as masters were: La Varen-de, who jumped into fame in 1937 with *Nes-de-Cuir*, and in 1938 won the "Grand Prix du roman" of the French Academy with *Le Centaure de Dieu*, tells the story of a nephew of Nez-de-Cuir in which there is a remarkable struggle between the passion for horses and a mystical devotion for God; the story is told in the same vigorous style as the

earlier story; and such is the case again of another book, *Les Mamants du Roi* (150 years of the history of a family of noble birth); H. Troyat, winner of the "Prix Goncourt," in *L'Araignée* (sic), gives a portrait of a man whose sensitive nature brings him to the brim of insanity; he belongs somewhat to the Salavin family of Duhamel; Paul Nizan, "Prix interallié," revealed himself a remarkable narrator in a story, *La Conspiration*, that calls to mind Barrès' *Les Déracinés*; namely, three young men, with a solid education who conspire to overthrow the government; Nizan is savage in his mockery of the futile attempts. A novel parallel to this is R. Millet's *L'Ange de la révolte*, in which young men coming, this time, from the popular, uneducated class, nourish the same ideas of revolt, and also fail utterly (it is very interesting to note that Nizan is a contributor to *Le Temps*, while Millet works on the staff of *L'Humanité*, the socialist paper). George Blond's *Prométhée délivré* was also among the most favorably reviewed stories of the year; this reminds one of Jules Romain's *Monsieur Le Trouhadec*; but here it is a politician who is grotesquely distracted from his call in life by a lively lady. Bernard Barbey, in *Le Crépuscule du matin*, writes about the Oxford movement which is rather strong in French Switzerland (M. Barbey is from Geneva). The 7th volume of Duhamel's *Chronique des Paquier*, *Cécile parmi nous*, seems to have been acclaimed even more than *Les Maîtres*, of 1937. Jules Romain offers vol. xv and xvi, *Prélude de Verdun* and *Verdun*, of his *Hommes de Bonne Volonté*.

Novels by women include: Irène Némiroski, *La Proie*, very somber but without the power of her former novels; André Corthis, in *Masques*, appears to try to imitate Mauriac's style; Hedwige de Chabannes, an aviatrix, attempts a psychology of aviation in *Port de l'air*; Gilette Ofaire's first novel, *Sylvie Velsey*, has been hailed as a very promising book, telling the woes of an unhappy childhood and of a consistently unhappy later life—which, however, tempers a character of rare fortitude.

In a class by itself must be placed an allegorical story by Luc Durtain, *Les Bohohom*, which takes place among the clouds symbolizing the thinness of utopias of all sorts of men in our modern world. Some have praised it, some felt like ridiculing it, but the satire is rather good-natured.

It is impossible to give the titles of many very remarkable short-story volumes. A few would include: Mauriac, *Plongées*; Blaise Cendrars, *La vie dangereuse*; G. Simonon, *Les sept minutes*; Jules Supervielle, *L'arche du Noé*; Mary Yourcenar, *Nouvelles orientales* and *Les songes et les sorts*.

Various Items. Books of recollection are always numerous. One may quote as especially important: Barrès' *Cahiers XI*, containing the notes of the author during 1914-18; Julian Green's *Journal* (about his journey back to America, which will not fail to interest and perhaps provoke his countrymen); and, since Julien Benda was heard as a lecturer in America, one may mention his autobiographic *Un régulier dans le siècle*, which amounts to a confession of failure on his part to get his chance in life; but he does not accuse his Jewish origin for that failure. Two books, very different in spirit on the Jewish problem: One in the virulent style, by Céline, *Bagatelle pour un massacre*; the other in the witty style of La Fouchardière, *Histoire d'un petit Juif*. On the question of Islam in the Orient: vol. ii of the brothers Tharaud, *Les mille et un jours de l'Islam*; vol. ii,

Les grains de la Grenade; and, with a more timely message, *Alerte en Syrie*. On Spain: A. Malraux's *Espoir*, and *L'Espagne en sang* (eloquent appeal of one who fought on the side of the Loyalists); Bernanos's *Les grands cimetières sous la lune* is a cry of horror on the madness of modern humanity. On the general situation in Europe two well-known writers have spoken: Roland Dorgelès, *Frontières*, *Massacre sur l'Europe* and René Benjamin, *Chronique d'un temps troublé*, the latter in a sarcastic vein. One voice was raised praising the firm hand of Hitler: Chateaubriant, *Gerbes de force*. The popularity of books on history continue to be much favored; the brothers Marius-Ary Lebond published vol. ii of their *Vercingétorix*; P. Morand gave *Isabeau de Bavière*; La Varenne, *Anne d'Autriche*; Paul Reboux, *La Belle Gabrielle qu'aima Henri IV*; M. Tinayre, *Mad. de Pompadour*; P. Gaxotte, *Frédéric II*; Aubry, *a Sainte-Hélène*; Mongédien, *Vie privée de Louis XIV*, etc.

Criticism and History of Literature. Excellent works were published, but many would be of interest only to specialists. The following, although very scholarly, may be mentioned here: *Montaigne*, by Professor Strowski (just retired from the Sorbonne); *Vie et Oeuvres de Rablais*, by Georges Lothe (568 pp.); a very lively *Corneille*, by R. Brasillach; *La Fontaine*, by Bailly, which is excellent, has been somewhat thrown into the background by Giraudoux, "l'auteur à la mode," on *Les cinq Tentations de La Fontaine*. Voltaire inspired several books, one G. Piguet, *M. de Voltaire et la vérité sur sa vie amoureuse*; and two others, very different in tone: one exalting Voltaire's good nature, by Prof. N. Torrey of Columbia, the other terribly sceptic about the merit of Voltaire by John Charpentier.

A. Maurois' *Chateaubriand* was praised highly in France, and at the end of 1938 had been translated into English. Marcel Duchemin's *Chateaubriand* is more of the erudite type of book. Pierre Jourda, *L'exotisme dans la litt. fr. depuis Chateaubriand, Le Romantisme*; this came shortly after two volumes by Alf. Béguin, *L'âme romantique*. On Romantic authors: Antoine Adam treats once more, and without repeating his numerous predecessors, the story of Musset and Sand, *Le secret de l'aventure vénitienne*; L. Arbellet, *Louison, ou les perplexités amoureuses de Stendhal*. The eternal Balzac appears again in the work of S. de Korwin-Piotrowska, *Eveline Hanska de Balzac*. A new volume of Sainte-Beuve's *Correspondance* is greeted as an event. Marie-Louise Pailleron has a *George Sand, Histoire de sa vie*. Contemporary writers received their share of attention; for example, L. Bidal, *Les écrivains de l'Abbaye* (Duhamel, Jules Romain, Vildrac, Durtain, etc.); very amusing souvenirs of symbolists in Jean Ajalbert, *Mémoires en vrac*; É. Noulet tackles *Paul Valéry*, and L. Aragon, in an article of *Europe*, March 15, explains the connection between surrealism and communism. Yves Gandon, awarded the "Prix de critique littéraire," in his *Le démon du style* publishes in a volume his articles of the *Nouvelles litt.* on Montherlant, Suarès, Gide, Duhamel, Bernanos, Giono, Maurois, etc.

The French Academy received: Jacques de Lacretelle (January 27), Léon Bérard (March 3); elected: Ch. Maurras, to replace Doumic (June 9), A. Maurois, to replace Me. Henri-Robert (June 23), Jérôme Tharaud, to replace J. Bédier (December 1). The Académie Goncourt elected René Benjamin, to replace Raoul Ponchon (June 1). The

Académie Mallarmé elected Henry Charpentier. **Necrology.** Among those who died during the year may be noted J. Bédier (q.v.); Ferd. Brunot, the author of *Histoire de la langue française*, and until recently dean of the Faculté des Lettres, University of Paris; Francis Jammes, the symbolist poet; and Henry Kistemaekers, the playwright.

FRENCH SOMALILAND. See SOMALILAND, FRENCH.

FRENCH SUDAN. See FRENCH WEST AFRICA.

FRENCH TOGO. See TOGO, FRENCH.

FRENCH WEST AFRICA. A French colonial territory comprising the colonies shown in the accompanying table.

Colony	Sq. mi.	Pop. (1936)	Capital
Dahomey	43,232	1,351,511	Porto Novo
Dakar ^a	60	92,634	Dakar
French Guinea	96,886	2,011,172	Conakry
French Sudan ^b	590,966	3,568,966	Bamako
Ivory Coast ^b	184,174	3,850,653	Abidjan
Mauritania	323,310	383,098	St. Louis ^c
Niger ^b	499,410	1,746,878	Niamey
Senegal	77,730	1,697,671	St. Louis
French West Africa ..	1,815,768	14,702,583	Dakar

^a Including Dependencies. ^b Upper Volta ceased to be a colony on Jan. 1, 1933, and its territory was divided among three other colonies as follows: French Sudan received 20,226 square miles; Ivory Coast, 59,212 square miles; Niger, 27,290 square miles. ^c The lieutenant-governor of Mauritania resides in St. Louis in the colony of Senegal.

Chief towns: Dakar (capital), about 42,000 inhabitants; Saint Louis, 33,066 (1936); Porto Novo, 25,724 (1935); Bamako, 22,000 (1936); Abidjan, 17,476 (1935); Grand Lahou, 16,430 (1935); Kaolak, 15,645 (1936); Diourbel, 15,544 (1936); Ouagadougou, 14,172 (1935); Rufisque, 13,559 (1933).

Education. The 688 schools of all kinds had 76,040 pupils enrolled in 1935-36; the expenditure for education amounted to 22,410,108 francs.

Production and Trade. The chief products (with production figures for 1937 unless otherwise stated), in metric tons, were groundnuts (890,000), maize (536,500 in 1936), rough rice (413,000), cacao (48,100 from Ivory Coast), palm kernels (36,700), palm oil (20,100), cottonseed (18,000 in 1936), coffee (9800 from Ivory Coast), cotton (5500 in 1936), tobacco (26,000), sesamum (700 in 1936), and wool (200 in 1936 from French Sudan). Gold produced during 1936 amounted to 125,101 troy oz. Textiles, fuel oil, machinery, food-stuffs, and beverages were the main imports. In 1937 (values are given in old U.S. gold dollars), imports were valued at \$39,200,000; exports, \$40,300,000.

Communications. In 1938, the railways, consisting of four main lines connecting each of the coastal territories with the Niger Valley, had a total length of 2324 miles exclusive of narrow-gauge lines. There were over 27,300 miles of roads. Air services were operated between Dakar and Pointe-Noire, Middle Congo, and between Cotonou in Dahomey and Toulouse, France. During 1936, 10,552 vessels aggregating 13,878,362 tons cleared the ports.

Finance. The various budgets for 1938 (with 1937 figures in parentheses) were balanced as follows: General budget, Fr335,000,000 (Fr200,200,000); the aggregate of the local budgets, Fr498,162,000 (Fr299,589,000); supplementary budgets, Fr478,597,000 (Fr347,788,000). The franc (Fr) averaged \$0.0405 for 1937; \$0.0288 for 1938.

Government. French West Africa is governed by a governor-general, aided by a council, the seat

of the government being at Dakar. Each colony is under the direct administration of a lieutenant-governor, and the circumscription of Dakar is under a chief administrator, all subordinate to the governor-general who was relieved of the direct administration of any part of his government so that he could direct and control the common interests of all the colonies. Governor-General, Jules M. de Coppet (appointed, Sept. 13, 1936).

FRIENDLY ISLANDS. Same as TONGA ISLANDS.

FRIENDS, RELIGIOUS SOCIETY OF. A mystical religious sect which originated in England in the middle of the 17th century under the leadership of George Fox. For early history see *THE NEW INTERNATIONAL YEAR BOOK* for 1932 and *THE NEW INTERNATIONAL ENCYCLOPEDIA*, vol. ix, p. 285.

Five Years Meeting. In 1902 the largest body of the Religious Society of Friends, known as the Orthodox Group, organized the Five Years Meeting of Friends in America. This organization meets as a delegate body every five years and in 1938 consisted of 11 Yearly Meetings, with a membership of approximately 70,000. Its headquarters are in Richmond, Ind. The work of the various departments, such as missions, peace, prohibition and public morals, religious education, is under the direction of executive committees and secretaries of boards. The Five Years Meeting also maintains six colleges for higher education: Earlham, in Richmond, Ind.; William Penn, in Oskaloosa, Iowa; Guilford, in Guilford, N. C.; Wilmington, in Wilmington, Ohio; Whittier, in Whittier, Calif.; and Nebraska Central, in Central City, Neb. Haverford College in Haverford, Pa., is maintained by the Philadelphia Yearly Meeting, Pacific College in Newberg, Ore., by the Oregon Yearly Meeting, and Friends University at Wichita, Kans., by Kansas Yearly Meeting. The latter bodies, however, and the Ohio Yearly Meeting are not a part of the Five Years Meeting. In 1937 the membership of the Oregon Yearly Meeting was 3182; of the Ohio Yearly Meeting, 6070; of Kansas Yearly Meeting, 9111; and of the Philadelphia Yearly Meeting (Orthodox), approximately 4746. *The American Friend*, a biweekly religious journal, is published at headquarters. The next sessions of the Five Years Meeting will occur in October, 1940.

Liberal Branch. This branch was formed in 1827 from a division focused on the preaching of Elias Hicks and the doctrinal issues of the day. It includes six Yearly Meetings federated in the Friends' General Conference, which meets in even-numbered years and conducts work in religious education, social service, and advancement of Friends' principles. The membership in 1938 was 16,505. Publications include the weekly periodical, *Friends' Intelligencer*. The society co-operates with all branches of Friends in supporting the American Friends' Service Committee for work for peace and social justice. Headquarters are at 1515 Cherry St., Philadelphia, Pa.

FRUIT. See HORTICULTURE.

FUTUNA AND ALOFI. See NEW CALEDONIA.

GABUN. See FRENCH EQUATORIAL AFRICA.

GALAPAGOS ISLANDS. See ECUADOR.

GALE, ZONA (MRS. WILLIAM LLEWELLYN BREESE). An American writer, died in Chicago, Dec. 27, 1938. Born in Portage, Wis., Aug. 26, 1874, she was educated at the University of Wisconsin (B.L., 1895; M.L., 1899). After graduation and until 1901, she was a staff member of *The Evening Wisconsin* and the *Milwaukee Journal*.

She then worked on the *New York World* as a reporter, but left in 1903 to do free-lance work. During this period some of her verse appeared in *Smart Set*, and her first published short story appeared in *Success*.

In 1905 she returned to Portage and in 1906 her first novel was issued—*Romance Island*. In the next year she published *The Loves of Pelleas and Etarre*, a collection of short stories. The publication of *Friendship Village* (1908) and *Friendship Village Love Stories* (1909) brought her a wide and loyal public, but it was not until the publication, in 1920, of *Miss Lulu Bett*, a compact bit of sympathetic realism, keen in analysis, warm in humor, and pungent in phrase, that she achieved nationwide popularity. This novel was dramatized in this year and in 1921 was awarded the Pulitzer Prize as the best American play. In 1924, *Mister Pitt*, a dramatization of her novel *Birth*, was produced. Also for the theater, she wrote several one-act plays: *The Neighbors* (1916), *Uncle Jimmy*, *Evening Clothes* (1932), and *The Clouds*.

Miss Gale was a supporter of the LaFollettes and the Progressive-Republican movement, and worked for peace as a member of the Women's International League for Peace and Freedom. During 1923-29 she was a member of the board of regents of the University of Wisconsin, from which she received an honorary degree in 1929, and after 1923 she was a member of the Wisconsin Free Library Commission. On June 13, 1928, she was married to William Llewellyn Breese of Portage.

Her published works included *Mothers to Men* (1911), *Christmas* (1912), *When I Was a Little Girl* (1913), *Neighborhood Stories* (1914), *Heart's Kindred* (1915), *A Daughter of Tomorrow* (1917), *Birth* (1919), *Peace in Friendship Village* (1919), *The Secret Way* (1921), *Faint Perfume* (1923), *Preface to a Life* (1926), *Yellow Gentians and Blue* (1927), *Portage, Wisconsin, and Other Essays* (1928), *Borgia* (1929), *Bridal Pond* (1930), *Old-Fashioned Tales* (1933), *Papa La Fleur* (1933), *Light Woman* (1937), and the biography, *Frank Miller of Mission Inn* (1938). In 1911 her short story, *The Ancient Dawn*, won the Butterick Prize competition.

GAMBIA. A British colony and protectorate in western Africa. Total area, 4068 square miles; total population (1931 census), 199,520. Capital, Bathurst, which had most of the estimated 14,097 inhabitants of the island of St. Mary in 1937. In 1937 there were 6 elementary schools with 1796 pupils, 4 secondary schools with 198 pupils, 1 teacher-training school with 10 students, 1 Mohammedan school, and 1 government boarding school in the protectorate.

Production, etc. Groundnuts, palm kernels, hides, and wax are the main products. Crops grown for local use consist of rice, maize, guinea corn, cassava, and cotton. In 1937 imports (including specie, etc., of £96,551) were valued at £801,716, including £171,346 for cotton piece goods; exports (including specie, etc., of £10,912), £710,060 of which groundnuts accounted for £653,589. The 1937 groundnut crop totaled 67,084 tons. In 1938 a new weekly Imperial Airways service was inaugurated between Bathurst and Freetown, Sierra Leone. In 1937 there were 745 miles of roads.

Government. For 1937 revenue totaled £285,204; expenditure, £243,323; public debt, £38,760. Revenue for 1938 was estimated at £236,038; expenditure, £241,441. The area of the colony (consisting of Bathurst and Georgetown and adjacent land) is 69 square miles, but by an ordinance en-

acted in 1902, all Gambia except the island of St. Mary (4 sq. m.) was placed under the protectorate system of government. A governor assisted by an executive council governs the whole country. The colony also has a legislative council in which the governor acts as president. The protectorate consists of four provinces, each administered by a commissioner responsible to the governor. Governor and Commander-in-Chief, Sir Wilfrid Thomas Southorn (appointed, Mar. 10, 1936).

GAMBIER ISLANDS. See OCEANIA, FRENCH ESTABLISHMENTS IN.

GARBAGE AND REFUSE DISPOSAL. Most striking among events in this field of municipal service was the substitution of the sanitary-fill method of disposal for incineration of a large part of the garbage and refuse of New York City and of Detroit, Michigan. At Detroit the largest of four new incinerators was put into use on February 25 only to be shut down in October. This was soon followed by the closing of a second incinerator. Factors in the closing were the unexpectedly low percentage of combustible refuse, necessitating the purchase of coal, and the high cost of hauling the material. It is unlikely that the larger of the two plants, with a daily capacity of 450 tons, will ever be used again, said the commissioner of public works in the autumn, adding: "It costs us only about 70 cents a ton to bury" the material and "more than \$2 a ton to burn it in the Northwest or largest plant." The cost differential for the two plants remaining in use does not apply because the haul to them is short. In October about 840 tons were being collected, 400 tons buried, and the rest burned. During the winter, with a reduction in amount collected and less favorable conditions for burial it was expected that all the material gathered would be burned in the two other incinerators. Toward the nearly \$1,500,000 cost of the incinerators, 45 per cent was a PWA contribution. For many years the garbage of Detroit was treated by the reduction process under private contract. Reduction was ended on February 27.

New York City has closed several of its incinerators and is using the mixed garbage, ashes, and rubbish formerly burned in them to reclaim marsh lands for park and other purposes. On some areas trenches are dredged, filled with city wastes, and covered with the material dredged out. By using mechanical equipment and systematizing all operations the cost of this method is much less than that of incineration, besides which land otherwise useless, or even a nuisance through mosquito breeding, is reclaimed. In operating the sanitary-fill system skilled engineering control is essential, both sanitary and mechanical. In comparing its cost with incineration the length of haul to the land to be reclaimed and to incinerators must be considered. Important also in new installations are relative capital charges for land and equipment. (See *Engineering News-Record* [New York], Sept. 1, 1938, for illustrated description of New York sanitary fills, and in many following issues letters of comment, mostly favorable, from various American and British cities).

At Rochester, N. Y., an incinerator for readily combustible rubbish was completed. The heat produced is utilized in the city's garbage reduction plant—one of the few such plants remaining in use. Schenectady, N. Y., took bids in August for demolishing its garbage reduction plant and preparing the site for mixed-refuse incinerator. Refuse incinerators which also treat sludge from sewage works are increasing in number. At the close of

the year plans were being drawn for a combined refuse and sludge incinerator for Tonawanda, N. Y., and for a refuse incinerator the heat from which would complete the final stage of sludge drying at Dayton, Ohio. A different combination of garbage and sewage disposal is being provided for Lansing, Mich., where ground garbage goes to the sewage-sludge digestors. (See SEWERAGE AND SEWAGE PURIFICATION.) (For a study of *Effect of Garbage upon Dewatering of Sludge*, made by the Division of Water and Sewage Research, New Jersey Agriculture Experiment Station [New Brunswick], see *Municipal Sanitation*, March, 1938). PWA aid in the construction of garbage and rubbish disposal plants in 1938 was extended to 15 projects estimated to cost \$2,400,000; for the years 1933-38 the figures were 41 plants and \$11,246,000 (all based on official data). These were low totals compared with PWA aid in two other municipal fields (see SEWERAGE and WATERWORKS AND PURIFICATION).

Germany. The German "Four-Year Plan" includes the collection and utilization of garbage for pig feeding, carried on in all municipalities by the "Ernährungshilfe." The plan includes other utilizable house wastes. In cities which incinerate certain wastes the residue of slag is utilized. (See *The Turning to Account of Refuse in Germany*, in *Journal Institute of Public Cleansing* [London], October, 1938.)

GARNER, JAMES WILFORD. An American historian, died at Champaign, Ill., Dec. 9, 1938. Born in Pike Co., Mississippi, Nov. 22, 1871, he was educated at the Mississippi Agricultural and Mechanical College (B.S., 1892). After graduation he taught in Mississippi high schools until 1896 and subsequently at the Bradley Polytechnic Institute. He received the degree of Ph.M. at the University of Chicago in 1900 and then went to New York where he became associated with Columbia University as university fellow in political science and public law, 1900-01, as George Curtis William fellow, 1901-02 (Ph.D., 1902), and as lecturer in history, 1902-03. He then joined the faculty of the University of Pennsylvania as an instructor in political science, and in 1904 accepted the post of professor of political science at the University of Illinois, which he held at his death.

Dr. Garner was Hyde lecturer at various French universities in 1921, Tagore lecturer at the University of California, 1922, Stokes lecturer, New York University, 1926, professor at the Institut des Hautes Études Internationales, Geneva, 1928-29, visiting professor of the Carnegie Endowment for International Peace at English and French universities, 1929, and lecturer at The Hague Academy of International Law in 1923 and again in 1931. An authority on international law, he served as president of the Institut Internationale de Droit Public during 1935-36 and as president of the American Political Science Institute in 1924.

Besides contributing to the NEW INTERNATIONAL ENCYCLOPÆDIA, the *Encyclopædia Americana*, the *Encyclopædia of American Government*, and the *Encyclopædia of the Social Sciences*, he was collaborator on the *French Revue Politique et Parlementaire* during 1903-14; editor-in-chief of the *American Journal of Criminal Law and Criminology* during 1910-11, and from 1924 was associate editor of the *American Journal of International Law*. He wrote *Reconstruction in Mississippi* (1901); *History of the United States* (4 vols., 1906) with Henry Cabot Lodge; *Introduction to Political Science* (1910); *American Government*

(1911); *Civil Government for Indian Students* (1920); *Idées et Institutions Politiques Américaines* (1921); *International Law and the World War* (2 vols., 1920); *Recent Developments in International Law* (1925); *Prize Law during the World War* (1927); *American Foreign Policies* (1927); *Political Science and Government* (1927); *Law of Treaties* (1935), and edited *Essays on Southern History and Politics* (1914) and translated Brissaud's *History of French Public Law*.

Dr. Garner received honorary degrees from the Universities of Calcutta and Lyons and from Oberlin College, and in 1925 was made a chevalier of the French Legion of Honor.

GAS. From a preliminary report furnished by the American Gas Association, manufactured and natural gas companies supplying towns and cities with a population of 81,000,000 served a total of 17,135,000 customers, representing the largest number of consumers ever connected to the mains of the industry, and an increase of 180,000 over the year 1937. Of these, 9,988,000 were served by the manufactured gas industry and the remaining 7,147,000 by the natural gas industry. Preliminary estimates indicate that revenues of the entire industry, both manufactured and natural, aggregated \$786,576,000 in 1938, a decrease of 1.8 per cent from the preceding year. The manufactured gas companies grossed \$367,714,000, a gain of 2.2 per cent for the year, while revenues of the natural gas companies were \$418,862,000 as compared with \$441,232,000 in 1937, a decrease of 5.1 per cent.

Manufactured. Sales of manufactured gas for domestic uses, other than house heating, such as cooking, refrigeration, water heating, etc., amounted to 198,331,000,000 cu. ft., an increase of 1.5 per cent for the year. The gain in house-heating sales amounted to 10 per cent. This would doubtless have been larger except for the mild temperatures that prevailed throughout the year in most sections of the United States. Sales of manufactured gas for industrial and commercial purposes in 1938, a year of marked industrial recession, were about 1 per cent above the previous year. Details of sales and revenue are given in the following table.

	1938	1937	Per cent change
Gas Sales (M cu. ft.):			
Domestic	198,331,000	195,400,000	+ 1.5
House Heating	50,164,000	45,600,000	+ 10.0
Industrial and Commercial	108,507,000	107,433,000	+ 1.0
Miscellaneous ..	2,243,000	2,130,000	.....
Total	359,245,000	350,563,000	+ 2.5
Revenue (Dollars):			
Domestic	260,963,000	256,853,000	+ 1.6
House Heating ..	31,964,000	28,539,000	+ 12.0
Industrial and Commercial	73,242,000	73,093,000	+ 0.2
Miscellaneous ..	1,545,000	1,480,000	.....
Total	367,714,000	359,965,000	+ 2.2

Natural. Preliminary estimates indicate that the total production of natural gas in 1938, including amounts used in the manufacture of carbon black and for field purposes, reached an all-time high of more than two and one-half trillion cubic feet, or more than 2 per cent above the previous peak established in 1937. Approximately 173 billion cubic feet of natural gas were used as fuel for generating electric power in 1938; this was an increase of nearly 2 per cent over the previous year. Industrial sales of natural gas declined 15 per cent from 1937. The sales of natural gas for domestic

uses, which are influenced to a considerable extent by temperature variations, registered a decrease, falling from 359,294,000,000 cu. ft. in 1937 to 350,143,000,000 in 1938, a loss of 2.5 per cent. Details of sales and revenue are given in the table below.

	1938	1937	Per cent change
Gas Sales (M cu. ft.):			
Domestic (Incl. House Heating)	350,143,000	359,294,000	- 2.5
Commercial	99,459,000	102,654,000	- 3.1
Industrial	581,451,000	681,978,000	-14.7
Electric Generation	172,500,000	170,567,000	+ 1.1
Total Ind. & Elec. Generation	753,951,000	852,545,000	-11.6
Total	1,203,553,000	1,314,493,000	- 8.4
Revenue (Dollars):			
Domestic (Incl. House Heating)	244,063,000	246,546,000	- 1.0
Commercial	47,381,000	48,152,000	- 1.6
Industrial & Electric Generation	127,418,000	146,534,000	-13.0
Total	418,862,000	441,232,000	- 5.1

GENERAL EDUCATION BOARD, THE. An institution incorporated by an Act of Congress in 1903, with the stated object of "promoting education within the United States of America, without distinction of race, sex, or creed." Mr. John D. Rockefeller's gifts to the General Education Board, together with smaller gifts from other sources, amounted to approximately \$179,754,000. The Board is empowered to expend the principal as well as the income from these funds. The present program is restricted largely to three types of activity: First, the continuance of the existing program in the Southern States; second, the support of research and experimentation in relation to the problems presented in the field of general education, i.e. the secondary school through the junior college level; and third, a program, now coming to a close, in child growth and development. At the end of the year 1937, the unappropriated assets amounted to \$28,000,000, of which the major portion was definitely earmarked for programs already undertaken, leaving a free balance of funds of about \$8,700,000. See UNIVERSITIES AND COLLEGES.

During the year ended Dec. 31, 1938, appropriations approximating \$7,350,000 were made for purposes within the present program of the Board and to bring to a close certain other undertakings under previous programs. Some of the larger grants were made for the following projects: American Council on Education, for conferences, studies, and research, \$695,500; the Tulane University of Louisiana, for endowment of its school of medicine, and for cataloguing additions to the university library, \$461,000; for fellowships, \$215,000; Progressive Education Association, for its service program and researches, \$203,120; University of California, for a child guidance study in its Institute of Child Welfare, \$190,000; Meharry Medical College, toward the expenses of its school and hospital, \$160,000; state departments of education in Southern States, for traveling expenses and salaries of state agents for rural schools for Negroes, \$140,000; Louisiana State University and Agricultural and Mechanical College, for teaching and research in agricultural economics and rural sociology, \$94,000; Atlanta University, for improvement of the plant of Morris Brown College, \$90,000; Southern Association of Colleges and Secondary Schools, for a summer workshop and for its Commission on Curricular Problems and Research, \$89,500; University of North Carolina, for its Institute for

Research in the Social Sciences, \$87,000; Yale University, for its Clinic of Child Development, \$85,000; Williamsburg (Virginia) Public Schools, for school and community service for Negroes, \$77,000; University of Virginia, for its Mountain Lake Biological Station, and for recataloguing the university library, \$75,000; Tuskegee Normal and Industrial Institute, for research, plant improvements, and maintenance items, \$61,595; University of Minnesota, for the educational program in the General College, \$56,000; Fisk University, for current expenses, \$55,000; Leland Stanford, Junior, University, for its experimental program in the social studies, \$55,000; Baylor University, Waco, Texas, for books and scientific equipment, \$50,000.

The executive officers of the General Education Board during 1938 were: John D. Rockefeller, Jr., chairman of the board of trustees; Raymond B. Fosdick, president; David H. Stevens (resigned, June 30) and Albert R. Mann, vice-president; William W. Brierley, secretary; Lefferts M. Dashiell (died, February 28) and Edward Robinson, treasurer; George J. Beal, comptroller; Thomas M. Debevoise, counsel; Chauncey Belknap, associate counsel; Albert R. Mann, director for Southern education; Robert J. Havighurst, director for general education. The offices of the Board are at 49 West 49th Street, New York City.

GENETICS. See BOTANY; ZOOLOGY.

GEOGRAPHICAL SOCIETY, AMERICAN.

An organization founded in 1852 and today the leading institution in the United States devoted primarily to the promotion of geographical research. At its headquarters in New York City the Society maintains a research staff engaged in original investigations and in the preparation, editing, and publishing of books, maps, and a quarterly journal. The scholarly and scientific quality of these publications is generally recognized and may be attributed, in part at least, to the fact that the Society possesses what is probably the richest collection of selected geographical books and maps in the country (open to the public). The Society encourages such exploring expeditions as seem likely to yield valuable discoveries in geography and related sciences and co-operates with other institutions with respect to the geographical aspects of their research and exploration projects. It participates in numerous studies that have wide practical application and that represent the fulfillment of its obligation as a national institution to concern itself with the national welfare and the problems of society. Lectures by distinguished explorers or geographers are sponsored annually and important contributions to the development of geography are recognized through elections to honorary and corresponding memberships and the bestowal of medals.

The Society's outstanding project of research during the past 18 years has been the compilation and publication of a 107-sheet map of Hispanic America, conforming to the International Map of the World on the scale of 1:1,000,000. This great undertaking is now approaching completion.

The Society's Cullum gold medal for 1938 was presented to Louise A. Boyd, in recognition of her achievement in Arctic geographical research, and the Charles P. Daly gold medal was presented to Dr. Alexander Forbes of Harvard Medical School in "recognition of his outstanding work in conducting a geographical survey of Northern Labrador." On Dec. 20, 1938, Dr. John K. Wright was appointed director of the Society to succeed Dr. Isaiah Bowman.

The four numbers that make up the 1938 volume

of the *Geographical Review*, the Society's journal, contain articles by prominent geographers, explorers, and distinguished scientists in related fields, dealing with such widely varied topics as "Soil and Water Conservation in the Punjab," "Catalonia: The Geographical Basis of Its Regionalism," "Racial Maps of the United States," "Who Named Mount Washington?" "The Origin and Growth of the Brazilian Network of Towns," "The Economic Regions of Germany," "Contrasts in African Farming." Two new volumes were added to the Society's *Special Publication Series* in 1938: *Rain-fall and Tree-Growth in the Great Basin* by Dr. Ernst Antevs (published jointly by the Society and the Carnegie Institution of Washington), and *Northernmost Labrador Mapped from the Air*, by Dr. Alexander Forbes, O. M. Miller, and others. In the preparation of the maps that accompany the latter volume a new technique, developed at the Society, was employed. At the beginning of the year a new publication entitled *Current Geographical Publications* was launched. Issued in mimeograph form once a month (except for July and August), it lists books, maps, and articles in periodicals received by the Society's library. Early in 1939 another volume in the *Special Publication Series* will be published, by Dr. A. Grenfell Price on the subject of white settlement in the tropics.

The president of the Society in 1938 was Roland L. Redmond. Headquarters are at Broadway and 156th Street, New York City.

GEOGRAPHIC SOCIETY, NATIONAL. An organization for the "increase and diffusion of geographic knowledge," founded in 1888 at Washington, D. C., since 1899 directed by Gilbert Grosvenor, now President of the Society and Editor of its *National Geographic Magazine*.

During its 50 years the membership of the Society has grown to an enrollment of 1,100,000 members, and its official publication, the *National Geographic Magazine*, has become world famous for its beautiful illustrations, comprehensive articles, and accurate maps. The Society has sponsored many notable explorations and scientific expeditions.

Through the half century the Society has presented to its membership, in the *National Geographic Magazine*, personal narratives of these and other expeditions, and has amassed more than 250,000 photographs which constitute an unparalleled pictorial record of world geography.

In 1938 Bradford Washburn, conducting the Harvard University-National Geographic Society Alaskan Expedition, discovered a giant ice field filling vast valleys at an altitude of 5000 to 7000 feet. The ice sheets lie in the region of the Chugach and Saint Elias mountain ranges near the junction of the Alaskan panhandle and Alaska proper, covering an irregular area 235 miles long. The region was photographed as an aid to later mapping.

A three-year research program was started in 1938 by the Society in co-operation with Cornell University to determine the precise cause of the aurora borealis or "northern lights." Visual and photographic observations will be made by observers in the United States and Canada. The observations will cover time of occurrence, frequency, form, and intensity of aurorae at various points, measurement of heights, and spectrographic data.

Capt. C. W. R. Knight made a day-to-day photographic record of the nesting habits of a pair of fierce crowned eagles while serving as leader of the Society's 1937-38 South African Expedition. Wendell Chapman conducted an expedition in the

northern Rocky Mountain region to study small mammals and birds. The expedition will carry on studies in other sections of western United States and Canada.

The Franklin L. Burr Prize of \$1000 was awarded Dr. and Mrs. William M. Mann, leaders of the National Geographic Society-Smithsonian Institution biological expedition in the Netherlands Indies in 1937. The shipload of 800 birds and animals collected by Dr. Mann was presented to the National Zoological Park at Washington, D. C.

Charles Bittinger, the artist who accompanied the National Geographic Society-U.S. Navy Expedition to observe the June 8, 1937, eclipse, continued his work on paintings of the phenomena. His canvasses show the striking colors of the incandescent gases of the promontories near the disk of the sun and the delicate tints of the corona which extended outward more than a million miles from the sun's surface. This eclipse was the longest total solar eclipse in more than a thousand years.

The Society published a 34 by 39 inch map supplement, in 10 colors, of the Mediterranean and Europe, showing the present status of Austria as a part of the German Reich and other recent political changes; a 26 by 31 inch pictorial map of the "Reaches of the Nation's Capital," and a 25 by 35 inch map of "Bible Lands and the Cradle of Western Civilization." This map of the Near East shows the historic development of Bulgaria, Greece, Turkey, Iran, Iraq, the Levant States, Palestine, Trans-Jordan, Saudi Arabia, Egypt, and Kuwait. It marks places of importance in Bible Days, the Roman Era, the Middle Ages, and Modern Times.

In addition to the *National Geographic Magazine*, the Society published the *Book of Birds*, edited by Dr. Gilbert Grosvenor and Dr. Alexander Wetmore, the first comprehensive work containing illustrations in color of all the major species of American birds north of Mexico.

GEOGRAPHY. See ANTHROPOLOGY; EXPLORATION; POLAR RESEARCH.

GEOLOGY. Penrose Medal. For 1938 the Penrose Medal, highest honor of the Geological Society of America, was awarded to Dr. Andrew Cowper Lawson, professor emeritus of geology at the University of California, "for eminent research in pure geology and outstanding original contributions and achievements which make a decided advance in the science of geology." Dr. Lawson is an authority on earthquake phenomena and has published major contributions on the geology of numerous areas in the United States and Canada. He has also devoted much attention to the theoretical aspects of diastrophism and isostasy. The award was made at the annual dinner of the Society at the Waldorf-Astoria Hotel, New York City, December 30.

No award of the Penrose Medal was made for 1937, and since the award to Dr. Lawson in 1938 was for work done a number of years previously, the omission in 1937 must be ascribed to the regrettable inability of the Award Committee to agree upon a suitable recipient. Since many older American geologists, fully worthy of this award, have not yet been thus signally honored, it is to be hoped that the award will not be omitted for a number of years, lest some of these men pass from the scene unnoticed. Previous recipients of the medal have been: Thomas C. Chamberlin, 1927; Jakob J. Sederholm, 1928; François A. A. Lacroix, 1930; William M. Davis, 1931; Edward O. Ulrich, 1932; Waldemar Lindgren, 1933; Charles Schu-

chert, 1934; Reginald A. Daly, 1935; and Arthur P. Coleman, 1936.

Roebbling Medal. This medal of the Mineralogical Society of America was awarded for the year 1938 to Dr. Waldemar T. Schaller of the U.S. Geological Survey. Awarded for "Meritorious Achievement in Mineralogy and Allied Sciences," it was established in memory of Col. Washington A. Roebbling, the famous builder of bridges, and was first awarded in 1937. Dr. Schaller has been a member of the U.S. Geological Survey for 35 years in which time he has published many original contributions including papers describing more than 40 new mineral species. Dr. Schaller has done much work on the potash deposits of New Mexico and Texas, on the crystal cavities of the trap rock region of the Watchung Mountains of New Jersey, on pegmatite minerals, and is a widely known authority on rare and unusual minerals.

Section E (Geology and Geography) A.A.A.S. Section E (Geology and Geography) of the American Association for the Advancement of Science held a joint meeting with the Geological Society of America at Ottawa, Canada, from June 27 to 30, inclusive. An unusually interesting program was arranged by the Section secretary, Prof. Howard A. Meyerhoff of Smith College, with the co-operation of Walter A. Bell representing the Canadian Geological and Geographical organizations. Prof. Kirtley F. Mather of Harvard University is the retiring Vice-President, while Prof. Walter H. Bucher is Vice-President and Chairman of Section E. Following the sessions in Ottawa several field trips were held, of which those to Madoc, the Ottawa Lowland, and the Mining Districts of Ontario were particularly noteworthy.

The winter meeting of Section E took place at Richmond, Va., from December 27 to 29, in joint sessions with the Carolina Geological Society, the American Geophysical Union, and Sections A (Mathematics) and D (Astronomy) of the American Association. One of the finest programs arranged in recent years included sessions devoted to: Geology of the Coastal Plain and Continental Shelf; the Importance of Geophysics to the Study of Continental Borders; the Life and Work of William Barton Rogers; Current Geological Research in the Piedmont and Central Appalachians; Meteorites and Meteorite Impacts; and Geography and Geomorphology of Virginia and the Carolinas. In conjunction with these meetings the addresses of W. D. Cairns, Retiring Vice-President and Chairman of Section A, entitled, "Seismology from the Mathematical Viewpoint"; and that of Kirtley F. Mather, Retiring Vice-President and Chairman of Section E, entitled, "Earth Structure and Earth Origin," were given.

Prof. Kirk Bryan of Harvard University was elected Vice-President and Chairman of Section E for 1939.

Society of Economic Geologists. The Society of Economic Geologists met with the American Institute of Mining and Metallurgical Engineers in New York in February, 1938, but held no meetings in conjunction with the annual meeting of the Geological Society, although many geologists are members of both societies. During 1938 Prof. Donald McLaughlin of Harvard University was president of the Economic Geologists and his presidential address is scheduled to be given at the New York meeting of the Society, again with the mining engineers, in February, 1939. Dr. A. C. Veatch was elected president of the Society for 1939 but died before assuming office, and Prof. E. S. Moore

of the University of Toronto was elected to fill the term of Dr. Veatch. The Penrose Medal of the Society of Economic Geologists for 1938 was awarded to Reno H. Sales, chief geologist of the Anaconda Copper Mining Co.

International Geographical Congress, FIFTEENTH SESSION. Section IIa of the Fifteenth Session of the International Geographical Congress Meeting at Amsterdam from July 18 to 28 was devoted to geomorphology. Special consideration was given to the problems of glacial erosion, piedmont treppen, and terminal moraines, all subjects of geologic interest, and there were 32 papers in these fields. In addition the section met in joint sessions with the "Commission pour la cartographie des surfaces d'aplanissement tertiaires" and the "Commission pour l'étude des terrasses pliocènes et pleistocènes" of the International Geographical Union. Among subjects proposed for special discussion at the next Congress were (1) Studies of the morphological effects of running water, (2) study of recent processes of surface denudation in all climates, (3) forms of glacial erosion and deposition with reference to present-day glaciers, (4) morphology of sub-arid and arid regions, and (5) the importance of the wind as a morphological agent. The members of Section IIa seemed to show great unanimity in recognizing that future geomorphic work must pay much more attention to denudational processes than in the past. For this increasing knowledge of physics and mechanics will be required.

International Geological Congress, EIGHTEENTH SESSION—GREAT BRITAIN—1940. During the summer appeared the first announcement of the Eighteenth Session of the International Geological Congress, which is to be held in Great Britain in July and August, 1940. This is the first meeting of the Congress to be held in Great Britain since 1888, and judging from the many expressions of satisfaction which have been heard the selection of this meeting place is popular, and a large attendance is assured unless war or widespread economic depression interferes.

The general sessions of the Congress will be held in London from July 31 to August 8, where papers pertaining to the following subjects particularly will be formally presented.

1. Magmatic Differentiation; 2. Metasomatic Processes in Metamorphism; 3. Caledonids in Northwest Europe; 4. Rhythm in Sedimentation; 5. The Geology of Iron-Ore Deposits; 6. The Geology of Coal Seams; 7. The Geology of Petroleum; 8. The Geology of Sea and Ocean Floors; 9. The Stratigraphical Limits of the Ordovician System; 10. The Pliocene-Pleistocene Boundary; 11. The Distribution of Early Vertebrates; 12. Faunal Facies and Zonal Correlation; 13. Earth Movements and Evolution; 14. The Geological Results of Applied Geophysics.

As usual field excursions are being planned to take place before, during, and after the Congress. Since most geologists attending the Congress look upon the field excursions as by far the most important feature of each session, they are outlined below:

A. Excursions before the Congress:

1. The West Highlands and Islands of Scotland (most systems from Pre-Cambrian onwards; Caledonian tectonics; Devonian and Tertiary igneous phenomena). 21 days approximately; by steamer or equivalent motor-coach transport.
2. The North of England, including the Lake District (mainly Lower Palaeozoic). 14 days approximately.
3. The Pennines (Carboniferous). 8 days approximately.

4. South Wales and the Bristol district (mainly Palaeozoic). 10 days approximately.
5. The Isle of Wight and Dorset (Mesozoic and Tertiary strata; tectonics). 12 days approximately.
6. Economic deposits (coal, ironstone, cement materials, slate, brick-earth, gypsum, etc.). 10 days approximately.
7. Cornwall and Devonshire (mineralogical). 7 days approximately.

B. Short excursions during and near the dates of the General Sessions, details of which will appear later.

C. Excursions *after* the Congress:

1. A general excursion through England. 14 days approximately.
2. The Northeast of Ireland and Dublin district (Precambrian to Tertiary), arranged in conjunction with representatives of Eire. 14 days approximately.
3. The East Coast of the Scottish Highlands (metamorphic rocks, Caledonian intrusions, Old Red Sandstone). 8 days approximately.
4. The Lowlands of Scotland (Ordovician to Carboniferous strata; volcanic and intrusive igneous rocks). 8 days approximately.
5. The Midlands, Yorkshire, Cumberland, Lancashire, North Wales (glacial geology). 10 days approximately.
6. North and Central Wales and the Welsh Border (mainly Lower Palaeozoic). 14 days approximately.
7. South Wales and the Bristol district (Carboniferous). 7 days approximately.
8. Devon and Cornwall (Hercynian Chain, granites, mineral veins). 10 days approximately.
9. East Anglia (with emphasis on the Mesozoic and Pliocene rocks). 7 days approximately.

It is expected that the cost of the excursions will vary from five to eight dollars per day. Membership in the Congress is open to anyone legitimately interested in geology and related sciences. Inquiries should be addressed to the General Secretaries, Eighteenth Session, International Geological Congress, Geological Survey and Museum, Exhibition Road, South Kensington, London, S.W.7.

Some of the subjects announced for discussion may be broad enough to allow the inclusion of geomorphic papers, but it is interesting to note that neither in the general sessions nor in the excursions is specific provision made for the geologist who is primarily a geomorphologist. In Great Britain where the relationship between structure and topography is shown so beautifully and in such varied forms, this seems regrettable, and it is to be hoped that an excursion or two may yet be arranged for the considerable number of geomorphologists, who will undoubtedly attend the Congress.

Geological Society of America. The Semi-Centennial Anniversary of the Geological Society of America was celebrated at the Waldorf-Astoria Hotel in New York City on December 28, 29, 30 during the Fifty-first Annual Meeting of the Society. This, the third meeting to be convened in New York City in 11 years, was probably the largest and most elaborate ever held by the Society. In addition to the Geological Society, the Paleontological Society, the Mineralogical Society of America, and the Seismological Society of America held sessions in conjunction with the three-day program.

During 1938 Dr. Arthur L. Day, who retired recently as director of the Geophysical Laboratory of the Carnegie Institution, served as president. To succeed him in 1939, Dr. T. Wayland Vaughn, emeritus Professor of Oceanography at the University of California and emeritus director of the Scripps Institution at La Jolla, Calif., was elected. Dr. J. Ellis Thomson of the University of Toronto served as president of the Mineralogical Society of America in 1938 and is succeeded as president for 1939 by Dr. Maxwell Naylor Short of the University of Arizona. Prof. Ralph W. Chaney of the University of California was elected president of

the Paleontological Society of America for 1939 to succeed Dr. C. W. Gilmore of the United States National Museum, who served in 1938.

The Geological Society of America was founded at Cornell University in 1888; it was developed by successive steps from the Association of American Geologists, founded in 1840, which in 1843 became the Association of American Geologists and Naturalists. Starting with a list of 112 original fellows, of whom six, Nelson H. Darton, Herman L. Fairchild, William F. E. Gurley, Robert T. Hill, Frederic W. Simonds, and Edward O. Ulrich, are still living, it has expanded gradually to its present list of fellows numbering about 700. Within the last decade the influence of the Society has been tremendously increased by the munificent R. A. F. Penrose Bequest of over four million dollars establishing a permanent endowment for the support of publication, research, and public education.

To date the income of the Penrose Fund, which has been administered from the Geological Society House, 419 West 117th St., New York, N. Y., has been largely devoted to the support of a great number of individual research programs, carried out both by member and non-member geologists, and to the publication of the results of these and other researches. Thus far, 258 grants for such research projects have been made. Most of these are for amounts of less than \$1000, but one grant was for \$24,000, while 19 have been for amounts of \$3000 or more. In 1938 a total of 4859 pages of material was published, distributed as follows: *The Bulletin*, the monthly magazine of the Society, 2000 pages; *Proceedings*, the reports of meetings and business of the Society, 388 pages; *Bibliography and Index of Geology Exclusive of North America*, 510 pages; *Special Papers and Memoirs*, monographic reports on larger studies, 1691 and 270 pages respectively.

In allocating funds for research the Geological Society has purposely left to the individual applicants the initiation of such researches and has been as generous in grants to small isolated undertakings as to larger and apparently more important ones. Recently this policy has been questioned, and a committee under the chairmanship of Prof. Nevin M. Fenneman of the University of Cincinnati has been appointed to canvass the entire field of geologic science to discover or point out the possibilities of different lines of research and to recommend the most promising ones for development now.

At the annual meeting of the society the election of two foreign correspondents, Prof. H. A. Brouwer, Geological Institute, University of Amsterdam, and Prof. Hans Cloos, Geological and Paleontological Institute, University of Bonn, and 43 fellows was announced. During the year the deaths of seven fellows and one correspondent, Giuseppe Stefanini, occurred. Of the fellows, Frank B. Taylor, famous for his work upon the glacial geology of central North America and for his early suggestions concerning continental drift, and Arthur C. Veatch, well known for his work in petroleum geology and more recently for studies of submarine topography, were probably the best known.

During the annual smoker of the society the address of Dr. Day, the retiring president, entitled "The Hot Springs Problem," was given, and at the annual banquet the Penrose Medal was presented to Professor Lawson. During the meetings, Dr. Ellis Thomson, retiring president of the Mineralogical Society of America gave an address: "A History of the Study of Ore Minerals," and Dr. C. W. Gilmore, retiring president of the Paleontological

Society, delivered an address: "Review of Recent Progress in Reptilian Paleontology." These addresses will be published in the Bulletin of the Geological Society.

Field Conferences in Geology. One of the most significant features indicating the continued vitality and even growth of interest in geologic studies is the increasing number of annual field trips arranged by state and regional associations of geologists. Some of these field-study groups have been holding annual meetings for many years as instanced by the New England Intercollegiate Geological Conference; others have but recently been organized as is the case in the Carolina group. Scarcely a section of the more thickly populated areas is now without some such organization, so that most serious students of geology, whether professional or amateur, find it possible to meet kindred spirits at least once a year for a couple of days devoted to field study of their favorite subject. Anyone genuinely interested in geology is usually welcome at these conferences, and the groups commonly consist of a greater proportion of students, usually graduate, than of professional geologists. The permanent organization is rather loose, but a great amount of time and energy is devoted by the local committees in charge of guiding the visitors to their area in assuring a most instructive and entertaining weekend to their guests. These meetings are not necessarily held at any educational center but rather at a region of especial geologic interest, and the guides chosen are those people best acquainted with the local geology. The list of organizations holding such annual field meetings is much too long to be enumerated here.

Journal of Geomorphology. During the year Vol. I of this new quarterly *Journal*, the first in the English language to be devoted to the study of the surface features of the earth, appeared. It is edited by Douglas Johnson and published by the Columbia University Press. Averaging 96 pages in length, each number of the magazine contains in addition to the usual scientific papers, sections devoted to Editorials, Notes on Maps, Reviews and Abstracts, Studies in Scientific Method, and Current Notes on Geomorphology. Although it closed the first year with an encouraging list of nearly 400 paid subscribers, it is expected to incur an annual deficit for several years at least and is published with the financial support of the James Furman Kemp Memorial Fund of Columbia University.

Submarine Canyons. During the past few years the sonic depth finder has so increased the rapidity and ease with which submarine topography can be determined that it is perhaps not too much to say that charts of the continental shelf and slope can now be made approaching, if not equaling, ordinary topographic maps in accuracy. This has added greatly to the knowledge concerning submarine canyons, and interest in these puzzling features has increased greatly. In brief, it may be said, as pointed out by Shepard, that most of the canyon floors possess a continuous seaward gradient; that canyons with lowest gradients occur offshore from major rivers; that the steepest canyons are located off continental and oceanic islands; that the canyons of the Atlantic slope of North America are steeper in gradient than those of the Pacific; that most canyons are located at the mouths of rivers; and that they seem to be world-wide in occurrence. This group of facts and others which might be mentioned suggest that the canyons were cut as subaerial features when the ocean stood lower than now. According to Veatch, the lowest point

to which a submarine canyon can be traced is off the coast of Africa, where the Canyon of the Congo can be found to 12,000 feet below sea level. The famous canyon of the Hudson River, cut below the continental shelf south of New York City, is of a similar order of magnitude. Obviously, if these are subaerial in origin, the continents must have stood 12,000 feet higher with reference to sea level than at present, and probably not so long ago, since the canyons have not been filled. Lacking other corroborative evidence, many geologists have been loathe to accept such a great relative shift in sea level, for no one has been able to suggest more than a couple of thousand feet lowering of sea level due to water held up in glaciers during the Pleistocene.

Various other explanations, ably reviewed by Johnson in current issues of the *Journal of Geomorphology*, have been proposed by those attempting to escape from the varied implications of the subaerial hypothesis. The most popular alternate hypothesis seems to be the turbidity current theory supported by Daly, in which a submarine current of water of greater specific gravity than usual, due to its mud content, is required to cut the canyon, while, as at present, they were below sea level.

In addition to increased knowledge concerning submarine topography, knowledge concerning the geology of the canyons and the continental shelf has increased somewhat. Through an ingenious invention by which an explosion drives a core-taking instrument into the mud of the continental shelf it has been made possible to get samples of loose material from depths as great as 10 or 12 feet below the surface. This has not aided much in solving the question of canyon origin, but by means of fragments of rock brought to the surface by the dredges of fishermen and by dredging exploration something has been learned concerning the age of the bedrock floors and walls of the canyons. The age of some of these hard-rock fragments has been closely determined by their fossil content, and a limiting maximum age for the canyons thus established. It is certain that should the canyons prove finally to be subaerial, it will greatly change many more or less established theories of geology.

Meteor Craters. The origin of meteor impact craters continues to attract geologists as evidenced by a number of papers on the Carolina Bays country. The Bays, numerous, oval, shallow, depressions in the Carolina Coastal Plain, have been accepted by many geologists as of meteoritic origin. Geophysical studies seem to bear out this contention in showing magnetic highs at expectable positions for the buried meteorites, but the apparent restriction of the Bays to the Coastal Plain seems to suggest a terrestrial origin. The problem may be regarded as still unsettled.

Meteor Crater (Coon Butte), Arizona, remains the world's outstanding example of an impact crater and has been so accepted by most geologists and astronomers. Many efforts to mine the iron supposedly buried here have failed and as Lundberg has recently shown by geophysical methods the masses of iron are apparently to one side of and not beneath the crater. This is attributed to the angle of impact having been at 30 degrees to the horizontal rather than vertical. It is stated that the new information gained by geophysical methods will be the basis of renewed efforts to make economic recovery of this unusual iron deposit.

Mammoth Remains. Of considerable interest, but not greatly significant, was the announcement by Soviet scientists of the finding of a mammoth

carcass, whole and entirely preserved, within the solidly frozen soil of Wrangel Island. Mammoth and mastodon bones are frequently found, but the occurrence of refrigerated carcasses seems to be restricted to Siberia. There is no reason that they should not occur, however, in northern North America. One such body is preserved in the Natural History Museum in Leningrad and is the subject of pilgrimage by visiting geologists. The new find will be brought to civilization by a special expedition equipped with a refrigerator, but it is doubtful whether it will tell much more than is known already about this extinct beast of the Pleistocene.

Bibliography. Among publications appearing during 1938, the following may be particularly worthy of mention:

Landslides and Related Phenomena, by C. F. S. Sharpe (New York, Columbia University Press, 1938). This thoughtful and well-prepared modern discussion of landslides and other mass-movements of soils and surficial materials contains a novel classification. Quite evidently it is based upon adequate field work and scholarly knowledge of the literature in its field. It contains a useful bibliography and should be found in all reference libraries of geology and geography.

Physiography of Eastern United States, by Nevins M. Fenneman (New York, McGraw-Hill, 1938). This long-awaited companion to its author's *Physiography of Western United States*, which appeared in 1931, is a most important contribution to the knowledge of the regional geology and geography of the United States. Slightly over 700 pages in length it becomes at once an indispensable reference and guide in its field. The twelve major geomorphic provinces of the United States east of the Great Plains are treated in 13 chapters replete with photographs, diagrams, maps, and reference to original sources.

Die Oberflächengestaltung Finnlands, by Victor Tanner (Helsingfors, Centraltryckeri Och Bokbinderi A. B., 1938). An abundantly illustrated and authoritative account, over 700 pages in length, by a Finlander, of the geomorphology and topography of Finland, that most interesting neighbor of the Scandinavian countries, which shares with them many features of geographic and geologic interest. A long bibliography is appended.

Practical Seismology and Seismic Prospecting, by L. Don Lee (New York, D. Appleton-Century, 1938). A discussion of earthquakes, natural and artificial, written with the minimum of theory and with the point of view of those having little mathematical training always in mind.

Structural Petrology, by Eleanor Bliss Knopf and Earl Ingerson (New York, Geological Society of America, 1938). The first detailed exposition in English of the theory upon which the subject of structural petrology (Gefügekunde) or petrofabrics is based. This method of studying major geologic structures by means of the orientation and character of the constituent minerals of the rock as seen in thin section was developed by Sander in Austria and is now attracting wide attention. Several chapters upon laboratory technique are the contribution of Earl Ingerson, a former student of Sander.

Architecture of the Earth, by Reginald Aldworth Daly (New York, D. Appleton-Century, 1938). A book, much of which will be comprehensive to the educated layman, summarizing particularly 20th-century advances in geologic discovery and thought. Much attention is paid to the new handmaidens of geology, geophysics, and geochemistry, and many new possibilities as to the origin of earth forces and structures are presented.

Lexicon of Geologic Names of the United States, (two volumes), by M. Grace Wilmarth (Washington, U.S. Geological Survey, 1938). This useful reference mentions the initial paper and later articles, if any, in which the stratigraphic units of the United States have been originally defined and later modified. In addition abstracts or excerpts from the source papers are given together with other pertinent remarks as to age, locations, subdivisions, etc., of the formations listed.

Das Relief der Erde, Erster Band, written by Fritz Machatschek (Berlin, Gebrüder Borntraeger, 1938). In this volume is discussed the regional geomorphology of all of Europe, of Siberia, Central, and Eastern Asia, and of the Alpine folded region of North Africa. The regional subdivisions are based very largely on structure, and many structural and geomorphic maps contribute in making this a useful reference or text on the areas described.

Recognition and Significance of Multiple Erosion Surfaces, by John L. Rich (*Bulletin of the Geological Society of America*, vol. xlix, November, 1938). Rich questions the existence of the multiple erosion surfaces described in a number of recent papers, and, if they do exist, questions their explanation as products of repeated partial pene-

planation. Much of the evidence for these surfaces such as the elevations of ridge crests, isolated hilltops, and spurs is inadequate and unsafe, and more attention should be paid to the correlation between surface form and rock resistance. Theoretical considerations oppose the occurrence of several cycles, beyond maturity, at the same time in a region of uniform rock resistance. The burial and resurrection of marine surfaces or of pediments or of more ancient unconformities may explain many of the supposed "levels." It is argued that the Rocky Mountain upland may better be explained as a single surface of varied origin rather than as 10 or 15 surfaces of different age developed as the result of an equal number of partial stream cycles. Rich believes it possible that the topography of the Appalachian Mountain region may be explained by a single-cycle interpretation taking into account differences in rock resistance.

Preparation of Petrofabric Diagrams, by John C. Haff (*American Mineralogist*, September, 1938). This is among the first, if not, the first paper to present in English the detailed technique of preparing petrofabric diagrams. The technique of studying rock fabrics was developed abroad by Schmidt and Sander, and it is only during the last five years that American petrologists have begun to write upon it. The author who has studied with Sander in Innsbruck presents a well-illustrated and clearly written account of the accepted procedure, which may serve as a guide to many wishing to become better acquainted with it.

GEOMORPHOLOGY. See GEOLOGY.
GEORGE WASHINGTON UNIVERSITY. THE. A nonsectarian institution of higher learning for men and women in Washington, D. C., founded in 1821. The enrollment for the first semester of 1938-39 was 5968. The enrollment in the 1938 summer session was 1613. The faculty numbered 401.

The Law School this fall inaugurated an enlarged program of research in the field of public law, and coincidentally expanded its *Law Review* from a quarterly to a monthly, to be published eight times a year, from November through June. In a development of the program for graduate study in the School of Education, eight outstanding educational leaders, including state and Federal officials and officers of educational foundations and professional bodies, were appointed Adjunct Professors to assist with doctoral studies. The Department of Journalism was expanded, with the appointment of three new members of the teaching staff and the addition of new courses.

The Hall of Government, gift of Mrs. Henry Alvah Strong, was opened in September and houses the University's School of Government. Work is under way on the new Lisner Library. The auditorium, a second gift of the late Abram Lisner, is to be started this year.

The total endowment amounted to \$2,600,000, from which the income of 1937-38 was \$80,846. The total income from all sources was \$1,457,900. The library contained more than 119,000 volumes. President, Cloyd H. Marvin, Ph.D., LL.D.

GEORGIA. Area and Population. Area, 59,265 square miles; included (1930) water, 540 square miles. Population: Apr. 1, 1930 (census), 2,908,506; July 1, 1937 (Federal estimate), 3,085,000; 1920 (census), 2,895,832. Atlanta, the capital, had (1930) 270,366 inhabitants.

Agriculture. Acreage, production, and value of the chief crops of Georgia, for 1938 and 1937, appear in the accompanying table on page 284.

Mineral Production. Apart from clay and clay products, the chief component of Georgia's yearly total value of mineral output of \$12,640,232 (for 1936) was stone of divers sorts. This included granite, to the value of \$875,529 for 1937, as against \$920,355 for 1936, and marble to the total of \$1,030,407 (1937), as against \$1,841,407 (1936).

Finance. Georgia's State expenditures in the year ended June 30, 1937, as reported by the U.S. Bureau of the Census, were: For maintaining and

Crop	Year	Acreage	Prod. Bu.	Value
Cotton	1938	2,064,000	857,000	\$37,280,000
	1937	2,661,000	1,500,000	64,573,000
	1936	4,623,000	53,164,000	29,772,000
Corn	1938	4,203,000	48,334,000	30,934,000
	1937	88,200	91,820,000	19,045,000
	1936	80,600	75,013,000	14,986,000
Tobacco	1938	619,000	495,000,000	16,837,000
	1937	530,000	392,200,000	12,943,000
	1936	123,000	9,225,000	7,841,000
Sweet potatoes	1938	114,000	8,550,000	8,806,000
	1937	1,085,000	631,000	6,815,000
	1936	935,000	545,000	6,268,000
Hay (tame) .	1938	.....	5,320,000	5,320,000
	1937	.....	2,730,000	3,958,000
	1936	.....	9,585,000	4,026,000
Peaches	1938	426,000	8,658,000	5,108,000
	1937	444,000	.....	.....
	1936	.....	.....	.....

^a Bales. ^b Pounds. ^c Tons.

operating governmental departments, \$24,897,429 (of which \$8,724,992 was for local education); for interest on debt, \$24,455; for capital outlay, \$15,474,233. Revenues were \$43,253,890. Of these, property taxes furnished \$3,817,459; sales taxes, \$21,795,741 (including tax on gasoline); departmental earnings, \$2,631,438; sale of licenses, \$3,740,345; income taxes, \$3,655,268; Federal or other grants-in-aid, \$6,086,652. Funded debt outstanding on June 30, 1937, totaled \$23,492,021 (chiefly certificates of indebtedness to counties on account of highways; these bore no interest and were to be met by payments out of money received from the taxation of gasoline). There were no sinking-fund assets against this debt. On an assessed valuation of \$1,060,314,247 the State levied in the year ad-valorem taxes of \$3,180,943.

Education. Inhabitants of school age (from 6 to 18 years, inclusive), as stated for the academic year 1937-38, numbered 810,268. The enrollments of pupils in public schools totaled 788,965. This comprised 656,710 in the elementary group, 125,337 in high schools, and 6918 otherwise classified. The year's expenditure for public-school education totaled \$26,927,404. There were 22,276 teachers; their salaries averaged, for the year, \$529.43 for males and \$603.38 for females in the elementary positions; and \$1191.50 for males and \$978.73 for females in the high schools.

Results noted in 1938 from Georgia's educational enactments of 1937, were thus summarized by the *Journal* of the National Education Association: Increased State revenue for education, free textbooks for pupils of public schools, through the 11th grade, the start of a program of auditory and visual instruction, and the expansion of the State's higher education.

Charities and Corrections. The State's Department of Public Welfare, created by a statute of 1937, administered old-age assistance, aid to needy children, and aid to the blind; it also performed services for crippled children and dealt in general with children's welfare; as successor to the Board of Control of Eleemosynary Institutions it controlled all such institutions maintained by the State. The inmates of these institutions, as stated in December, numbered 9275. Nearly nine-tenths of this total were in the State Hospital for the Insane at Milledgeville, which contained 8232. Of the remainder, the Georgia Training School for Mental Defectives had 336; Georgia Training School for Boys, 148; Georgia Training School for Girls, 154; Georgia School for the Deaf, 269; Academy for the Blind, 125; and Confederate Soldiers' Home, 11. The Department of Public Welfare had an executive head in its director (Lamar Murchaugh) and a deliberative body, the Board of Public Welfare, composed of six members.

The Department's expenditures for the calendar year 1938 were stated as including \$3,412,071 of State and of Federal funds for old-age assistance; \$1,047,526 for aid to dependent children; and \$144,259 for aid to the needy blind. General poor relief, expended through the counties, totaled \$542,989. A program of employment insurance (temporary dispensations to persons after their loss of gainful employment) was separately administered by the State's Department of Labor. The penal system, directed by a Board of Penal Administration, underwent changes in 1938 (see *Legislation*, below).

Legislation. The special legislative session that had met in November of 1937 continued until February 13. In addition to the acts that it had passed in 1937, it made many laws, chiefly in the fields of taxation, the penal system, and governmental organization and functions. One of its most conspicuous measures was a renewed and at last successful effort to do away with the State's 22-year-old prohibition of alcoholic beverages. This measure was designed less as a change in the regulation of popular behavior than as a move toward getting public revenue from an untaxed source, for it was passed in the expectation that it would render the already existing traffic in liquor taxable by legalizing it. The new bill was enacted in the face of the rejection of its recent predecessor, by popular vote, in June, 1937. In trying again the Legislators followed a new plan toward the same end. This plan, embodied in the County-Option Liquor Act, avoided calling another State-wide referendum on the issue and, instead, allowed any county to vote on establishing liquor traffic in its territory, whenever 35 per cent of the voters of the county should petition for such a vote; as soon as any county had thus voted for liquor, a system of State taxes, including licenses, on the manufacture and sale of lawful liquor was to go into effect, armed with heavy penalties.

Other measures bearing on taxation created a Commissioner of Revenue, holding by appointment, to collect the taxes, in place of the existing Revenue Commission, which was abolished, and set up a Board of Tax Appeals, consisting of three members; set the cost of licenses for motor vehicles upon a sliding scale that rose to \$2000 for the heaviest trucks; and allowed deduction of the Federal income tax in the computation of the State's income tax. Motor vehicles used as itinerant shops were subjected to a special impost.

There was passed a Prison Reform Act, designed to terminate the evils with which the operation of chain gangs had been reproached. This act put all felons and misdemeanants held by the State under the authority of a Board of Penal Administration, which was authorized to manage prisons and operate prison industries for the production of goods for the use of the State institutions. The use of convicts for outdoor work in gangs was not abolished, but the designation "chain gang" was changed to "work camp," by another measure. A Parole and Pardon Commission was created, to replace the prior Prison Commission; the new body was to pardon and parole without need of the Governor's approval, save in capital cases.

Among other acts, one authorizing the Legislature to convene itself in extraordinary session at the instance of the members, in case of emergency, provided for action in such cases as Governor Talmadge's period of personal rule in 1936. The law on corporations was expanded and clarified. Many of the remaining appointees of Governor Talmadge were legislated out of office. Revenue from rents

to accrue to the State on the Western and Atlantic R.R. in the years 1941-44 was anticipated by an act allowing these to be discounted for an estimated \$2,276,100, to be expended by the eleemosynary institutions and the counties. Departments of the State government were required to print information about Georgia on the backs of their envelopes. A measure duly signed but impugned as not regularly passed required judges and not juries to fix sentences in criminal convictions.

Political and Other Events. Dougherty County, the first of the counties to vote on local option as to alcoholic beverages under the new act (see above), chose (March 7) to allow alcoholic traffic. Seven other counties followed suit in March, among them Fulton (including Atlanta), on March 30. Counties voted on the subject from time to time, there being no system for uniform dates of the elections. Partisans of prohibition brought the local-option act to a test in the State Supreme Court, which found it (June 22) valid. The State Supreme Court also (May 11) upheld the validity of the new legislative act (questioned as not properly passed) transferring from jury to judge the authority to fix a criminal sentence.

The penal system founded on the new legislative reforms went into effect in the course of the spring. The incoming Board of Penal Administration ordered the removal of leg-shackles from those of the convicts, in working gangs, who wore them. The further use of the lash and the "sweat box" (both previously in abeyance) to punish convicts' faults of behavior was forbidden. It was arranged to segregate intractable convicts in the new Tatnall Prison and to assign only the better-behaved ones to work on roads and prison farms.

The taxes enacted early in the year did not come in soon enough to meet at the outset all of the State's increased expenditure. The proceeds of the discounting of future rents of the State-owned Western and Atlantic R.R. stopped the gap in some directions, but for a time after March 15 the State did not meet its obligations to pay the salaries of public-school teachers. Governor Rivers had made an exception of the teachers when, in the summer of 1935, other State expenditure was reduced to 74 per cent of appropriations. In spite of opposition from State Treasurer Hamilton, he continued the effort to pay teachers the full promised sum. Revenue began to come from the taxes on liquor as counties in some number gave up prohibition, and by the end of April a reported total from this source of \$522,000 made it possible to pay teachers \$650,000 for the last half of March. As the State had taken up the burden of paying the minimum salary for teachers and of supplying the schools with textbooks, the levy of the school taxes in December was much reduced. An enumeration of illiterates in the State was ordered to be taken in connection with the year's census of persons of school age.

Atlanta created a Housing Authority to borrow Federal money and build housing for rent at low cost. Savannah was chosen as the site of a \$1,000,000 manufactory of products of gypsum, projected by the National Gypsum Co. The new Pine Mountain State Park, near Chipley and Warm Springs, consisting of donated land improved by the CCC, was dedicated on May 23. Atlanta's remodeled Municipal Auditorium, of which the completion had been delayed for several months by the collapse of a part of the roof, was opened in March. The construction of a sewage-disposal plant to serve the southeastern part of the city was completed by the WPA.

Elections. U.S. Senator Walter F. George (Dem.) was re-elected, prevailing over Charles A. Jiles (Ind.) by about 20 to 1, in a light ballot of about one-seventh of the registered voters. Ten U.S. Representatives, all Democrats and all but one incumbents, were elected. Gov. E. D. Rivers won a second term. As usual, the Democratic nominating primaries had decided the outcome, which the election merely ratified. The primary campaign, held in August and early September, attracted nation-wide attention, because President Roosevelt had entered it as a campaigner against George. He singled George out as the first of the Democrats whom he would ask the voters in certain States to defeat in order to effect his so-called purge of the party, the elimination of Democrats who had opposed him in some of his plans for legislation, particularly as to the bill for altering the Supreme Court. On August 11, addressing a gathering at Barnesville, he assailed George as a "dyed-in-the-wool conservative" and solicited votes for Lawrence Camp, Federal District Attorney at Atlanta, an opposing candidate. George started a campaign on the frankly anti-Roosevelt keynote, "The Democratic party is not and cannot be a one-man party." At the primary (September 14), George received about 144,000 votes; Talmadge, about 104,000. As the State nominated Senators not by the total popular vote but by a majority of voting districts, known as units, George gained the nomination by about 246 unit votes, to some 150 for Talmadge, a predominance much more marked than that in the count by total popular vote. The sentiment for him was remarkably widespread. Even in Meriwether County, in which was Warm Springs, where the President frequently sojourned, George received the highest vote. Camp, the President's favored candidate, was reported to have prevailed in only seven counties and to have won seven units' votes. His popular vote totaled about 79,000. The total of the popular votes for Talmadge and for Camp, combined, exceeded George's total, but the fact that Talmadge had been known as a strenuous opponent of the Roosevelt Administration when he was Governor deprived this combined total of much of the significance that it might have had as an indication of the voters' following the President.

Officers. Georgia's chief officers serving in 1938 were: Governor, E. D. Rivers (Dem.); Secretary of State, John B. Wilson; Attorney-General, M. J. Yeomans; Treasurer, George B. Hamilton; Comptroller-General, William B. Harrison; Superintendent of Schools, M. D. Collins.

Judiciary. Court of Appeals: N. R. Broyles, John B. Guerry, Jule Felton, Hugh I. McIntyre, Alex W. Stephens, I. H. Sutton. Supreme Court: S. C. Atkinson, M. W. Beck, W. F. Jenkins, John B. Hutcheson, R. C. Bell, Charles S. Reid.

GEORGIA, UNIVERSITY OF. A State institution of higher education for men and women in Athens, Ga., chartered in 1785. The enrollment in the 1938 summer session was 2431 and for the autumn term, 3379. The faculty numbered 185. The productive funds amounted to \$425,000. The library contained 106,000 volumes. During the year buildings to the cost of \$400,000 have been erected. President, H. W. Caldwell, LL.D.

GEORGIAN SOVIET SOCIALIST REPUBLIC. One of the 11 constituent republics of the U.S.S.R., according to the constitution adopted Dec. 5, 1936. It includes the Abkhazian Autonomous Soviet Socialist Republic (capital, Sukhum), the Ajarian Autonomous Soviet Socialist Republic (capital, Batum), and the South Ossetian Au-

onomous Province (capital, Stalinir). Area, 26,865 square miles; population (Jan. 1, 1933), 3,110,600. Tiflis, the capital, had (Jan. 1, 1936, estimate) 426,300 inhabitants; Batum, 56,980; Stalinir (Tskhinvali), 7080.

In 1938 there were 968,734 acres of spring sowing, by collectives, of chief grain crops. See UNION OF SOVIET SOCIALIST REPUBLICS.

GEORGIA SCHOOL OF TECHNOLOGY. An institution for the scientific and technical education of men in Atlanta, Ga., founded in 1888. The enrollment for the autumn of 1938 was 2500 while that in the summer session was 597. The faculty numbered 170. The endowment amounted to \$540,000, and the income from appropriations and fees was \$547,000. There were 40,000 volumes in the library. During the year a Civil Engineering Building (\$125,000), an Engineering Drawing Building (\$140,000), and an Auditorium-Gymnasium (\$225,000) were completed, and two dormitories (\$200,000) were under construction. President, Marion Luther Brittain, LL.D.

GERMAN-AMERICAN BUND. See FASCISM.

GERMAN LITERATURE. The important political changes of the past year necessarily affected the making of books and the status of authors. Two important centers for the dissemination of literature hostile to the government of Hitler disappeared when Vienna and Carlsbad were annexed by the German Reich. For a full year preceding the change neither had, however, been very active. New York became again, for the first time in generations, the scene of a German literary movement. Inside Germany little was added to the already existing cultural regulations, though possibly the discussion of religious doctrine was less free from interference by the state. In Austria long-established journals—for generations inseparable from Viennese life—were either suppressed or revamped into propaganda organs.

The Novel. A note of unreality, of isolation from the normal concerns of fiction, characterizes most current German novels. Nothing distinctively new either in technique or brilliance can be reported. Three representative titles may be named separately: Ina Seidel's *Lennacker*, historical in background but concerned primarily with religious quests and values; Hans Brandenburg's *Vater Oellendahl*, introspective in the typical German manner but moving and in the best sense of the term uplifting; and Gertrud von le Fort's *Die magdeburgische Hochzeit*, which deals with Tilly and the Thirty Years' War but attempts a quite modern literary technique. Fiction by émigré writers includes: Robert Neumann's *Eine Frau hat geschrien*, which has to do with an Hungarian robber chieftain; Bernhard Diebold's *Das Reich ohne Mitte*, a realistic, sociological novel of post-war Germany; Alfred Neumann's *Die Goldquelle*, a love story with a political background; Erich Maria Remarque's *Drei Kameraden*, certainly no improvement on the author's previous work; Stefan Zweig's *Ungeduld des Herzens*, a product of his earlier years; Emil Ludwig's *Quartett*, a study of modern *deracinés* against a somewhat erotic background; Georg Fink's *Mutter und Sohn*, in which love poses a problem in Franco-German relations; and Stephan Lackner's *Jan Heimatlos*, the story of a non-Aryan in contemporary Germany. A selection from the work which appeared inside Germany would include: Bernhard Kellermann's *Das blaue Band*, one of the most popular novels of the year; Hans Fallada's *Der eiserne Gustav*; Adel-

bert Zinn's *Die schmale Stiege*, which carries on the tradition of fictional *Volkskunst*; Peter Doerfler's *Auferstehung*, which adds another Suabian peasant woman to the array of the gifted Catholic novelist's earth-bound heroines; Gertrud Baeumer's *Der Berg des Koenigs*, which goes back to Byzantine history for its material; Franz Braumann's *Das schwere Jahr der Maria Spaunbergerin*, a study in renunciation and perhaps one of the finest novels of the year, though one doubts its popular appeal; Ruth Schaumann's *Der schwarze Valtin und die weisse Osanna*, beautifully written as is usual with this author; Emil Merker's *Der Weg der Anna Illing*, with a Sudeten German background; Bernt von Heiseler's *Die gute Welt*, belonging to the *Blut und Boden* group; Horst Lange's *Schwarze Weide*; Werner Bergengruen's *Der Starost*; Josef Ponten's *Die Heiligen der letzten Tage*, by an author with better books to his credit; and Ottfried Graf Finckenstein's *Die Mutter*. There is a lengthy list of historical novels, from which the following titles may be selected: Juliana von Stockhausen's *Die gueldene Kette*, the story of a woman's sorrows and their sublimation, set against a picture of the Thirty Years' War; Alfred Zacharias's *Kornett im Siebenbuergen*, dealing with life in a troubled 17th century; E. von Handel-Mazzetti's *Graf Reichard*, told with only a trace of the author's old-time power; and Hans Friedrich Blunck's *Walter von Plettenburg*, in many respects a good novel. Stories written about real historical figures include: Leo Weismantel's *Franz und Klara*, the characters being the founders of the Franciscan movement; and Eugen Ortner's *Ein Mann kuriert Europa*, the hero of which is Sebastian Kneip. A few other titles by authors in both groups may be appended: *In Wologdas weisen Waeldern*, by Hans Harder; *Die tiefen Wasser*, by Trude Melhart; *Dunant, der Roman des roten Kreuzes*, by Martin Gumpert; *Der Irrtum*, by Franz Koermendi; *Kepler*, by Olaf Saile; and *Johann Laverenz*, by Gustav Beutler. *Hoch ueber den Tal* is the latest work of the veteran Swiss novelist, Ernst Zahn.

The Novelle. Published work in this form includes: *Zwei Erzaehlungen*, by Ernst Wiechert; *Rettung am Rhein*, by Elisabeth Langgasser; *Karniswall*, by Albrecht Schaeffer; and *Die Lichtboten*, by Margarete Windhorst. *Flaemische Weihnacht* is a collection of stories from the Flemish, translated by Carl Hanns Erkelenz.

Poetry. One of the most widely read poets of contemporary Germany is Georg Trakl, the third edition of whose collected poems was issued during the year. Friedrich Schnack published his *Gesammelte Gedichte. Deutsche Volkslieder*, edited by Ludwig Erk and Wilhelm Irmner, includes the music for the songs. Newer volumes of verse include Adolf Giesen's *Der rote Hauch*, a collection inspired by a deep awareness of nature; Friedrich Georg Juenger's *Der Taurus*; Max Kommerell's *Mein Anteil*; Walter Kiechler's *Dionysos*; Manfred Hausmann's *Jahre des Lebens*; and Christian Wulkin's *Spaetklaenge*.

Biography. A considerable number of worthwhile biographies appeared during the year. Among those with a theme affecting present-day concerns are: Carl von Bardolf's *Im Dienste des alten Oesterreich*, which contains among other things an eyewitness's account of the murder at Sarajevo; Wilhelm Herzog's *Barthou*, which sets that restless figure against the background of general European politics; and Bernhard Menne's *Krupp*, the fullest and frankest account to date of that magnate. Lud-

wig Winder's *Der Thronfolger: Franz Ferdinand* throws some new light upon a cloudy period in Austrian history; and Emil Ludwig's *Roosevelt* is a study of the American President of today. Other titles include: Wilhelm Grenzmann's *Georg Christoph Lichtenberg*, the life of a prominent 18th-century German humanist; Fritz Nemitz's *Caspar David Friedrich*, a new study of the Romantic painter; Franz Josef Wothé's *Adolph Kolping*, a study of a great social reformer; Heinz Stroh's *Eduard Benesch*; Hugo Eckener's *Graf Zeppelin*; Franz Bengston's *Karl XII*, which has an interesting Scandinavian background; Erich Eyck's *Gladstone*; Ludwig Pfandl's *Philip II von Spanien*, which reflects the great interest currently taken in Spanish history and affairs; and Josef Kuckhoff's *Johannes von Ruysbroeck*, the eminent Flemish mystic. Three biographies of especial cultural import are: *Philipp Otto Runge*, by H. G. Gerlach, a study of the greatest German Romantic painter; Oskar Loerke's *Anton Bruckner*, the most eminent musician of modern Austria; and Oskar Jellinek's *Die Geistes- und Liebestragödie der Enkel Goethes*, a study by a prominent student of German classical poetry. A new series of brief biographies under the caption of "*Menschen und Menschenwerk*" includes booklets on Carl Peters, Wilhelm Herschel, and others.

History. Many of the normal projects in historical research have been continued. Among works intended to interest a wider public are the following: Hermann Rauschning's *Die Revolution des Nihilismus*, a critique of Hitlerism by a man who was Nazi leader of Danzig; Veit Valentin's *Weltgeschichte*, a survey by the now exiled historian of 1848; Eduard Winter's *Tausend Jahre Geisteskampf im Sudetenraum*, the most satisfactory German survey of events forming the background of the Munich peace; Hermann Schneider's *Germanische Altertumskunde*; and Nikolas Benckiser's *Das dritte Rom*, an attempt to narrate the story of the eternal city from Papal days to the dawn of the new empire.

Politics and Economics. Current discussion of governmental or economic questions in the German language is very extensive, but naturally falls into two classes according as it is written by men residing inside the country or by men who have emigrated. The following list of publications issued with the permission of the government of the Third Reich is neither exhaustive nor even representative of all shades of German thought. It is offered because the books listed seem likely to help a foreign reader interested in considering current German points of view: Bruno Brehm's *Glückliches Oesterreich*, a Nazi interpretation of the *Anschluss*; Sepp Keller's *Zwischen Nacht und Tag*, being a commentary on the fortunes of the swastika under Dolfuss and Schuschnigg; Heinrich Heise's *Der Herrschaftsstand der deutschen Revolution*, which portrays a region "beyond Spengler and Juenger; Alfred Berndt's *Meilensteine des Dritten Reiches*; Walter Schneefuss's *Gefahrenzonen des britischen Weltreiches*; Gerhard Hermann's *Italians Weg zum Imperium*; Helene Grillicet's *Eine Franzoesin erlebt Grossdeutschland*; and Walther Pahl's *Das politische Antlitz der Erde*. Paul Ernst's *Politische Studien und Kritiken* is a collection of essays by a conservative thinker, now deceased. Special cultural concerns of the German government are reflected in the following: Gaston Ritter's *Das Judentum und die Schatten des Antichrist*; F. A. Six's *Freimaurerei und Judenemanzipation*; and Paul Siebertz's *Freimaurer im Kampf um die*

Macht. Selections from the addresses of the Spanish Nationalist leader, José Maria Pemán, with a commentary by Irene Behn, are provided in *Flammendes Spanien*.

Émigré literature reflects, of course, a set of entirely different assumptions. It includes the following: Robert Ingrimm's *Der Griff nach Oesterreich*, an interpretation hostile to the Nazis; Annette Kolb's *Festspieltage in Salzburg und Abschied von Oesterreich*, an affecting and beautifully written book; Hans von Wyl's *Ein Schweizer erlebt Deutschland*, in which a Swiss Fascist expresses his disapproval; Thomas Mann's *Vom zukunfftigen Sieg der Demokratie*; Hans Bauer's *Warum Krieg?*, which suggests a way round Armageddon; Karl Otten's *Torquemada's Schatten*, being a chronicle of experience in Majorca; Arthur Koestler's *Ein spanisches Testament*; Stefan Wendt's *Insel im Vaterland*; Maximilian Beck's *Diktatur oder Demokratie?*; and Franz Zuercher's *Kreuzzug gegen das Christentum*, which studies relations between the Nazis and religion. Of more serious import are the following: Adolf Sturmthal's *Die grosse Krise*; Oskar Wolfsberg's *Zur Zeit- und Geistesgeschichte des Judentums*, which closes on a strangely optimistic note; and Siegfried Marck's *Der Neuhumanismus als politische Philosophie. Du und die Masse*, by Kurt Baschwitz, is a striking essay on political mass psychology.

Philosophy. Philosophical treatises may be divided into those which serve the more serious, studious interests of thought, and those which attempt to exercise an immediate influence upon the conduct of life. In the first group belong the following: *Christliche Philosophie*, by Alois Dempf, an attempt to show that the tradition of medieval philosophy was never broken off; Wilhelm Hansen's *Die Entwicklung des kindlichen Weltbildes*; Rudolf Neuwinger's *Die Philosophie Ernst Bergmanns*, a discussion of the foremost advocate of a national Church which is to absorb the remnants of Christianity; Josef Pieper's *Vom Sinn der Tapferkeit*; Otto Janssen's *Dasein und Wirklichkeit*; Heinrich Fels's *Martin Deutinger*; Thomas Mann's *Schopenhauer*, an essay; E. Pfennigsdorf's *Der kritische Gottesbeweis*; and vol. iii of Joseph Bernhart's *Thomas von Aquino: Summe der Theologie*. The second group would include: *Von der reinen Glueckseligkeit des Menschen*, by Franz Werfel; *Leben spricht zu Leben*, by Gertrud Ehrle; *Die drei verlorren Soehne*, by Matthias Laros; *Der rechte Augenblick*, by Michael Pfieger, of interest to students of pedagogy; *Alles Getrennte findet sich wieder*, by Hans Loescher; and *Die Macht der Frau*, by Oda Schneider.

Religion. Great interest in religious problems and realities continues. *Der Herr: Betrachtungen ueber die Person und das Leben Jesu*, by Romano Guardini, is doubtless the most important work on the life and doctrine of Jesus to have been written by a Catholic scholar in our generation. *Konfessionskunde*, by Konrad Algermissen, is a new edition of a standard treatise on the Christian confessions. Other publications include: Paul Althouse's *Verantwortung und Schuld der Kirche*; Horst Stephan's *Die Geschichte der evangelischen Theologie seit dem deutschen Idealismus*; Erich Przywara's *Deus semper major*, an introduction to the practice of mystical asceticism by a prominent Catholic philosopher; *Kirche und Welt in oekumenischer Sicht*, a report on the Oxford conferences; Paul Schuetz's *Warum ich noch ein Christ bin*; Daniel Feuling's *Katholische Glaubenslehre*, a presentation of the Catholic system; Josef Kreit-

maier's *Peter Lippert: Der Mann und sein Werk*; Ludwig Winterswyl's *Laienliturgie*; Elizabeth von Schmidt-Pauli's *Elementen und Naturalien in der Kirche*; and Arnold Rademacher's *Die innere Einheit des Glaubens*. Michael Schmaus has issued the first volume of a *Katholische Dogmatik*.

Literature. A selection of newer books includes: Albert Schaefer's *Die Gottesanschauung Rainer Maria Rilkes*, another contribution to the study of a modern poet; James Schwarzenbach's *François Mauriac*; Konrad Haemmerling's *Der Mann der Shakespeare hiess*, written in novel form; Oswald Floeck's *Heinrich Federer*, a study of the Swiss novelist; Herbert Cysarz's *Die grossen Themen der sudetendeutschen Geschichte*; Wilhelm Schneider's *Ehrfurcht vor dem deutschen Wort*; and Richard Woessler's *Die staendische Schichtung des Schriftstellertums in der englischen Renaissance*. There is a new edition of Josef Nadler's *Literaturgeschichte des deutschen Volkes*. Otto Mann has edited a volume of selections from the major essays of Hamann. *Die Rose und der Ziegelstein* is an anthology of anecdotes, edited by "Homunculus."

Art. *Deutsche Volkskunst*, by Hans Karlinger, is the latest addition to the *Prophylaen Kunstgeschichte*. Other publications include: *Um die Seele der heiligen Ikonen*, by Georg Wunderle, an excellent essay on the sacred themes of Byzantine art; Heinrich Luetzeler's *Fuehrer zur Kunst*; *Das Werk Michael Pachters*, by Eberhard Hempel; *Christliche Kunst in der Gegenwart*, by Conrad Groeber and others; and *Von Kunst und Kenner-schaft*, by Max J. Friedlaender.

Travel. *Leben und Zeit*, by Karl Benno von Mechow is a beautiful evocation of the Austrian landscape. *Wien*, by Justus Schmidt, is a new picture book concerning a city of great charm. Other publications include: *Was wird aus diesem Afrika?*, by G. A. Gedat; Frieda Fischer-Koeln's *Japanische Tagebuch*; and Paul Wulfrum's *Reiseland Suedbayern*.

Translations. The successes of the year included books by Richard Hughes, Elizabeth Madox Roberts, Harold Nicholson, Kenneth Roberts, and Liddell Hart.

GERMANY. A former Federal republic of Europe, transformed into a centralized, authoritarian state by the National Socialist revolution commencing in 1933. Capital, Berlin.

Area and Population. The annexation of Austria (q.v.) and the Sudeten territories of Czechoslovakia (q.v.) by the Reich during 1938 increased Germany's total area to about 225,039 square miles and the total population to an estimated 78,700,000 in October, 1938. The area previous to these annexations and the population at the censuses of 1925 and 1933 are shown in the accompanying table.

Living births in 1937 numbered 1,275,212 (18.8 per 1000); deaths, 793,192 (11.7 per 1000); marriages, 618,971 (9.1 per 1000). The 1933 census showed 756,760 foreigners in Germany, including 148,092 Poles, 180,663 Austrians, 186,189 Czechoslovaks, 5867 French, and 5763 British. There were 15,190 emigrants in 1936, of whom 10,190 went to the United States. Estimated populations of the chief cities on Jan. 1, 1937, were: Berlin, 4,251,000; Hamburg, 1,097,000; Cologne (Köln), 762,000; Munich (München), 756,000; Leipzig, 698,000; Essen, 662,000; Dresden, 637,000; Breslau, 625,000; Frankfurt (on Main), 551,000; Dortmund, 540,000; Düsseldorf, 515,000; Hannover, 452,000; Duisburg, 440,000; Stuttgart, 408,000;

GERMANY: AREA AND POPULATION BY STATES

States	Area sq. miles	Population, June 16, 1925	Population, June 16, 1933
Prussia ^a	113,012	38,175,989	39,934,011
Bavaria ^b	29,336	7,379,594	7,681,584
Württemberg	7,530	2,580,235	2,696,234
Baden	5,817	2,312,462	2,412,951
Saxony	5,785	4,992,320	5,196,652
Mecklenburg ^c	6,197	784,314	805,213
Thuringia	4,540	1,609,300	1,659,510
Hesse	2,969	1,347,279	1,429,048
Oldenburg	2,480	545,172	573,853
Brunswick	1,417	501,875	512,989
Anhalt	893	351,045	364,415
Saarland ^d	738	.....	812,030
Lippe	469	163,648	175,538
Hamburg	160	1,152,523	1,218,447
Schaumburg-Lippe ..	131	48,046	49,955
Lübeck ^f	115	127,971	136,413
Bremen	99	338,846	371,558
German Reich ..	181,699	62,410,619	66,030,491

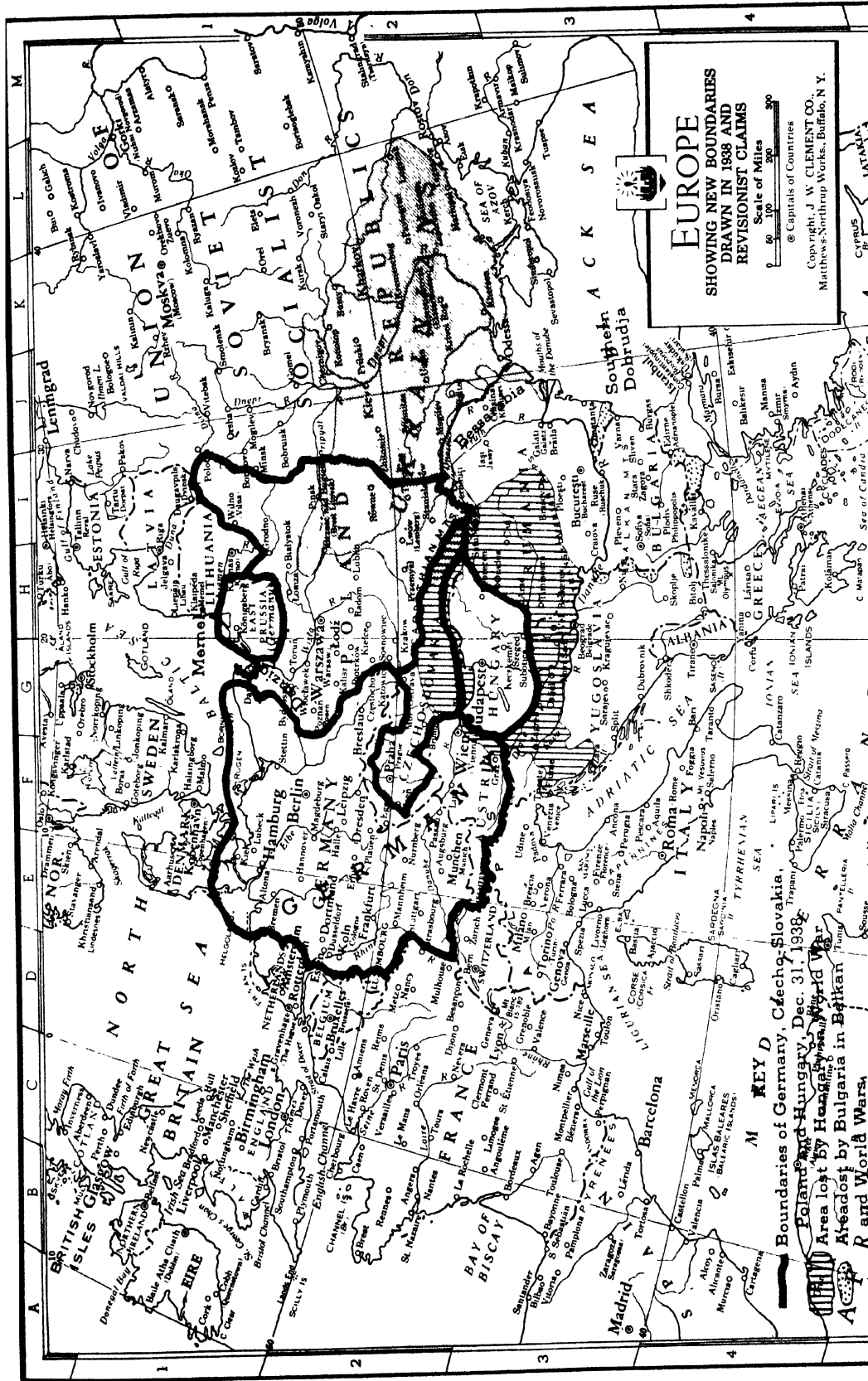
^a Excluding Saarland and including Waldeck, absorbed by Prussia on Apr. 1 1929. ^b Excluding Saarland. ^c Formed by union of Mecklenburg-Schwerin and Mecklenburg-Strelitz on Jan. 1 1934. ^d Reincorporated in the Reich Mar. 1, 1935. ^e Preliminary returns of June 25, 1935, census. ^f Incorporated in Prussia, Mar. 31, 1937.

Nuremberg (Nürnberg), 408,000; Wuppertal, 408,000; Bremen, 337,000; Chemnitz, 336,000; Königsberg, 335,000; Gelsenkirchen, 327,000; Magdeburg, 320,000; Bochum, 316,000; Mannheim, 278,000; Stettin, 276,000; Altona, 244,000; Kiel, 241,000; Halle, 211,000; Kassel, 203,000. In 1933, 67.3 per cent of the total population was concentrated in towns and cities of 2000 and over.

Education and Religion. Primary education is compulsory and there is little illiteracy. The estimated school enrollment in 1936-37 was: Elementary, 7,930,000; intermediate (1937-38), 273,000; "gymnasien" and "realschulen," 673,000; universities 48,558, advanced technical schools 10,928, others 12,364). According to the 1933 census, Protestants comprised 62.7 per cent of the total population (40,865,258); Roman Catholics, 32.5 per cent (21,171,991); other Christians, 0.1 per cent (34,927); Jews, 0.7 per cent (499,682); adherents of other sects, 4 per cent (2,646,603).

Agriculture. The Reich has about 45,257,000 acres of arable land, 19,716,000 acres of meadow and pasture, 1,915,000 acres of trees, shrubs, and orchards, and 30,860,000 acres of forests. Including Austria, yields of the chief cereals in 1938 were (in metric tons): Wheat, 5,843,900; barley, 4,482,300; rye, 9,053,700; oats, 6,709,100; corn (Germany only, 1937), 121,400. The 1937 harvest of spelt was 4,042,000 bu.; lupins, 59,000 metric tons; potatoes, 2,022,300,000 bu.; sugar beets, 10,091,000 metric tons; beet sugar (1937-38), 2,184,000 metric tons; fodder beets, 50,349,000 metric tons; hay, alfalfa, and clover, 37,272,000 metric tons; hops, 22,657,000 lb.; tobacco, 77,161,000 lb.; wine, 66,627,000 gal. The livestock census of Dec. 3, 1937, showed 23,707,000 swine, 20,469,000 cattle, 4,684,000 sheep, 3,430,000 horses (excluding army horses), and 2,618,000 goats. The value of farm production in 1937 was 11,894,000,000 marks (plant products, 4,678,000,000; animal products, 7,216,000,000). The agricultural indebtedness was 10,180,000,000 marks on Dec. 31, 1937.

Mining and Manufacturing. The gross value of industrial production was estimated at between 85 and 90 million marks in 1938 (77 millions in 1937). The value of mineral and industrial production in 1937 was divided in part as follows (in 1000 reichsmarks): Coal, 1,966,898; lignite, 454,315; coke, 598,308; coal briquets, 111,172; lignite bri-



EUROPE

SHOWING NEW BOUNDARIES
DRAWN IN 1938 AND
REVISIONIST CLAIMS

Scale of Miles
0 50 100 200 300

Capitals of Countries
© Copyright, J. W. CLEMENT CO.
Matthews-Northrup Works, Buffalo, N. Y.

Boundaries of Germany, Czechoslovakia,
Poland and Hungary, Dec. 31, 1938

Area lost by Hungary in World War

Area lost by Bulgaria in Balkan War

Area lost by Bulgaria in World War

quets, 428,194; potash, 173,500; pig iron, 869,178; crude steel, 1,560,528; rolling mill products, 2,120,647. Production, by quantity, in 1937 was (in metric tons except as specified): Coal, 184,512,000 (186,180,000 in 1938); lignite, 184,681,000 (194,964,000 in 1938); coke, 40,896,000; coal briquets, 6,888,000; lignite briquets, 42,021,000; iron ore, 8,522,000; lead (metal content of ore), 72,500; copper (metal content of ore), 32,700; potash (K_2O), 1,678,000; pig iron, 15,957,000 (18,516,000, including Austria, in 1938); crude steel, 19,849,000 (23,208,000, including Austria, in 1938); rolling-mill products 14,116,000; rayon (including linters), 359,000,000 lb.; cotton, net imports, 649,000,000 lb.; vessels launched, 436,000 gross tons; passenger cars, 244,289; trucks and busses, 57,312; motorcycles, 145,916. The average number of unemployed was 429,461 in 1938, 912,312 in 1937, and 1,592,655 in 1936.

Foreign Trade. Imports for consumption in 1938 were valued at 6,046,900,000 marks (5,468,377,000 in 1937) and exports of German products at 5,630,400,000 marks (5,910,975,000 in 1937). The 1938 figures include the trade of Austria beginning with April and that of the Sudetenland beginning with October. The trade balance, which was favorable by 550,207,000 marks in 1936 and by 422,598,000 marks in 1937, thus became unfavorable by 416,500,000 marks in 1938. Nearly half of the 1938 import excess was accounted for by the unfavorable trade balance with the United States. German imports from the United States were 404,600,000 marks in 1938 (281,899,000 in 1937) and exports to the United States were 149,300,000 marks (208,833,000 in 1937).

The value in U.S. paper dollars of the chief 1937 imports was: Oilseeds, \$104,809,000; cotton and linters, \$98,403,000; mineral oils, \$91,838,000; iron ore, \$89,202,000; raw or washed wool, \$88,014,000; fruits and nuts, \$87,632,000. The value of the principal exports was: Iron and steel, \$410,388,000; machinery and parts, other than electric, \$307,651,000; coal, \$171,866,000; chemicals and explosives, \$137,914,000; land and air vehicles, \$107,694,000; electric machinery, \$104,901,000. Of the 1937 imports, the United Kingdom supplied 5.6 per cent by value (6.3 in 1936); Argentina, 5.4 (2.8); United States, 5.2 (5.5); Netherlands, 3.9 (4.0). Of the exports, the Netherlands took 7.9 per cent in 1937 (8.3 in 1936); United Kingdom, 7.3 (8.5); France, 5.3 (5.3); United States, 3.5 (3.6).

Finance. No budget figures have been published since the 1934-35 fiscal year. Revenue from all Reich taxes for the fiscal year ended Mar. 31, 1938, was reported at 13,958,000,000 reichsmarks (11,473,000,000 in 1936-37). Some indication of budget trends since 1935 is given by the accompanying figures issued by Assistant Minister of Economics Brinkmann in November, 1938.

GERMAN NATIONAL INCOME AND TAXATION

Years	National income (billions of marks)	Taxes and social insurance contributions	
		(billions of marks)	In per cent of national income
1913	45.69	5.14	11.3
1925	59.98	13.31	22.2
1932	45.18	13.81	30.6
1937	70.97	23.79	33.5

If the expenditure of all other public bodies "which fulfill social tasks and satisfy collective requirements" are added to the amount of taxes and other public levies, public expenditure in the fiscal year 1937-38 reached 35,000,000,000 to 40,000,000,000 marks or about one-half of the coun-

try's national income, according to Herr Brinkmann's estimate.

The public debt on June 30, 1938, was officially reported at 22,445,000,000 reichsmarks, as against 17,517,000,000 reichsmarks on Dec. 31, 1937. These figures omitted large estimates for budgetary liabilities contracted for unemployment relief and rearmament. The total of these liabilities was conjectural. The average exchange rate of the reichsmark was \$0.4020 in 1937 and \$0.4016 in 1938.

Transportation. In 1937 there were 33,878 miles of state-owned railway lines, and 2319 miles of private lines. In the same year, state railways carried 1,808,000,000 passengers and 499,047,000 metric tons of freight. The gross receipts were 4,420,000,000 marks. Civil aviation statistics for 1937 were: Miles flown, 11,702,000; passengers, 323,101; freight and baggage, 4976 metric tons; mail, 3745 metric tons. The Lufthansa system operated air routes to South America, Asia, and all parts of Europe. On June 30, 1938, the German merchant marine consisted of 2238 vessels of 100 tons or over with an aggregate capacity of 4,243,835 gross tons. During 1937 the net tonnage of vessels entering German ports was 45,212,000. There were 4760 miles of inland waterways, of which 946 miles were canals, in 1935.

Government. While the Weimar (republican) Constitution of Aug. 11, 1919, was not formally abrogated under the Nazi regime, it was nullified by the Enabling Act of Mar. 24, 1933, by which the Reichstag authorized the Cabinet to legislate by decree even if such legislation was not in accord with the Weimar Constitution. Under the Enabling Act, Adolf Hitler established a personal dictatorship, substituting the so-called "leadership principle" for the democratic and liberal governmental system of the former republic. All activities of the country were placed under the control and guidance of Herr Hitler, acting in the dual capacity of Chancellor and head of the National Socialist (Nazi) Party. Upon the death of President von Hindenburg on Aug. 2, 1934, Chancellor Hitler assumed the functions of both Chancellor and President, under the title of Leader (Fuehrer) and Chancellor (Reichskanzler). On Oct. 16, 1934, it was officially announced that Hitler would occupy both offices for life. As Leader and Chancellor, Hitler was commander-in-chief of the army, appointed all officials of both the government and the Nazi party, and exercised in conjunction with the cabinet unlimited powers of legislation. The Reichstag retained advisory powers only. The rights of the former Federal States were abolished by the decree of Feb. 1, 1934, and the Reich Cabinet assumed full powers over State and local activities. All political parties were dissolved, with the exception of the National Socialist Party, and the formation of new political organizations was prohibited.

Herr Hitler's Cabinet, originally appointed Jan. 30, 1933, was composed as follows at the beginning of 1938: Interior, Dr. Wilhelm Frick; Foreign Affairs, Count Konstantin von Neurath; Defense, Gen. Werner von Blomberg; Finance, Count Ludwig Schwerin von Krosigk; Food and Agriculture, Dr. Walther Darré; Labor, Franz Seldte; Posts, Dr. Wilhelm Ohnesorge (appointed, Feb. 2, 1937); Transport, Dr. Julius Heinrich Dörpmüller (Feb. 2, 1937); Aviation and Commissioner for the Four-Year Plan, Field-Marshal Hermann Goering; Justice, Dr. Franz Guertner; Science, Education, and Public Instruction, Dr. Bernhard Rust (Apr. 30, 1934); Church Affairs, Hanns Kerrl (July 19, 1935); National Enlightenment and Propaganda,

Dr. Joseph Goebbels; Ministers without Portfolio, Rudolf Hess (Deputy Leader of the National Socialist party), Dr. Hanns Frank (Dec. 19, 1934), Dr. Heinrich Lammers (Nov. 26, 1937), Dr. Otto Meissner (Dec. 2, 1937). For changes during 1938, see *History*.

HISTORY

Summary. The year 1938 was one of almost miraculous accomplishment from the German point of view. Without firing a shot, Chancellor Hitler incorporated Austria and the Sudeten territories of Czecho-Slovakia in the Third Reich, forming the Great Germany of which Bismarck had dreamed. In all, 43,262 square miles of territory, with a population of some 10,360,000, were added, making a state larger than the German Empire before the World War. Hitler established his unquestioned predominance throughout Central and Eastern Europe. The partition of Czecho-Slovakia removed the major obstacle to German penetration toward the grain fields of Hungary and Soviet Ukraine and the Rumanian oil fields. The way lay open for creation of a German-controlled economic empire in Central Europe and for the resumption of the pre-war drive toward Baghdad and the Persian Gulf. Two decades after the humiliation of the Reich at Versailles, it was generally admitted that Hitler had won the World War.

No less phenomenal was the way in which Germany, by utilizing to the utmost her manpower and natural resources, attained a rank second to the United States in industrial output and virtually eliminated unemployment. Between 1932, the low point of the economic depression in Germany, and 1938 industrial output, including handicraft production, increased 240 per cent and farm production 10 per cent. Employment rose from about 12,000,000 in 1932 to 20,820,000 at the end of 1938; national income from 45,200,000,000 marks in 1932 to about 75,000,000,000 in 1938. During the same period the weekly earnings of workers increased 20 per cent in spite of fixed wage scales, but higher prices and an inferior quality of goods and foods prevented the workers from realizing the full benefit of the greater wage distribution. The savings of the nation were 15,610,000,000 marks in 1932 and 23,750,000,000 marks in 1938. The dividends of 1400 industrial enterprises averaged 6.5 per cent of their capital in 1937-38 as against a minus 4.8 per cent in 1932.

This striking economic and political progress was attained at the cost of relentless regimentation and increasing socialization of all aspects of the national life, which contributed to growing internal discontent. It was based upon an increasingly shaky financial structure. And it was achieved by methods that aroused world-wide criticism and alarm, reflected in a growing foreign trade deficit and the increasing danger of another European war.

Radical Nazis Triumph. Within Germany the year was notable for the final victory of the radical wing of the National Socialist party over conservative elements opposed to Hitler's adventurous and militant foreign and domestic policies. This conflict had been under way ever since Hitler gained power in 1933 (see preceding *YEAR BOOKS*). It led to the resignation on Nov. 26, 1937, of Dr. Hjalmar Schacht as Minister of Economics. A financial wizard whose expert management of the Reich's economic affairs had made possible much of Hitler's success, Schacht warned his chief that Germany was headed toward inflation and financial collapse. Hitler replaced him on Jan. 15, 1938, by

Dr. Walther Funk, under whom the trend toward a planned and centrally directed economy like that of the Soviet Union was accentuated.

Dr. Schacht remained as head of the Reichsbank, where he continued his efforts to moderate the Nazi financial and economic policies. In the spring of 1938 he induced the government to abandon its potentially inflationary practice of financing part of its needs through short-term bills that could be repeatedly extended and were unrecorded in the Reich debt returns. But the acquisition of Austria and the Sudeten-German regions of Czecho-Slovakia and the cost of the September mobilization placed a heavy additional burden upon the Reich treasury. The safeguards imposed by Dr. Schacht were largely swept aside and fears of inflation were revived. The public debt increased by 6,700,000,000 marks during the year while the money in circulation rose by 19 per cent. Dr. Schacht's vigorous protests against this "reckless" financial policy led to his dismissal as head of the Reichsbank on Jan. 20, 1939.

Cabinet Reorganization. A similar conflict over foreign and domestic policy led Hitler on Feb. 4, 1938, to purge the army high command and the diplomatic service of officials who were lukewarm or hostile to his program. There had long been opposition among the older army officers, representing Prussian aristocratic traditions, to Nazi attempts to transform the army into a National Socialist adjunct. Some of them opposed Hitler's religious and economic policies, his intervention in Spain, the Rome-Berlin axis, and even the anti-Communist pact on the ground that they tended to weaken the Reich's fighting powers and to involve it in a conflict for which it was not prepared. Hitler's decision to annex Austria at the risk of a European conflict aroused further opposition when it became known in inner Nazi circles early in the year.

A group of officers, led by Gen. Werner von Fritsch, commander-in-chief of the army, regarded War Minister von Blomberg as too amenable to Hitler's influence. They seized upon von Blomberg's marriage with the young daughter of a humble carpenter, which violated Junker traditions of "caste and class," as an opportunity to demand his removal. Hitler requested the resignation not only of von Blomberg but of von Fritsch and of 13 other army and air force generals. He assumed "personal and direct command over all the armed forces" with the title of Defense Minister. He named Gen. Wilhelm Keitel, an officer without pronounced political views, to supervise "the unitary preparations for national defense in all fields." The army chief command was given to Gen. Walther von Brauchitsch. Twenty-two generals and eight colonels more sympathetic to Nazi policies were advanced to new commands.

At the same time Hitler named Joachim von Ribbentrop, Ambassador to London and a confirmed Nazi, as Foreign Minister in place of Baron Constantin von Neurath. The German Ambassadors at Vienna, Rome, and Tokyo were also replaced. General Goering, who coveted the post of War Minister, was placated with the title of Field Marshal. Baron von Neurath remained in the cabinet as head of a special council on foreign policy which included Goering, Hess, Goebbels, Admiral Raeder, and Generals Keitel and von Brauchitsch.

Hitler's Reichstag Speech. This extension of Nazi control over the army and the foreign office enabled Hitler to proceed immediately with his plans for the conquest of Austria and to lay down

an uncompromisingly radical domestic and foreign policy in his Reichstag speech of February 20. He emphasized his determination to carry through the Four-Year Plan of economic self-sufficiency at whatever cost, announced that "the claim for German colonies will be voiced from year to year with increasing vigor," violently denounced the "lying" British press, and rejected all proposals that German claims be moderated in the interests of European peace. German diplomacy, he said, was based on the Rome-Berlin axis and the anti-Communist pact. He expressed his earnest wish for "more and more extended" co-operation with Italy and Japan. Hailing Japan as the bulwark against communism in the Far East, he disclaimed territorial ambitions in that region or any desire to regain the former German colonial possessions held under mandate by Japan.

Anschluss Consummated. Hitler also gave advance warning of his intentions with respect to Austria and Czecho-Slovakia by demanding "self-determination" for 10,000,000 Germans outside of the Reich. The import of his words was soon realized when German troops entered Austria on March 12 and the long-debated Anschluss was consummated the following day (see AUSTRIA under *History* for full details). Possession of Vienna gave the Reich a base for economic penetration and political domination throughout the Balkans and the Danubian area. But it was flanked by the heavily defended mountain bastions of Czecho-Slovakia, which also barred the pathway to the east, marked out by Hitler in *Mein Kampf* as a field for future German expansion.

Partition of Czecho-Slovakia. The task of incorporating Austria politically, economically, and spiritually in the Third Reich had scarcely begun before Hitler launched his campaign for the partition of Czecho-Slovakia. While Nazi agents and propaganda stirred the Sudeten Germans to intransigent opposition to the Czecho-Slovak Republic, German diplomacy was active in isolating the Czechs so that they would be forced to cede the Sudeten regions under the threat of armed invasion. Acting upon Ribbentrop's advice, Hitler proceeded upon the assumption that Great Britain would not fight to maintain the status quo in Central Europe and that London could be depended upon to wean France away from her Czech and Soviet alliances in order to avoid being dragged into war.

This assumption proved correct, although the Nazi plans received a rude but temporary setback in May. Czecho-Slovakia then met German threats and troop concentrations along the frontier with prompt mobilization and France and Britain indicated their firm intention to go to Czecho-Slovakia's aid if attacked. Angered by this rebuff, Hitler immediately ordered increases in German armaments and armed forces and conscripted some 500,000 men to push the fortifications along the French border to completion. In August, he was ready to repeat on a much more terrifying scale his maneuver of presenting Czecho-Slovakia and her allies with the alternatives of capitulation or war. This time he succeeded, with the aid of the British Prime Minister and of a weak French government. See CZECHO-SLOVAKIA under *History* for full details.

The bloodless conquest of the Sudetenland under the Munich accord of September 29 added to the Reich's economic difficulties. But the government and the Nazi party proceeded with characteristic energy and thoroughness to incorporate this

territory into the National Socialist Reich. On October 31 the Sudeten German party led by Konrad Henlein was inducted as a unit into the Nazi party and Henlein was appointed district leader. Opponents of the Hitler regime were sent to concentration camps. A referendum to ratify the union with Germany and to assent to the appointment of 30 deputies to the German Reichstag was held in the Sudetenland on December 4. According to the official returns, 98.9 per cent of the voters approved the "liberation" of their region.

Internal Situation. Hitler's remarkable achievements in the foreign field during the year thrilled the German people with pride and convinced them of his genius as a statesman. Yet his willingness to risk a war over the Sudetenland, the anti-Jewish excesses of November (see JEWS), and various other developments caused domestic discontent to become more vocal and widespread than at any time since 1933. The German people as a whole showed no enthusiasm for war during the crisis over Czecho-Slovakia. Neither did many of the older army officers. Gen. Ludwig Beck, first chief of the new army General Staff, was reported to have warned Hitler that neither the western fortifications nor the army were ready for a major war. On his own application he was dismissed from active army service on October 31. On November 29 a further increase in the Reich's peacetime army to approximately 1,000,000 men was announced. This made the Reich's peacetime forces second only to Soviet Russia's standing army of 1,300,000 men. Moreover, there was a rapid expansion of both the navy and the air force.

The cost of German armaments during the years 1936-38 was estimated by foreign observers at between 12 and 16 billion dollars; in 1938 they absorbed about 28 per cent of the national income. The huge expenditures on arms seriously reduced the foodstuffs and raw materials needed to meet the consumption needs of the nation. At the same time, the amount of work to be done in armament factories, in industry in general, on the western fortifications and on innumerable public works projects throughout the Reich led to an acute shortage of labor. By a decree of June 22 all German citizens were made liable to conscription for work on any tasks assigned to them. In subsequent months workers were drafted increasingly for work on fortifications, armaments, public works, and other "especially important state projects." Commencing in October the government began to recall German emigrants to cope with the growing labor shortage. The 10-hour day was enforced throughout the armament and allied industries and on December 30 new labor decrees authorized the extension of the working day to as high as 14 hours on "important state-political tasks." The wages paid were half or less than half those paid in the United States. At the same time steps were taken to forbid the exodus of farm workers into industry, a movement which threatened to curtail agricultural production.

Industry was likewise regimented. Employers complained more and more that they were merely administrative officials of the Nazi state. Pre-emption of the money market for government bond issues prevented private corporations from floating bonds for expanding or modernizing their plants. Government red tape, the shortage of raw materials, and the growing inability of the railways to handle the load placed upon them handicapped German manufactures in competing abroad and in meeting domestic consumption needs. Yet the state

steadily extended its control, or direct ownership, of additional branches of production. On December 20 Economics Minister Funk assumed "central direction" over all phases of labor and industrial production, with orders to extend the "totalitarian national economy."

The Conflict with the Churches. Another fertile source of unrest in Germany was the continuance of Nazi efforts to co-ordinate the Protestant and Catholic churches with National Socialist ideology and within the framework of the totalitarian Third Reich (see preceding YEAR Books). The Rev. Martin Niemöller, a leading figure in the anti-Nazi Protestant Confessional Synod who had been arrested July 1, 1937, was tried in secret in Berlin in February on charges of inciting the populace to civil disobedience and other seditious acts. He was freed by the court on March 2 but was immediately rearrested by the secret police and sent to a concentration camp, where he remained throughout the year.

Dr. Niemöller's treatment aroused indignant protests from Christians both within and without Germany, but they went unheeded. Instead, Nazi pressure on dissenting pastors and laymen became greater. The state contributions to pastors and their dependents were withheld from those deemed unworthy "of the state's solicitude," and in cases the parishioners were forbidden to contribute privately to their pastors' support. Protest meetings against the government's church policy were broken up by the secret police. Anti-Christian instruction of German youth received official encouragement. The confiscation of church properties was threatened and in minor instances carried out. According to the Federal Council of the Churches of Christ in America, more than 9000 Catholic and Protestant leaders were imprisoned. About 500,000 German Christians were estimated to be victims of religious persecution in other forms. Yet in December, 1938, it was estimated that 40 per cent of the German Protestants remained attached to the anti-Nazi Confessional Synod, that 10 per cent adhered to the official or Nazi-dominated church, and that about half remained neutral in the church-state quarrel.

The Anti-Catholic Drive. The Nazi war on the Roman Catholic Church assumed an even more violent form. Attacks on the church in Austria after Anschluss are described in the article on AUSTRIA under *History*. In Germany proper the conflict was hardly less violent. On May 3 the Nazi Governor of Württemberg demanded the resignation of Bishop Johann Baptist Sproll, head of the church in that province, for failing to vote in the plebiscite on Anschluss and the Reichstag election. Bishop Sproll was obliged to flee from Rottenburg when the secret police informed him they could "no longer be responsible for his safety." When he returned he was the object of a hostile demonstration without interference on the part of the authorities. On August 19 all of the German cardinals, archbishops, and bishops met at Fulda to consider the situation. They signed a pastoral letter declaring that Nazi attacks "have not become more temperate or more bearable, but rather more hostile and more violent." The letter cited new restraints upon Catholic life; official slurs upon the Pope and the clergy; efforts to turn youth against the church, and to remove all religion from public life; accusations that the church had entered into personal and political relations with Bolshevik Russia; economic penalties inflicted upon functionaries, business men, and workers

who were faithful Catholics; and growing pressure upon Catholic students in colleges and universities.

The letter declared that the state aimed at the "complete destruction of the Catholic faith in Germany," "the uprooting of Christianity in general and the introduction of a faith that no longer has the least relation to belief in God and the Christian belief in a future life." The position of the clergy in the face of these attacks was stated as follows:

But it should be understood once and forever, and with exactitude, that we German Catholic Bishops will not purchase good-will or even suffering and freedom from molestation by means of a diminution of our religious doctrine, the abandonment of rights of the church, or loss of personal fortitude or character.

On October 21 Pope Pius strongly denounced Nazi tactics and compared Hitler with Julian the Apostate. Cardinal von Faulhaber on November 6 firmly upheld the individual's rights against the Nazi state in an address in Munich Cathedral. On November 12 a Nazi mob stoned the Cardinal's palace and the following day an open-air Catholic festival in Munich was interrupted by organized Nazi bands and then dispersed by the police. The *Reich Gazette* announced December 19 the confiscation of properties of a number of Catholic organizations dissolved by the police.

With the radical Nazi faction firmly ensconced in power as a result of Hitler's great foreign successes, Catholics throughout the Reich lived in fear as 1938 ended that they would soon be victims of the same tactics employed against the Jews. A campaign for the confiscation of church properties was already under way in the radical section of the Nazi press. On December 31 *Germania*, former official organ of the Catholic Centrist party and long the most influential Catholic newspaper in Germany, ceased publication.

Foreign Relations. The Munich pact brought to dazzling fruition Hitler's plan to make Germany not only the dominant European power but one that would be impervious to another blockade such as that applied by the Allies during the World War. The newly won military control of Central and Southeastern Europe gave Germany first claim upon the foodstuffs, oil, and other raw materials of this region. And the Nazis were not slow to take advantage of their opportunity. Plans were laid for extending the Four-Year Plan for German economic self-sufficiency to include all of the Danubian and Balkan area.

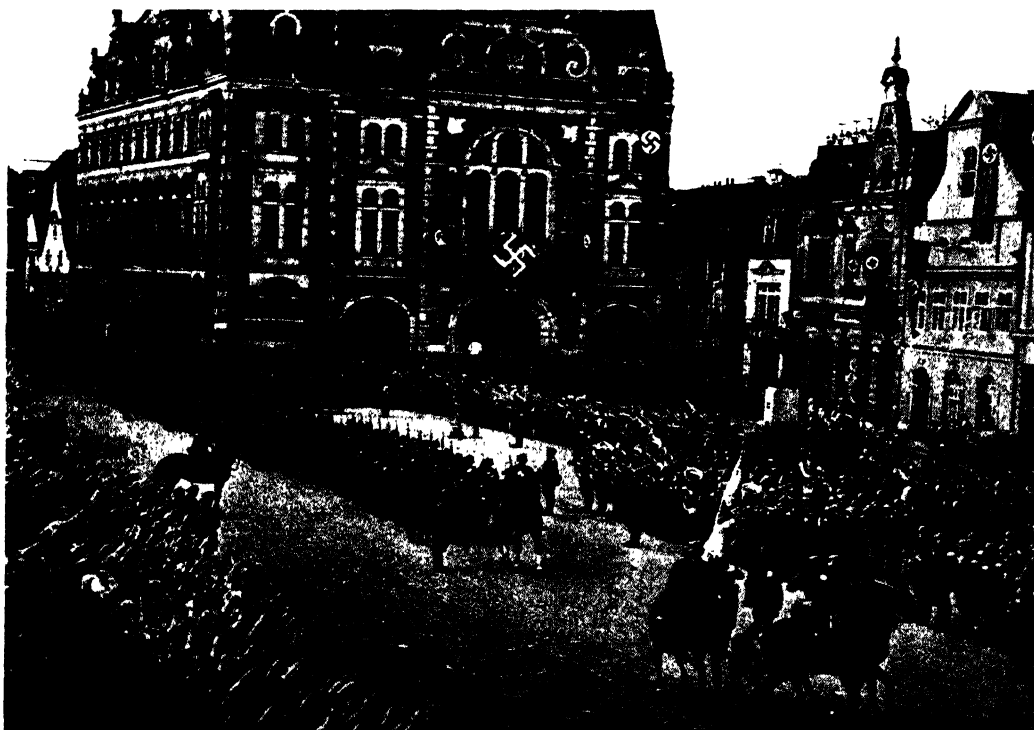
During October Dr. Funk visited Belgrade, Sofia, and Ankara. He offered to supply German technicians, machines, and materials for the construction of public works designed to aid the efficient exploitation of the raw materials and agricultural resources of those countries. These public works were to be paid for through shipment of increased supplies of foodstuffs and raw materials to Germany. There was a ready response to his proposals. On October 7 the Reich advanced to Turkey a credit of 150,000,000 marks for the purchase of German "industrial and military equipment and materials for public works and other purposes." A new trade agreement signed with Yugoslavia on October 25 enabled Germany to liquidate her trade debt to Belgrade by armament deliveries and paved the way for greater exchange of Yugoslav products for German manufactures. Bulgaria obtained a credit for armaments on the same basis. The agreements reached with Czechoslovakia (q.v.) in November for the construction of canals and an all-German highway to Vienna



Newsphotos

THE MUNICH ACCORD

Heads of the four great European Powers who decreed the partition of Czecho-Slovakia at Munich, Germany, on Sept. 29-30, 1938. Left to right: Prime Minister Neville Chamberlain of Great Britain, Premier Edouard Daladier of France, Chancellor Adolf Hitler of Germany, and Premier Benito Mussolini of Italy.



Brown Brothers

OCCUPATION OF THE SUDETENLAND

German troops crossing the Czech frontier at Friedland on Oct. 2, 1938, to take possession of territory ceded to the Reich at Munich.

GERMANY



Brown Brothers

THE ANTI-SEMITIC OUTBREAKS

These Jewish shops in Berlin illustrate the destruction wrought by Nazi mobs in cities throughout Germany during the November disorders



Brown Brothers

THE ANNEXATION OF AUSTRIA

Chancellor Adolf Hitler (center foreground) announcing the formal incorporation of Austria in Great Germany

served to advance the trade-expansion plan. Negotiations for similar agreements were opened with Hungary, Greece, and Rumania. In most of these countries the activities of local Nazi parties, financed or guided from Berlin, served to reinforce direct German politico-economic and military pressure.

While great progress was made in establishing German economic hegemony, the Reich's aggressive policies aroused fears in the Danubian and Balkan countries that they were being transformed into colonial dependencies. Consequently, they displayed some reluctance to commit themselves finally to collaboration with the Reich. The governments of Hungary and Rumania strove to forestall the establishment of native Nazi regimes by adopting a fascism all their own. Hungary nevertheless was forced more and more into the Nazi orbit. But in Rumania, whose oil was highly coveted by Germany, King Carol proved a more difficult problem. Carol conferred with Hitler at Berchtesgaden for three hours on November 24. But immediately after his return home he struck ferociously at the Nazi-dominated Rumanian Iron Guard, thus breaking openly with Hitler (see *RUMANIA under History*).

Relations with Poland. Poland sought to bar the eastward expansion of Germany after Munich by seeking to create a bloc of neutral states in Eastern Europe. Her efforts to establish a common Polish-Hungarian frontier through cession of all Ruthenia to Hungary were foiled by Germany, however. Toward the year end reports from the Carpatho-Ukraine (Ruthenia) indicated that the Germans were actively laying the groundwork there for a future Ukrainian independence movement (see *CZECHO-SLOVAKIA under History*). The Reich brought pressure upon Poland to accept the Vienna territorial award by threatening armed action if Poland interfered in Ruthenia and by suddenly expelling to Poland some thousands of Polish Jews in Germany (see *JEWS*). Nevertheless, Poland on October 18 accepted a 60,000,000-mark credit from the Reich for the purchase of German machinery and other industrial equipment, to be paid for with Polish foodstuffs and lumber. Danzig (q.v.) was another source of Polish-German friction during 1938.

Memel Controversy. Germany's increased influence in Eastern Europe after Munich was also reflected in the steps taken by the Lithuanian Government late in the year to grant autonomy to the Germans in Memel (q.v.). The Reich indicated that for the time being it would not seek incorporation of Memel in Great Germany. But when Britain and France on December 12 asked Hitler to respect the statute guaranteeing Lithuania's sovereignty over Memel, they were bluntly told that their signatures to the Memel Statute gave them no right to intervene in a purely German-Lithuanian controversy. See *LITHUANIA under History*.

Rome-Berlin Axis. Hitler's understanding with Mussolini proved sufficiently based upon mutual interests to withstand both the shock of Anschluss and British efforts to weaken the Rome-Berlin axis through the Anglo-Italian accord. Hitler seized Austria without consulting Mussolini. The latter was in no position to check the German invasion by the threat of armed intervention, as he had done in 1934. Weakened by the Ethiopian war and preoccupied in Spain, Il Duce sullenly acquiesced, being mollified by Hitler's assurances that Germany would rest content with the Brenner frontier and would not lay claim to

the 200,000 Austrian Germans in the Italian Tirol.

During May 3-9 the German Chancellor visited Rome to repay the visit to Germany made by Mussolini in 1937. He gave Mussolini his solemn pledge "to consider inviolable for all time the frontiers of the Alps erected between us by nature." The Italian Premier apparently received in addition a German promise of continued support in Spain. At any rate, the remainder of the year witnessed a tightening of German-Italian diplomatic bonds. Mussolini's aid proved invaluable to Hitler during the crisis over Czecho-Slovakia. By keeping France and Britain worried about their communications in the western Mediterranean, Italy prevented the formation of a coalition against Germany and thus enabled the Reich to establish its unquestioned control over Central Europe. In return Mussolini asked German support for his demands upon France (q.v.).

Italo-German diplomatic collaboration was accompanied by economic and cultural accords. In June an agreement covering the treatment to be accorded Italian capital in Austria was signed. A pact adjusting customs tariff relations between Italy and what was formerly Austria was signed May 28. Another agreement safeguarded Trieste's position with regard to Austria's trade. An accord governing scientific, cultural, and artistic relations between the two countries was signed November 23. It provided for greatly increased cultural interchange and for "repressive treatment of politically tendentious literature of political expatriates directed against the institutions and regimes of these two countries." Numerous Italian workers were sent to Germany to meet the German labor shortage, thus reducing unemployment in Italy.

Closer Ties with Tokyo. Hitler also tightened Germany's bonds with Japan, the other partner in the tripartite anti-Communist bloc. He abandoned his claim to the former German colonies held by Japan under League mandate and lent powerful diplomatic support to Japan in China (q.v.) and economic assistance in Manchoukuo (q.v.). Important quantities of German manufactures were bartered for Manchurian foodstuffs and other products under an agreement of September 13. A German-Japanese cultural pact was approved by the Japanese Privy Council on November 22. It provided for mutual recognition of their respective racial principles, for co-operation in all sports and cultural fields, and for closer collaboration against communism. The Germans, according to reliable reports, also sought to conclude a more specific military alliance with Japan.

Attitude toward France. Hitler's program of neutralizing Britain in order to deal with France alone received a severe setback through the conclusion of a comprehensive Anglo-French alliance in April. But this aided Hitler's drive against Czecho-Slovakia as it better enabled Britain to persuade France not to fulfill her treaty obligations to Prague. The collapse of the Popular Front government bloc in France and the establishment of a French Government antagonistic to the Soviet Union and conciliatory toward the Reich was another highly favorable development from the German point of view.

After Munich Hitler proposed the conclusion of a non-aggression declaration with France similar to that signed with Prime Minister Chamberlain. After some negotiation a declaration of amity which recognized their frontiers as definitive was signed by Foreign Ministers Ribbentrop and Bonnet in Paris on December 6 (see *FRANCE under*

History). The Germans hoped that it would weaken the Anglo-French and Franco-Soviet alliances. But deep suspicion of German policy remained in France. The question of the return of former German colonies held by France and of German support of Italy in Spain and the Mediterranean remained to divide the two nations.

Anglo-German Relations. Although Prime Minister Chamberlain's "appeasement" policies contributed greatly to Hitler's sensational gains in Central Europe, the year witnessed a gradual hardening of British sentiment against Germany. This was attributed to the growing belief that Hitler would not rest content with his gains of 1938 or with the projected return of the former German colonies but that he aimed to crush Britain and despoil her of her other colonies and world markets.

In his Reichstag speech of February 20 Hitler addressed his demand for colonies specifically to Britain. He also pressed the British Government to curb anti-German press attacks. Chamberlain indicated a willingness to return at least some of the former German colonies provided Hitler would agree to a peaceful settlement of outstanding European issues. But no progress toward an Anglo-German agreement appeared to have been made during the year. Moreover, Chamberlain's "appeasement" policies failed to bring the expected improvement in their general relations. The Germans were resentful of the tightening of the Anglo-French alliance, the extent of the British armament program, the anti-German agitation in the British press and by public figures. The British were greatly alarmed by German air power, Hitler's reckless diplomacy and repeated war threats, the inroads made by German barter trade into British foreign markets, the Reich's support of Mussolini in Spain and the Mediterranean, and of Japan in South China. Nazi attacks upon Jews, Protestants, Catholics, and other dissenters and violent criticism of British public figures and institutions also aroused British hostility.

While acquiescing in German expansion to the east at the expense of the smaller European powers, Prime Minister Chamberlain was less conciliatory where direct British interests were involved. Germany was forced on July 1 to pay British holders of Austrian bonds, while claims of American and other foreign creditors were ignored. The British got action by threatening to impound the proceeds of German exports to the United Kingdom, which greatly exceeded German purchases of British goods.

At the conclusion of the Munich Conference, Hitler and Chamberlain signed a joint communiqué stating that they recognized "the question of Anglo-German relations as of the first importance for the two countries and for Europe"; that they regarded the Munich Accord and the Anglo-German naval agreement "as symbolic of the desire of our two peoples never to go to war with one another again"; and that they would continue their "efforts to remove probable sources of difference and thus contribute to assure the peace of Europe" by methods of consultation.

Soon afterwards negotiations were resumed for an Anglo-German air pact. The Germans held out for the limitation of the British air fleet at about 35 per cent of theirs, while the British demanded equality. Consequently the negotiations languished. This impasse coincided with a shift of Nazi attacks from France, Russia, and Czecho-Slovakia to Britain and the United States, which blocked

German expansion overseas. In a speech at Weimar on November 6 Hitler bitterly denounced Winston Churchill, Anthony Eden, and leaders of the Liberal and Labor parties in Britain as "war mongers." Two days later at Munich he publicly told Britain and France that Germany had no demand to make on them beyond the colonial question, but that "if others decline to grant our rights we shall secure them in a different way." The British Government replied that it was "not contemplating the transfer of any territories under British administration."

In December the London Government introduced a bill for a £10,000,000 fund to fight German dumping in competition with British exports to Eastern Europe and elsewhere. Dr. Schacht visited London in the middle of that month in an effort to avert a trade war and to seek an agreement on the refugee issue, but met with no success. Prime Minister Chamberlain, speaking before the House of Commons on December 19, asked for "a sign from those who speak for the German people" that they were ready to aid European peace. He was not reassured when the Reich Government announced that it would increase its submarine tonnage by about 45,000 tons to a figure equal to that of the British submarine fleet. A British naval delegation that went to Berlin in an effort to change this decision returned empty-handed to London on December 31. It was reported that Germany had also decided to build two more heavy cruisers in addition to three under construction, and had raised the question of increasing the maximum caliber of naval guns from 16 to 18 inches. Germany justified these increases by Soviet naval construction in the Baltic, but since they posed a direct threat to Franco-British communications and naval predominance in the Atlantic, they contributed to a deepening of British suspicion concerning Hitler's future military aims.

Rift with United States. Germany's relations with the United States had been going from bad to worse ever since Hitler assumed direction of the Reich Government. During 1938 they reached a stage just short of the severance of diplomatic relations (see UNITED STATES under *Administration*). There were violent recriminations between public officials and the press of both countries, growing competition in armaments, and constant friction over the treatment of American Jews and their properties in Germany, German trade methods which adversely affected American markets in Latin America and elsewhere, rival propaganda offensives in Latin America, the treatment accorded American holders of German and Austrian bonds, and the activities of German-employed spies and Nazi organizations in the United States in support of German foreign and domestic policy (see FASCISM).

The anti-Semitic outbreaks in Germany in November provoked a public condemnation from President Roosevelt on November 15 and the recall of the American Ambassador from Berlin. The Reich replied by summoning Ambassador Dieckhoff home on November 18 to report on "public sentiment in the United States and the singular attitude toward domestic affairs in Germany manifested in various declarations by President Roosevelt and other important United States personalities." A speech by Secretary of the Interior Harold Ickes attacking Hitlerism and Americans who accepted decorations from "a brutal dictator" led the German Chargé d'Affaires at Washington on December 21 to request the government to disavow

the speech. Acting Secretary of State Sumner Welles bluntly rejected the request, declaring that it was improper at a time when the German press was filled with attacks against President Roosevelt and members of his Cabinet. Welles declared that Ickes' utterances were a natural expression of public indignation aroused by "the recent policies in Germany."

Relations with Small Democracies. Similar tension marked the relations between the Reich and the small democracies of Western and Northern Europe. By economic pressure, support of native Nazi movements, and threats of military action, the Nazi regime sought to still criticism of its policies and methods in Switzerland, the Netherlands, and the Scandinavian states. In an exchange of notes with Switzerland on June 24 the Reich promised to respect its neutrality in return for Swiss repudiation of the sanctions and allied obligations of the League Covenant. Nevertheless, the Swiss Government felt obliged to take drastic measures against Nazi propaganda and intrigue. The other small democracies, while taking steps to insure their complete neutrality in the expected war, offered sturdy resistance to any change in their democratic institutions suggested from Berlin. Yet they lived in fear of German might and deeply distrusted Hitler's intentions.

See AUSTRIA, BELGIUM, BOLIVIA, BRAZIL, BULGARIA, CHILE, CHINA, COLOMBIA, CZECHO-SLOVAKIA, DENMARK, ECUADOR, FRANCE, GREAT BRITAIN, GREECE, HUNGARY, ITALY, JAPAN, LITHUANIA, MEXICO, NETHERLANDS, POLAND, PORTUGAL, RUMANIA, SOUTH AFRICA, SPAIN, SWEDEN, SWITZERLAND, TURKEY, UNION OF SOVIET SOCIALIST REPUBLICS, and YUGOSLAVIA under *History*; CHEMISTRY, INDUSTRIAL; FASCISM; GARBAGE AND REFUSE DISPOSAL; JEWS.

GIBRALTAR. A British crown colony and fortified naval base. Area, $1\frac{1}{8}$ square miles; total civilian population (Jan. 1, 1938, estimate), 19,541, of whom 16,792 were fixed residents. During 1937 there were 381 births (22.69 per 1000) and 292 deaths (crude death rate was 14.93 per 1000). In 1937 there were 13 government-aided elementary schools with a total of 2884 pupils enrolled, 4 secondary schools, and a few private schools.

Trade. The chief trade is the supply of coal, fuel oil, and provisions to shipping, and the transit of cargo to Spain and Morocco. There is no agricultural production. Fishing is carried on in local boats for home consumption. A few minor industries, such as boat building, ship repairing, and the manufacture of tobacco, are carried on. The deep Admiralty harbor, of 440 acres in extent, contained three graving docks. Owing to the fact that Gibraltar is practically a free port, trade statistics are unavailable. During 1937 a total of 5149 ships aggregating 13,739,230 tons entered. In 1938 there were 14 miles of roads.

Government. For 1937 revenue totaled £207,984; expenditure, £196,179. The government of the colony is administered under Letters Patent of Sept. 12, 1922, by a governor who is aided by an executive council of 4 official and 3 unofficial members. Legislative power is vested in the governor who is also the general officer commanding the garrison. Governor, Gen. Sir W. Edmund Ironside (appointed, October, 1938).

History. During 1938 the Colonial Secretary in London approved proposals submitted by the Housing Commission for the expenditure of £100,000 on a housing scheme to be known as Harington Buildings. A new reservoir, the ninth built into the Rock,

with a capacity of 1,750,000 gal., was ready for use in May. A tenth reservoir, twice the size of the ninth, has been started.

As a result of a state of overcrowding due to the number of Spaniards seeking refuge in Gibraltar, the Aliens and Strangers Ordinance was to be amended so as to avoid the danger of an epidemic which might menace the civil community, and, if it reached the garrison, impair the efficiency of the fortress. In June Governor Harington laid the foundation stone of the King George V Hospital for Diseases of the Lung. See SPAIN under *History*.

GILBERT, S(EYMOUR) PARKER. An American lawyer and banker, died in New York, Feb. 23, 1938. Born in Bloomfield, N. J., Oct. 13, 1892, he graduated from Rutgers College in 1912 and received a law degree at Harvard in 1915. After admittance to the bar he joined the firm of Cravath and Henderson, with which he remained until 1918 when Russell C. Leffingwell, a member of the firm, invited him to assist him as a member of the War Loan staff in the office of the Secretary of the Treasury of the United States as counsel in war loan matters.

In June, 1920, he was appointed Assistant Secretary of the Treasury to have charge of fiscal affairs, and on July 1, 1921, made Under Secretary of the Treasury in charge of fiscal affairs to succeed Mr. Leffingwell who had resigned. His major task was assisting Andrew Mellon, then Secretary of the Treasury, in the refunding of short-dated war debts of the Federal Government, which work had been begun by Mr. Leffingwell during the Wilson Administration. During this period he was assigned to the supervision of various bureaus and offices including the Public Debt, Loans and Currency, Accounts and Audits, Comptroller of the Currency, the Budget, Mint, etc. He resigned this post on Nov. 17, 1923, and returned to New York to rejoin his law firm.

On Oct. 30, 1924, he resigned to succeed Owen D. Young as permanent agent general for reparation payments in Germany under the Dawes plan. It was his undertaking to lead Germany to economic and financial stability and to transfer reparations from Germany to the World War Allies and to the United States. During his tenure as agent general he transferred on paper 7,948,988,748 gold marks as reparations, or about \$2,000,000,000, and supervised the distribution of this sum in varying amounts and varying types of goods and services to the Allied nations.

In 1929 the Young plan for the payment of reparations was instituted and the Dawes plan abolished, and on May 17, 1930, Mr. Gilbert ended his association with reparations, his work being taken over by the Bank for International Settlements. On Jan. 2, 1931, he was made a partner in the firm of J. P. Morgan & Company, with which he was associated at the time of his death.

In addition to honorary degrees, he was made a grand officer of the French Legion of Honor (1930), of the Order of Leopold of Belgium (1930), and of the Order of Saints Maurizio and Lazzaro, Italy (1930). He published *Reports* as Agent General for Reparation Payments, covering the administration of the Dawes Plan.

GILBERT AND ELLICE ISLANDS. A British colony in the mid-Pacific, consisting of the Gilbert group (16 coral atolls), the Ellice group (9 coral atolls), the Phoenix group, and the distant Ocean, Fanning, Christmas, and Washington islands. Total area, 216 square miles; population

(1937 estimate), 36,052. Copra and phosphate of lime are the chief products. In 1937 imports were valued at £119,201; exports, £449,940. For the fiscal year ended June 30, 1937, revenue totaled £77,630; expenditure, £79,835. The colony is administered by a resident commissioner (with headquarters on Ocean Island), under the British High Commissioner for the Western Pacific (with headquarters in Fiji).

History. The Phoenix Islands were included in the Gilbert and Ellice Islands colony by a British Order in Council of Mar. 18, 1937. According to the Anglo-U.S.A. Pact of Aug. 10, 1938, the islands of Enderbury and Canton (Mary) of the Phoenix group are for the common use of Great Britain and the U.S.A. for civil aviation and communications. See CANTON ISLAND; ENDERBURY ISLAND.

GIRL SCOUTS. A nonsectarian movement for girls from 7 to 18, started in Savannah, Ga., in 1912 by Mrs. Juliette Low and adapted from the scouting program begun in England in 1907 by Lord Baden-Powell. It is a leisure-time program which supplements the work of the church, the home, and the school, and encourages girls to learn and practice the cultural and domestic arts, healthful living, and good citizenship. The active, paid-up memberships as of Dec. 31, 1938, totaled 516,420, inclusive of leaders.

Girl Scouting in 1938 began its 27th year by putting into effect a revised program planned for girls of three age levels: Brownie Scouts, from 7 to 10 years old; Girl Scouts, from 10 to 14 years old; and Senior Girl Scouts, from 14 to 18 years old. The revised program provides wider choices of activities and greater freedom for the development of the individual girl and of the group. Girl Scouting covers 10 general fields of interest: The out-of-doors, homemaking, international friendship, arts and crafts, community life, sports and games, nature, health and safety, literature and dramatics, music and dancing. For Senior Girl Scouts there is an additional field, vocational exploration.

In August a group of five American Girl Scouts and their leader attended the annual gathering of Girl Guides and Girl Scouts at Our Chalet, the international Girl Scout meeting place near Adelboden, Switzerland. Nine nations were represented. These meetings are made possible by the Juliette Low Memorial Fund, maintained by the Girl Scouts of the United States.

The official organ for girls is the *American Girl Magazine*, and for leaders, the *Girl Scout Leader*, each a monthly publication. The national officers in 1938 were: Honorary president, Mrs. Franklin D. Roosevelt; chairman of the board of directors, Mrs. William J. Babington Macaulay (q.v.); president, Mrs. Frederick H. Brooke; national commissioner, Mrs. Frederick Edey; secretary, Mrs. Ralph G. Wright; treasurer, Miss Eleanor Frances Edson. Mrs. Paul Rittenhouse is national director. Headquarters are at 14 West 49th St., New York City.

GLUCK, ALMA (MRS. EFREM ZIMBALIST). An American singer, died in New York, Oct. 27, 1938. Born Reba Fiersohn in Bucharest, Rumania, May 11, 1884, she was brought to New York City in 1890 and educated there in the public schools and at Normal College and at Union College, Schenectady, N. Y. She entered the business world and was married to Bernard Gluck before she studied singing. But becoming aware of her beautiful soprano voice, she decided to improve it and studied under Signor Buzzi-

Peccia during 1906-09. Being heard by Gatti-Casazza, she was engaged by the Metropolitan Opera Company and made her debut as Sophie in Massenet's *Werther* at the New Theater, New York, then an adjunct of the Metropolitan. During that season she sang 11 different roles. In the next year, Mme. Gluck appeared at the Metropolitan, where she won instant recognition. During her association with the Metropolitan, she sang the roles of Mimi in *La Bohème*, Nedda in *Pagliacci*, Leonora in *Il Trovatore*, and Marguerite in *Faust*. In 1912 she retired from the operatic stage.

She then devoted her attention to the concert stage where she scored a notable success and established a reputation in lieder singing. She studied with Mme. Sembrich in Berlin during 1912-13, and in 1914 was married to Efrem Zimbalist, the violinist, having been divorced in 1912. Thereafter, she appeared less and less on the concert stage, although occasionally she gave joint recitals with her husband. In 1925 she definitely retired.

Mme. Gluck was well-known for her song recordings, chief among them being for her beautiful rendition of "Carry Me Back to Old Virginny." She was a founder of the American Woman's Association and of the American Guild of Musical Artists, and gave her support to the Friends of Music, the Musician's Emergency Fund, and the Yorkville Music School Settlement.

GLYCEROL FROM OIL. See CHEMISTRY, INDUSTRIAL.

GOA. See PORTUGUESE INDIA.

GODOWSKY, gô-dôv'ské, LEOPOLD. An American pianist, teacher, and composer, died in New York, Nov. 31, 1938. Born in Wilno, Russian Poland, Feb. 13, 1870, his musical ability manifested itself at an early age, and after studying with local teachers, he made his first public appearance at the age of nine. His success led him to tour Russia and Poland, and in 1881 he entered the Hochschule in Berlin where he remained until 1884.

In 1884-86 Godowsky made his first American tour. He left for London and Paris in 1886 where he studied under Saint-Saëns until 1890. He then made a second tour of America during 1890-94. For a year (1894-95) he was director of the Piano Department of the Broad Street Conservatory of Music in Philadelphia, and then became director of the Piano Department in the Chicago Conservatory of Music, holding this position until 1900. In 1900 he was invited to play at a concert in Berlin, then the heart of the musical world. His Berlin debut was made on Dec. 6, 1900, and so great was his success that he gave five concerts instead of one, and established his place as one of the foremost of contemporary pianists. He remained in Berlin working and teaching until 1909, when he was appointed by the Emperor Francis Joseph director of the Imperial Royal Meisterschule for Piano at the Imperial Royal Academy of Music in Vienna with the title of imperial royal professor. He held this position until 1914 when, after a concert tour in America, he settled in the United States, becoming a citizen of that country in 1921. Thereafter, Godowsky devoted himself to teaching, composing, and the concert stage. He retired in 1930 after a paralytic stroke left his right hand almost useless, and thereafter composed many pieces for the left hand alone, including a prelude and fugue, suite, six waltz poems, elegy, meditation, impromptu, etc.

Besides being known as a concert pianist and teacher, he was also a composer of note, and his numerous paraphrases of works by Chopin, Weber,

Henselt, and J. Strauss make extraordinary demands upon the player's technical execution. His original compositions consist of a sonata in E minor, 24 pieces published under the title *Renaissance*, 24 others entitled *Waltermasken*; 12 compositions for the violin; Triakontameron (30 pieces) for piano; Phonoramas (Java cycle of 12 compositions); Concert Studies in C and E-flat; Sarabande in C-sharp minor; Menuet in A-flat; Courante in E-minor; Scherzino in C-sharp minor, and 46 miniatures for four hands. From 1912 to 1921 he was editor-in-chief of the *Progressive Series of Piano Music*, and in 1934 acted as chairman of a concert in honor of Albert Einstein. Also, he was acting chairman of the Musicians Committee to Aid Spanish Democracy.

GOGA, OCTAVIAN. A Rumanian writer and politician, died at Cluj, Rumania, May 7, 1938. Born in Transylvania, Apr. 1, 1881, he was educated at the universities of Budapest and Berlin. In 1902 he founded the literary review *Luceafărul*, which exerted a strong influence in fostering Rumanian culture under a Hungarian regime. His poetry, which consisted mainly of poems on Transylvanian life and translations of Hungarian verse, won for him the National Prize for Poetry. Subsequently he directed the review *Tara Noastră* and was a former president of the Rumanian Authors' Union, and a member of the Rumanian Academy of Science.

Although honored in 1905 for his patriotic verse, it almost brought him to jail, but he escaped to Hungary where he remained until the outbreak of the War in 1914 when he returned to Rumania and joined the army. After the War he was an adviser to the Rumanian delegation to the Paris Peace Conference. A member of Averescu's People's Party, in 1921 he founded his own party, the National Agrarians, which in 1935 was merged with Alexander Cuza's League for National Christian Defense.

Goga served as Minister of Cults in 1922 and of the Interior during 1926-27 and while holding the latter office carried through one of the most coercive elections in Rumanian history. On Dec. 28, 1937, Goga was appointed prime minister by King Carol, to the amazement of Europe, as the National Christians polled only 9.15 per cent of the votes in the elections to the Chamber of Deputies. He lost no time in putting into effect his anti-Semitic and Fascist principles and by the end of the year a series of anti-Jewish decrees, intending to exclude Jews from political and economic life, were put into effect. These soon affected the economic and financial life of the country, and on Feb. 10, 1938, Goga was compelled to resign, the high court declaring unconstitutional a decree barring Jews from voting in the promised elections. He then retired to his home in Transylvania. See *RUMANIA* under *History*.

GOLD. Gold production in the world during 1938, according to the American Bureau of Metal Statistics, totaled 31,837,000 fine oz., with the U.S.S.R. excepted, compared to 29,888,000 in 1937. South Africa continued to be the largest producer, producing over twice as much as the United States; next to the United States came Canada.

The United States and its possessions, according to the U.S. Bureau of Mines, produced in 1938 5,106,109 oz., having a value of \$178,713,815 which was 6 per cent more than in 1937. Of the total production, California contributed 25 per cent; Philippine Islands, 17; Alaska, 13; South Dakota, 12; Colorado, 7; Arizona, 6; Nevada, 6; Utah, 4, and Montana, 4. A preliminary estimate of refinery

gold production in the United States during the calendar year 1938 is given below.

States or Territories	Ounces	Value ^a
Alaska	667,000	\$ 23,345,000
Alabama	30	1,050
Arizona	310,000	10,850,000
California	1,294,400	45,304,000
Colorado	370,100	12,953,000
Georgia	833	29,155
Idaho	101,000	3,535,000
Maryland	847	29,645
Montana	197,200	6,902,000
Nevada	289,700	10,139,000
New Mexico	38,600	1,351,000
North Carolina	1,870	65,450
Oregon	77,100	2,698,500
Pennsylvania	1,402	49,070
South Carolina	11,125	389,375
South Dakota	594,000	20,790,000
Tennessee	300	10,500
Texas	455	15,925
Utah	210,650	7,372,750
Virginia	2,814	98,490
Washington	73,400	2,569,000
Wyoming	877	30,695
Philippine Islands ^b	862,397	30,183,895
Puerto Rico	9	315
Total 1938	5,106,109	178,713,815
Total 1937	4,834,062	169,192,182
Prev. largest production, 1915	4,887,604	101,035,700

^a Gold valued at \$35 (in 1915 at \$20.67+) per fine ounce. ^b A self-governing commonwealth under the sovereignty of the United States.

The U.S. Department of Commerce announced that the United States' exports and imports of gold for 1937 and 1938 were:

Year	Exports	Imports	Excess
1938	\$ 5,889,000	\$1,979,458,000	\$1,973,569,000
1937	46,020,000	1,631,523,000	1,585,503,000

U.S. Treasury price per ounce for home and foreign gold under Executive Order of Jan. 31, 1934, \$35. Gold in U.S. Treasury reached \$14,500,000,000 in 1938, against \$12,760,150,000 at the end of 1937.

See **BANKS AND BANKING**; **FINANCIAL REVIEW**; **UNITED STATES** under *Administration*.

GOLD COAST. A British colony in West Africa, comprising the Gold Coast colony (23,937 sq. mi.), Ashanti (24,379 sq. mi.), Northern Territories (30,486 sq. mi.), and the area of Togoland mandated to Great Britain (13,041 sq. mi.). Total area, 91,843 square miles; total population (July, 1937, estimate), including British Togoland, 3,703,517, excluding 4463 non-Africans. The principal towns are Accra (71,016 inhabitants), Cape Coast (19,134), Sekondi (20,864), Kumasi (42,203), Tamale (17,687), Koforidua (13,243), and Ho (3549).

Production and Trade. The main products were cacao, kola nuts, palm kernels, copra, rubber, maize, yams, timber, gold, manganese ore, and diamonds. For 1937-38 the cacao crop was estimated at 270,000 metric tons. Gold production (1937) totaled 590,025 fine oz. The Gold Coast is the second largest producer of diamonds and the third largest producer of manganese ore in the world. Cotton manufactures, machinery, iron and steel manufactures, foodstuffs, tobacco, oils, and medicine and drugs were the main imports. In 1937 total imports (including specie and currency of £6,921,608) were valued at £19,228,363; exports (including re-exports of £268,600) totaled £16,218,193, of which cocoa (236,206 tons) accounted for £9,989,548; gold (557,764 fine oz.), £3,910,757; manganese ore (527,036 tons), £1,025,091; diamonds (1,577,661 carats), £648,057.

Communications. During the year ended Mar. 31, 1938, the length of railway line open to traffic

totalled 500 miles; 3,436,478 passengers and 1,004,-876 tons of freight were carried. Accra is the exchange center for air mails received and dispatched by Imperial Airways and the French Aeromarine services. The number of ships using the harbor of Takoradi in 1937-38 totalled 752, and the amount of cargo handled (import and export) amounted to 941,324 tons.

Government. For the year ended Mar. 31, 1938, net revenue totalled £3,791,673; net expenditure, £3,636,569; public debt, £11,435,000 against which the sinking funds for its redemption totalled £1,629,321. The government of the colony is administered by a governor assisted by an executive council, and a legislative council of 15 official and 14 unofficial members. Ashanti, the Northern Territories, and Togoland (British) are administered by the governor of the Gold Coast, and their statistics of trade, etc., are included in the general total for the Gold Coast. Governor and Commander-in-Chief, Sir Arnold W. Hodson (appointed, Oct. 20, 1934).

GOLDEN GATE BRIDGE. See BRIDGES.

GOLF. See SPORTS.

GOUCHER COLLEGE. A nonsectarian college for women in Baltimore, Md., founded in 1885. The enrollment for the first term of the year 1938-39 was 643. The faculty had 82 members. The endowment funds of the college amounted to \$2,475,-685, and the income for 1937-38 was \$567,999. The library contained 67,748 volumes. President, David Allan Robertson.

GOUGH ISLAND. See ST. HELENA.

GRAHAM LAND. See FALKLAND ISLANDS under *Dependencies*.

GRAND ARMY OF THE REPUBLIC. A patriotic order, formed at Decatur, Ill., in 1866 so that veterans who had served in the Federal Army during the Civil War might "enjoy a companionship made sacred by common sufferings and sacrifices." Affiliated with it are its auxiliary, the Women's Relief Corps, and the allied bodies, Ladies of the G.A.R., Daughters of Union Veterans of the Civil War, Sons of Union Veterans of the Civil War, and the auxiliary to the Sons of Union Veterans.

The maximum strength of the organization was in 1890 when it had a membership of 408,487. On Jan. 1, 1938, there were 948 posts with a membership of 3325. The 72d National Encampment was held in Des Moines, Iowa, September, 1938, and the following officers were elected: Commander-in-Chief, Robert M. Rownd, Ripley, N. Y.; Adjutant-General, Martin V. Stone, Jamestown, N. Y.; Quartermaster-General, John E. Andrew, Quincy, Ill. National headquarters are at Library Building, Ripley, N. Y.

GRAND COULEE DAM. See DAMS.

GRAPHIC ARTS. See PRINTS.

GRASSHOPPER MENACE. See ENTOMOLOGY, ECONOMIC.

GRAYSON, REAR ADM. CARY T (RAVERS), U.S.N., RET. An American physician and naval officer, died in Washington, D. C., Feb. 15, 1938. Born in Culpeper County, Va., October 11, 1878, he worked his way through William and Mary College (1895-98) and received the degrees of Ph.G. and M.D., at the University of the South in 1902. He interned at the Columbia Hospital for Women in Washington during 1902-03 and attended the U.S. Naval Medical School, graduating in 1904. On July 14, 1903, he was commissioned acting assistant surgeon in the U.S. Navy.

Thereafter he became successively assistant sur-

geon, June 28, 1904; passed assistant surgeon, June 28, 1907; surgeon, August, 1916, and medical director with the rank of rear admiral, Aug. 29, 1916. He saw service as surgeon at the U.S. Naval Hospital, Washington (1903-05); on the U.S.S. *Maryland* on a trip around the world (1905-07); surgeon of the presidential yacht *Mayflower*, and attending and consulting physician, Naval Dispensary, Washington, during the Roosevelt and Taft administrations.

At the inauguration of President Wilson in 1914, Dr. Grayson was called in to attend a guest, and soon afterward became the personal physician of the president. It was not long before he became the president's friend and confidant. When President Wilson became ill in 1919 it was Admiral Grayson who refused to allow the Vice-President to assume authority, and with Mrs. Wilson and the president's secretary, Mr. Tumulty, he supervised the affairs of the presidency. In 1920 he was awarded the Navy Cross "for conspicuous and meritorious duty as physician to the President of the United States and aid to him during the war."

On Dec. 30, 1928, Admiral Grayson retired from the Navy and was appointed chairman of the Gorgas Memorial Institute of Preventive Medicine and Tropical Research. His real interest, however, was in the breeding of race horses and two of his more important horses were *My Own*, which won the Saratoga Cup in 1923, and *Sarazen*, which won 27 races and prizes worth \$225,000.

In March, 1935, President Franklin D. Roosevelt appointed Admiral Grayson chairman of the American Red Cross to succeed John Barton Payne. Under his influence the society developed extensive public safety and public sanitation campaigns and mobilized more than 5,000,000 persons in annual roll calls.

During the World War, he was a member of the public health commission of the National Food Administration and of the Council of National Defense. At the inaugurations of Franklin D. Roosevelt in 1933 and again in 1937, Dr. Grayson was chairman of the committee in charge. A fellow of the American College of Surgeons, he was also a commander of the Order of Leopold of Belgium and of the French Legion of Honor.

GREAT BRITAIN. Official designation for the political union embracing England, Scotland, and Wales. Capital, London. Sovereign in 1938, George VI, who succeeded to the throne upon the abdication of Edward VIII Dec. 10, 1936, and was proclaimed King Dec. 12, 1936. Great Britain, together with Northern Ireland, the Isle of Man, and the Channel Islands, forms the United Kingdom of Great Britain and Northern Ireland. For statistical purposes, the Isle of Man, the Channel Islands, and in some cases Northern Ireland, are included under Great Britain. See BRITISH EMPIRE; IRELAND, NORTHERN.

Area and Population. The area of Great Britain, the census population of Apr. 27, 1931, and the estimated population on June 30, 1937, are shown by political divisions in the accompanying table.

GREAT BRITAIN: AREA AND POPULATION

Divisions	Area in sq. miles	Population 1931	1937
England (including Monmouthshire) ..	50,874	37,794,003	40,886,000
Wales	7,466	2,158,374	
Scotland	30,405	4,842,980	4,979,500
Isle of Man	221	49,308	145,000
Channel Islands	75	93,205	
Total	89,041	44,937,444	46,010,000

Live births in England and Wales in 1937 numbered 610,850 (14.9 per 1000); deaths, 509,560 (12.4 per 1000); marriages, 357,886 (8.7 per 1000). Live births in Scotland in the same year numbered 87,812 (17.6 per 1000); deaths, 68,942 (13.9 per 1000); marriages, 38,345 (7.7 per 1000). Permanent British emigrants to places outside of Europe numbered 31,764 in 1937 and immigrants of British nationality into Great Britain numbered 42,628. Of the emigrants, 2423 went to the United States, 2850 to British North America, 4122 to Australia, 1981 to New Zealand, 5577 to British South Africa, and 5632 to India and Ceylon. At the 1931 census the population of England and Wales was 80 per cent urban and 20 per cent rural.

Estimated populations of the chief cities in 1936 were: Greater London, 8,575,700; County of London, 4,141,100; Glasgow (Scotland), 1,119,900 in 1937; Birmingham, 1,018,800; Liverpool, 846,400; Manchester, 744,000; Sheffield, 518,200; Leeds, 489,862; Edinburgh (Scotland), 468,500; Belfast (Northern Ireland), 438,086 in 1937; Hull, 321,500; Bradford, 291,085; Newcastle-on-Tyne, 290,400; Stoke-on-Trent, 273,100; Nottingham, 279,400; Leicester, 261,800; Portsmouth, 251,400; Croydon, 241,739; Cardiff (Wales), 221,500; Plymouth, 206,400; Salford, 206,000.

Education and Religion. For the school year 1936-37, there were in England and Wales 21,654 elementary schools with an average attendance of 4,588,298; in Scotland, 2898 primary schools, with an average attendance of 566,550. For secondary education, there were in England and Wales 8575 schools of all kinds with about 1,773,900 pupils; in Scotland, 252 secondary schools with an average of 156,818 pupils on the rolls, various Central Institutions with 9172 day and 11,475 evening students, 790 centers for Continuation Classes with 152,018 students, and 7 normal schools with 1862 students. The 11 universities in England had 40,571 students in 1937-38, the four Scottish universities 10,357 students and the University of Wales 2935 students.

The Church of England (q.v.), with an Episcopal form of government, and the Church of Scotland (Presbyterian) are the "established religions" in England and Scotland, respectively. Recent statistics of "full members" of leading denominations in England and Wales were: Anglicans, 2,294,000; Methodists, 1,244,374; Congregational, 494,199; Baptist, 401,175; Calvinistic Methodist, 272,935. The number of Roman Catholics was estimated at 2,321,117 in 1933. The Church of Scotland had 2588 congregations and 1,288,571 full members on Dec. 31, 1936; the Roman Catholic Church, about 450 churches, chapels, and stations and 614,205 adherents. Various other Protestant denominations had smaller followings in Scotland.

Agriculture. About 21 per cent of the total area of the United Kingdom is arable land. The value of agricultural production in England and Wales in 1937 was £220,640,000 (livestock and products, £148,340,000; farm crops, £39,830,000; fruit, vegetables, and miscellaneous crops, £32,470,000). Yields of the chief cereals for England, Scotland, and Wales in 1938 were (in metric tons): Wheat, 1,914,300; barley, 859,600; oats, 1,703,900. For the entire United Kingdom, the potato harvest in 1937 was 183,531,000 bu.; turnips and swedes, 10,643,000 long tons; sugar beets (excluding Northern Ireland), 2,583,000 long tons; beet sugar (1937-38), 435,000 long tons; hops (England and Wales only), 26,320,000 lb.; flax (Northern Ireland only), 9,379,000 lb.; hay, 8,931,000 long tons. Livestock

statistics for the United Kingdom in 1937 were: Cattle, 8,639,000; sheep, 25,541,000; swine, 4,453,000; horses (in Great Britain on farms), 1,005,000. The wool clip as in the grease was about 107,000,000 lb. in 1937.

Mining and Manufacturing. The industrial census of 1935 showed a gross output valued at £3,464,300,000, of which £1,801,017,000 was the cost of materials and labor and £1,576,064,000 was the net value of production. A total of 7,076,600 workers were employed in industry in that year. Mineral and metallurgical production of the United Kingdom in 1937, with 1936 figures in parentheses, was (in metric tons): Coal, 245,053,000 (232,114,000); iron ore, 4,200,000 (3,872,000); tungsten ore (metal content), 132,000 in 1936; pig iron and ferro-alloys, 8,633,000 (7,845,000); steel ingots and castings, 13,172,000 (11,974,000); copper, 5200 (9400); lead ore (metal content), 26,500 (31,000); zinc (smelter production), 66,000 in 1936; aluminum (smelter production), 19,400 (16,400). The production of alcoholic spirits was 82,870,000 proof gal. in 1937; beer, 17,853,000 bbl. (of 36 gal.); cotton deliveries to spinners (1936-37), 3,155,000 bales; vessels launched, 921,000 gross tons; motor vehicles, 508,749; rayon, 154,810,000 lb.

Fisheries. During 1937 the fisheries of England and Wales landed 851,825 tons of fish valued at £11,951,195 and those of Scotland 235,083 tons valued at £3,422,178. The figures excluded shell-fish, which for all Great Britain was valued at £534,297 in 1937. The fishing fleet of the United Kingdom numbered 13,352 vessels of 273,855 net tons in 1936 and the number of regular and occasional fishermen employed was 54,774.

Foreign Trade. Recent trends in British foreign trade are shown in the accompanying table.

BRITISH FOREIGN TRADE *
[In thousands of pounds sterling]

Calendar year	Imports ^b	Exports British products ^c	Re-exports (imported merchandise) ^c	Total exports ^c	Excess of imports
1929 ..	1,220,765	729,349	109,702	839,051	381,714
1932 ..	701,670	365,024	51,021	416,045	285,625
1935 ..	756,041	425,834	55,303	481,137	274,903
1936 ..	847,752	440,605	60,769	501,374	346,378
1937 ^d ..	1,029,065	521,594	75,167	596,761	432,304
1938 ^d ..	925,372	471,282	61,855	533,137	392,235

* Not including bullion and specie movements. ^b C. i. f. value. ^c F. o. b. value. ^d Provisional figures.

Leading merchandise imports in 1937 were (in thousands of dollars, converted at average exchange rates): Wheat, \$246,431; wool, \$245,735; butter, \$234,144; raw cotton, \$231,602; wool, \$195,448; tea, \$146,517; bacon, \$144,809; gasoline, \$126,498. The chief exports were (in \$1000): Machinery and apparatus, \$308,700; iron and steel, \$243,882; cotton piece-goods, \$221,408; coal, \$186,225; woollens and worsteds, \$101,046; chemicals, \$76,389. In 1937 the United States supplied 11.1 per cent of all British imports, Canada 8.6, India 7.0, India 6.3, and Argentina 5.8 per cent. Of the 1937 exports of British products, South Africa purchased 7.9 per cent, India 7.5, Australia 7.2, United States 6.0, Canada 5.3, and France and Germany 4.1 per cent each.

Finance. Budget operations for the fiscal years ending March 31 are shown in the accompanying table on p. 300.

The totals given above for expenditures excluded £64,867,000 met from issues under the Defense Loan Act in 1937-38 and £90,000,000 met in the same manner in 1938-39. Exclusive of certain capital

UNITED KINGDOM: BUDGET OPERATIONS

Years ending March 31	Receipts	Expenditures	Balance
1931-32	£851,482,281	£851,117,944	+ £ 364,337
1932-33	827,031,000	859,310,173	- 32,279,173
1933-34	809,379,149	778,231,289	+ 31,147,860
1934-35	804,629,050	797,067,171	+ 7,561,879
1935-36	844,775,000	841,834,000	+ 2,941,000
1936-37	896,596,194	902,193,385	- 5,597,191
1937-38	948,660,000	919,874,000	+ 28,726,000
1938-39 *	994,842,000	1,024,840,000	- 29,998,000

* Estimates.

liabilities, the total public debt on Mar. 31, 1938, amounted to £8,026,000,000 (funded, £3,365,000,000; terminable annuities, £13,000,000; unfunded, £3,766,000,000), compared with a total of £7,797,000,000 on Mar. 31, 1937. The average exchange value of the pound sterling was \$4.9440 in 1937 and \$4.8894 in 1938.

Shipping. The British merchant marine on June 30, 1938, consisted of 7203 vessels of 17,781,000 gross tons capacity. During 1937 a total of 86,078 vessels of 94,100,000 net registered tons entered the ports of the United Kingdom in the foreign trade. The tonnage entered at the leading ports was: London, 22,573,000; Liverpool and Birkenhead, 14,547,000; Southampton, 11,880,000; Plymouth, 5,552,000; Hull, 5,414,000.

Railways, etc. There were 20,081 miles of railway line in Great Britain in 1937 (52,428 miles of track). During that year the railways carried 904,000,000 passengers, excluding 648,000,000 transits of season-ticket holders. Freight carried, excluding livestock, was 297,063,000 long tons. Gross receipts totaled £171,400,000. Roads and highways of the United Kingdom aggregated 178,103 miles in 1937; number of automobiles, 2,198,994. The two British air transportation systems are Imperial Airways and British Airways. In the fiscal year 1936-37 Imperial Airways planes flew 5,231,655 miles, carried 64,771 passengers and 35,668,430 letters. British Airways statistics for 1937-38 were: Miles flown, 1,404,898; passengers, 22,646; mail, 1,525,912 lb. In April, 1938, Imperial Airways accelerated its schedules on the routes to India, Australia, and South Africa. The Secretary of State for Air announced in November that Imperial Airways and British Airways would be merged to promote overseas civil aviation and that legislation would be introduced for the establishment of a public corporation to acquire the undertakings of the two companies.

Government. The United Kingdom of Great Britain and Northern Ireland is a limited monarchy, with an unwritten constitution, under which final legislative, judicial, and administrative authority is vested in a Parliament of two houses, acting through a cabinet drawn from its members. The House of Commons consists of 615 members, elected by universal male and female suffrage on the basis of one member for every 70,000 of population. The House of Lords in 1938 had 785 members, including 24 minors not seated, who are variously selected—by heredity, appointment, by virtue of office, and by election.

The elections of November, 1935, gave the National Government 431 out of the 615 seats in the House of Commons. The standing of the government parties toward the end of 1938, modified slightly by by-elections, was as follows (names of leaders in parentheses): Conservatives (Neville Chamberlain), 375; Liberal National party (Sir John Simon), 33; National Labor party (Malcolm MacDonald), 7; Independent Nationals, 5; total, 420. The Opposition was made up as follows: La-

bor party (Clement R. Attlee) and Independent Labor (James Maxton), 168; Liberal party (Sir Archibald Sinclair), 19; Independents, 7; Communists, 1; total, 195. For the composition of the cabinet at the beginning of 1938, see 1937 YEAR BOOK, p. 303; for changes in 1938, see *History*.

HISTORY

Domestic Affairs. Events of 1938 rudely shattered Britain's complacent belief in her strength and safety. The European crisis over Czecho-Slovakia in September forced the British people to face the fact that German air power had largely nullified the security maintained for generations by the British fleet. For weeks on end they lived in daily fear that large-scale air raids would devastate London and other poorly defended English cities and initiate another costly and highly destructive struggle in which the fate of the British Isles as well as of the empire would be determined. They watched, powerless to act, while Japan seized Canton, isolated Hong Kong, and took over highly profitable markets that had been British trade preserves for several centuries. They saw Italy extending and consolidating her military and strategic positions in the Mediterranean and striving to establish unquestioned control over this vital artery of the British Empire.

The impact of these world disturbances subordinated interest in domestic politics to the growing concern regarding British foreign policy. Prime Minister Chamberlain's joint program of European appeasement and British rearmament occupied the center of the political stage throughout the year.

Rearmament. There was no dispute among British parties as to the necessity for immediate and extensive rearmament. The constant attacks made upon the Chamberlain Government on this score were directed at the slowness of the progress achieved and at the inadequacy of war preparations rather than at the huge cost of the armament bill. Defense appropriations jumped from £122,200,000 in 1935-36 to £319,600,000 in 1938-39, and were estimated at £580,000,000 for 1939-40. Even before the end of 1937 actual costs outran the armament estimates. The bulk of these expenditures, apart from increased costs of maintenance, went into warships and airplanes, munitions plants, "shadow" airplane factories, ordnance depots, and heavy purchases of war materials. To finance the program, the government not only borrowed heavily (£99,700,000 in 1937 and £90,000,000 in 1938) but also imposed heavy income and other tax increases.

Inevitably Britain's industrial structure was artificially stimulated and distorted by these great and non-productive expenditures. Apparently desirous of keeping British industry on a business basis as long as his appeasement policy held out any hope of averting war, Prime Minister Chamberlain did not throw the full weight of his government into the rearmament effort. On March 15 he answered Labor critics in the House of Commons as follows:

I do not know whether you would like us to imitate Germany in the measures she has employed in regimenting her country for the production of armaments. We may have to. But we will not do it until we are convinced that nothing else will serve our purpose.

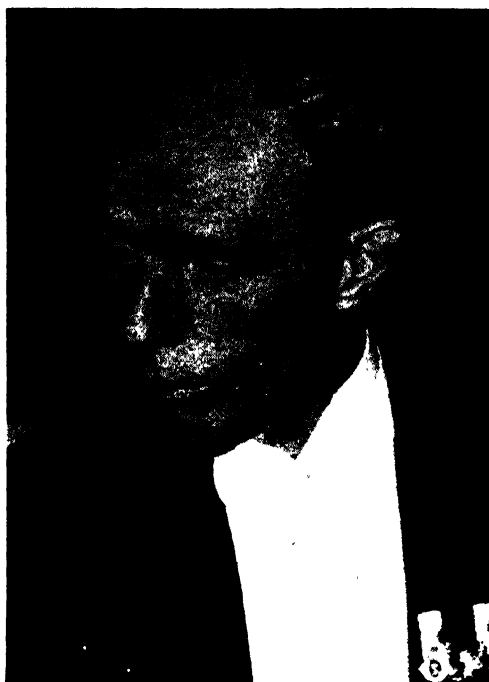
The result of this policy was that Britain was unable to catch up with the Reich's stupendous output of arms and airplanes. In Parliamentary debates in March, Winston Churchill, Sir Archibald Sinclair, and other critics charged that the German



Brown Brothers

CAPT. ANTHONY EDEN

British Foreign Secretary, resigned Feb. 20, 1938



Brown Brothers

LORD HALIFAX

British Foreign Secretary, appointed Feb. 20, 1938



Brown Brothers

BRITAIN ON THE BRINK OF WAR

During the European crisis of September, 1938, over Czecho-Slovakia workmen hurriedly dug trenches for air-raid shelters in Hampstead Heath (above) and other London parks

GREAT BRITAIN



Brown Brothers

THE ANGLO-ITALIAN ACCORD

With Count Galeazzo Ciano, Italian Foreign Minister, standing at his side (extreme right), Lord Perth, British Ambassador to Rome, affixed his signature to the pact for settlement of the differences between their two countries (Apr. 16, 1938)



Brown Brothers

ARAB-JEWISH CONFLICT IN PALESTINE

These Jewish homes in a Haifa suburb were set afire by Arab terrorists in open revolt against the British authorities

air strength was at least 50 per cent greater than Britain's and that British aircraft production was inefficiently organized and lagging behind Germany's. Government spokesmen replied that 1750 first-line planes would be in commission early in 1939. But it tacitly admitted the charges of the critics by announcing a new program calling for 2370 first-line planes for home defense and a total air force of some 10,000 planes by 1940. In April an official Air Mission was sent to the United States and Canada, where orders were placed to supplement the British output of military aircraft. Drastic changes in army, navy, and air service conditions, designed to improve the officer corps, were announced late in July.

Despite criticisms, large-scale expenditures, and the fact that defense preparations had been under way since 1935, only the navy was ready for effective action when the crisis over Czecho-Slovakia led to mobilization. Neither the anti-aircraft units in the Territorial Army nor the Air Raids Precaution Department at the Home Office were fully prepared to cope with attacks on London. The Air Force, while probably superior to Germany's in first-line planes and pilots, still lacked actual and potential reserve planes. Conflict over governmental jurisdiction and distribution of costs had hamstrung the A.R.P. for many months, while military and civilian experts had been unable to agree upon the best methods for the defense of London.

The immediate consequence of the September crisis was intensified criticism of the government's alleged inefficiency and negligence, followed by further acceleration of the armament program. Complete reorganization of the Territorial Army was announced October 10, the new set-up being patterned after the highly mechanized professional army. Full equipment for the army remained to be provided. Yet the government declined to establish a Ministry of Supply and to compel industry to give priority to government armament orders. On November 10, however, the government announced that £200,000,000 would be spent on its Air Force in 1939-40, a 75 per cent increase over 1938-39, and similar increases were provided for in other defense services. A call for 7000 recruits to enlarge the air arm of the fleet was issued on December 29. The new Admiralty program called for a navy whose fighting power would be fairly equally divided between the air, the sea, and the under-sea forces. See also MILITARY PROGRESS; NAVAL PROGRESS.

Other Defense Measures. The pressure to adopt some form of national conscription to permit Britain to compete on equal terms with the totalitarian states grew during the year. On October 14 the War Office started recruiting factory employees between the ages of 38 and 50 to man anti-aircraft guns in defense of their respective industrial plants. The government on October 27 adopted a plan for the evacuation of one-third of the urban population in war time and their compulsory billeting in rural areas as the most effective way of protecting civilians against air raids. On December 1 a great voluntary "national register" was opened to permit every man and woman to state what kind of work they could do in war time. Preparations were made to transfer the capital from London to Exeter, an unexposed city of southwestern England, in case of war. The government on December 21 allocated £20,000,000 for the strengthening of private homes and other buildings against air raids. Basements were to be roofed with steel girders and sheets to prevent houses from

collapsing upon persons gathered in the cellars. In addition plans were adopted for a co-ordinated recruiting campaign to enlarge the military services, for expanded facilities for the training of volunteers, and for the preparation of machinery to compile a universal, compulsory register of all British subjects in the event of war.

Defense preparations extended to many other fields. The government made large foreign purchases of wheat, whale oil, sugar, and various other foodstuffs and materials, the supply of which might be cut off in war time. Government subsidies were advanced to the beet sugar, cattle raising, dairying, and other industries of vital necessity if British food imports were curtailed. Radio broadcasts in Arabic and other languages were inaugurated to counteract anti-British propaganda emanating from Italian and German broadcasting stations. Active measures were taken to strengthen colonial defenses, to assist and co-ordinate the extensive rearmament programs under way in the Dominions, and to safeguard empire communications through political and economic agreements with strategically situated countries, particularly Ireland, Saudi Arabia, Turkey, France, Portugal, and the Netherlands.

Appeasement Policy Attacked. Criticisms of the government's slow progress toward rearmament were mild compared with the storm of violent denunciation aroused among Laborites, Liberals, and even many Conservatives by the Prime Minister's efforts to "appease" Hitler and Mussolini. Chamberlain aimed to postpone a show-down with the dictators as long as possible to permit further British military preparations and in the hope that time and the sacrifice of non-British interests would satiate Germany, Italy, and Japan and dissolve their powerful alliance without endangering the British Empire. His critics contended that concessions would not satisfy the dictators but merely whet their appetites for further territorial conquest, that Britain would be forced to fight them eventually and would be in a much more disadvantageous position as a result of their strategic, economic, and political gains made at the expense of Britain's prospective allies.

Chamberlain's determination to pursue appeasement even at the cost of abandoning the policy of collective security against aggressor nations and repudiating the League of Nations Covenant led to the resignation of Anthony Eden as Foreign Secretary on February 20. The two men parted ways on the immediate issue of negotiations with Italy. Eden held that such negotiations should be postponed until Mussolini had given guarantees of his good faith, such as the withdrawal of Italian troops from Spain. "I do not believe we can make progress in European appeasement," he said, "if we allow the impression to gain currency abroad that we yield to constant pressure." Upheld by the House of Commons, 330 to 168, Chamberlain appointed Lord Halifax as Foreign Secretary in Eden's place and assumed direct control of the subsequent negotiations with Italy and Germany. At the same time Viscount Hailsham became Lord President of the Council and Lord Maugham became Lord Chancellor.

Eden during the remainder of the year played a shrewd role that made him the outstanding candidate to succeed Chamberlain as Prime Minister should the latter's appeasement policies fail. While refusing to break with his own party, Eden repeatedly affirmed his stand against further concessions to the dictators and in favor of conducting Brit-

ain's foreign relations on a basis of respect for contractual obligations and accepted principles. Before the House of Commons on November 10 he demanded a reformed "national" government to undertake a unified national effort to regain Britain's authority and former position in the world. More vigor in rearmament and social policies designed to "build a better Britain as well as a stronger Britain" were other telling points in his program. In December he went to the United States to address the National Association of Manufacturers in New York City (December 9). While there he discussed international affairs with President Roosevelt and other leading figures in American public life. His insistence that the British people were not decadent but were capable of the same effort that had made them great in past crises struck a responsive chord among the British voters.

On May 16 Viscount Swinton was succeeded as head of the Air Ministry by Sir Kingsley Wood. The change was designed to check criticism of the slow progress in aircraft production. Malcolm MacDonald was transferred from the Dominions to the Colonial Office to handle the thorny Palestine situation and Lord Stanley, son of the Earl of Derby, became Dominions Secretary. Lt. Col. John Colville was appointed Secretary of State for Scotland and Walter Elliot became Minister of Health. A further split in the cabinet on the appeasement issue came on October 1 when Alfred Duff-Cooper resigned as First Lord of the Admiralty in opposition to the concessions made to Hitler at Munich. He was succeeded on October 27 by Earl Stanhope, a Conservative party wheelhorse. Earl De La Warr, formerly Lord Privy Seal, succeeded Lord Stanhope as Minister of Education. On October 31 Sir John Anderson, a capable civil servant, was named Lord Privy Seal with the duty of organizing British civilian defenses. At the same time Viscount Runciman returned to the cabinet as Lord President of the Council to replace Viscount Hailsham and Malcolm MacDonald was appointed Dominions Secretary in succession to the late Lord Stanley. MacDonald retained the Colonial portfolio also. On December 20 it was revealed that a number of cabinet under-secretaries were in revolt against the handling of the rearmament program. Meanwhile, the lack of definite results from Chamberlain's appeasement policy, notwithstanding the sacrifice of Austria, Czechoslovakia, and Spain, lent strength to the revolt against the Prime Minister's leadership.

Censorship Issue. Another source of the government's unpopularity was the tendency it displayed toward increasing censorship of the press and other means of communication. Even members of Parliament were indirectly threatened with application of the Official Secrets Act, penalizing the disclosure of unauthorized military information, after Duncan Sandys, a Conservative member, had cited statistics showing a shortage of anti-aircraft artillery in support of an attack upon the War Ministry. When War Minister Hore-Belisha asked him to reveal the source of these statistics, he pleaded parliamentary privilege in refusing to disclose it. Hore-Belisha's attempt to make Sandys comply aroused much criticism in Parliament. On December 5 the House of Commons unanimously approved a report of a select committee censuring Hore-Belisha and the Attorney General for their handling of the Sandys case.

The Official Secrets Act and other legislation was used by the government to restrict the freedom

of the press in discussing rearmament and foreign policy, particularly during the September crisis over Czechoslovakia. The National Union of Journalists on November 5 launched a campaign for amendment of the Secrets Act to make it applicable only to espionage. Members of the Union charged that the government had warned several anti-government newspapers to moderate their criticisms on pain of prosecution or of losing business from "certain big advertisers." Another storm of criticism developed when the government on November 23 admitted that it had asked and obtained the aid of Joseph P. Kennedy, the American Ambassador, in suppressing parts of an American-produced newsreel shown in England during the September crisis. The deleted sections consisted of interviews with two leading British journalists—Wickham Steed and A. J. Cummings—who sharply criticized Chamberlain's part in the partition of Czechoslovakia. In the ensuing debate in Parliament on December 8, it was charged that the government had employed indirect pressure upon newspaper owners to prevent the "pin-pricking" of Mussolini and Hitler during Chamberlain's negotiations for "appeasement." News reports over the British Broadcasting Corporation stations were also co-ordinated with the alleged requirements of the Prime Minister's appeasement program.

Political Trends. A series of polls taken by the British Institute of Public Opinion during the year showed a sharp decline in Prime Minister Chamberlain's popularity after the Munich accord of September 29. Before Austria was taken by Germany in March, 60 per cent of the voters were recorded as favoring the Chamberlain Government. After Munich, the government's majority shrank to 57 per cent in October and to 55 per cent in the middle of December. This anti-government swing was attributed to public revulsion against the Munich agreement, distrust of Hitler's promises and public statements, and disgust at the anti-Jewish purge of November in Germany.

The numerous by-elections held during the year were less definite as an indication of popular sentiment. Of seven by-elections held soon after Munich and fought largely on the issue of foreign policy, the government's supporters suffered two smashing defeats in Conservative constituencies, retained two seats with much smaller majorities, held two seats by almost the same margin as before, and lost one contest for a Labor-held seat by a greater margin than before. The Duchess of Atholl, the Prime Minister's most bitter critic within the Conservative party, was defeated for re-election by a narrow margin in the Scottish Highlands on December 21 after she had resigned her seat in Parliament in protest against the appeasement policy and stood for re-election as an Independent. On November 1 the Conservatives gained 20 additional seats in the municipal elections, which were fought largely on local issues. The tide of popular sentiment against further concessions to Rome and Berlin was not yet strong enough to force the Prime Minister to abandon his appeasement policy.

Moreover, the opposition elements remained divided and without effective leadership, in view of Anthony Eden's refusal to lead a secession movement within the Conservative ranks. The Communist party and left-wing elements in the Labor and Liberal parties renewed efforts of previous years to weld all opposition groups and dissident Conservatives into a "popular front." But the conservative leaders of the Labor party and of

the affiliated Trades Union Congress firmly opposed this program, asserting that the proposed "popular front" would not "afford a better rallying cry, or be more effective electorally against the 'National' Government than the Labor party itself." They also pointed out that "the Communists . . . are committed rather to maneuver than to principle. They would be capable of stabbing us in the back at any time, or of involving us in joint responsibility for their political indiscretions." In preparations for the general election, expected in 1939, the Labor party carried on a vigorous campaign on behalf of its program of socialization at home and firm collective resistance to the Fascist dictatorships abroad.

Economic Conditions. Despite the huge expenditures on armaments and a supplementary public works program costing nearly £300,000,000, Britain experienced a considerable industrial and financial recession during 1938. The economic decline in the United States, fall in commodity prices, continuance of acute international tension, and increases in the already heavy burdens of taxpayers all contributed to a decline in normal business activities to the lowest level since 1935. The 1938-39 budget increased the standard rate of the income tax to 5s. 6d. in each pound of income or 27.5 per cent. Taxes on tea, motor fuel and other commodities were boosted. The number of totally and partially unemployed workers averaged about 1,800,000 during 1938. Exports declined nearly 20 per cent from the 1937 level. The overseas income from banking, shipping, and other services declined. Security values suffered badly during the Austrian crisis in March and the Czecho-Slovak crisis of September. Budget deficits due to mounting armament costs, the danger of war, and the adverse international credit balance induced a flight of British and foreign capital abroad. The exchange value of the pound sterling declined from \$5 at the beginning of 1938 to less than \$4.70 at the year end, despite heavy expenditures from the Exchange Equalization Fund. On February 1 the Chancellor of the Exchequer relaxed restrictions on foreign lending in view of the abundant funds seeking investment. But by December the situation had so changed that the former restrictions were re-imposed with even greater rigor to stop the gold outflow and relieve pressure on the pound.

Legislation. Despite the subordination of domestic problems, some important legislation of purely national interest was passed. The controversial Coal Bill provided for the nationalization of coal royalties, compulsory amalgamations of mines, and the continuance of controlled production and selling. The Sea Food Industry Bill authorized marketing schemes for producers and distributors of fish. Another law protected buyers of furniture and clothing on the installment plan. A new Administration of Justice Act was passed. A revised Young Persons' Act provided for further restriction of working hours and improvement of working conditions. The age limit for voluntary entrants to the State contributory pensions system was changed from 45 to 40 and the contributions were increased. New provision was made for greater safety at sea and important changes introduced in Scottish administration.

Other Events. The first petroleum found in quantity in Britain was shipped from a test well at Dalkeith, Scotland, in August. Drilling was under way in a number of other districts. The £10,000,000 British Empire Exhibition in Glasgow was opened by the King and Queen on May 3 and

was closed on October 29. More than 12,500,000 persons visited the Exhibition. The first publicly confirmed meeting between the Duke and Duchess of Windsor and other members of the royal family, since Edward's abdication in 1936, took place at Paris November 11 when the Duke and Duchess of Gloucester visited the Windsors. On November 24 Prime Minister Chamberlain and the Foreign Secretary, Viscount Halifax, made a brief call on the Duke and Duchess while in Paris for conferences with French officials. On November 8 King George announced in his speech from the throne that he and the Queen had accepted President Roosevelt's invitation to visit the United States after their state visit to Canada during the summer of 1939. A plan for a sort of Federal union of the Church of England with the various other Protestant sects in England was formulated at a joint conference of Anglican and Free Church representatives early in the year.

Empire Relations. The British Government's reluctance to adopt a firm policy against Germany and Italy was due in no small part to a desire to enter upon no conflict in which it could not be assured of the united support of the Dominions. Meanwhile, the London Government moved vigorously to eliminate controversies and establish machinery for closer empire co-operation in the event of war. Outstanding among these moves was the agreement reached with Ireland (q.v.) on April 25. This appeared to have eliminated the possibility that the Irish Government might adopt an unneutral or hostile policy to secure its national objectives in the event of a European conflict. Only the partition issue remained a source of controversy.

With Canada divided as to the position it should adopt toward a British war, the British Government took steps to reinforce the economic and sentimental ties uniting the Dominion to the mother country. Britain aided Canada in the establishment of military aircraft and munitions plants and ordered part of the output. Arrangements were made for the King and Queen to visit the Dominion in the summer of 1939 (see CANADA under *History*). The Duke of Kent was named Governor-General of Australia (q.v.). Australia, South Africa, and New Zealand were aided in reorganizing and expanding their military defenses. A royal commission (Bledisloe Commission) was sent to the Rhodesias and Nyasaland to study their amalgamation into a Greater Rhodesia, and to co-ordinate their defenses. Another royal commission, headed by Lord Moyne, went to Jamaica and the other British West Indies to investigate the social and economic conditions that gave rise to serious disturbances in 1938 and previous years (see JAMAICA under *History*). In Palestine (q.v.) the British were obliged to engage in extensive military operations to stamp out an Arab revolt. That strategically important adjunct of the empire was still in turmoil at the year end, with no satisfactory solution of the Arab-Jewish controversy in sight. Also see the various other Dominions and colonies under *History*.

Foreign Relations. The foreign policy of the Chamberlain Government in 1938, judging from the Prime Minister's speeches and actions, aimed to give Germany and Italy freedom for expansion in Central and Eastern Europe while making the British Empire and its lines of communication so strong as to discourage attack. To deflect German and Italian energies toward the east and to prevent France from dragging Britain into a war over

non-British interests, it was necessary to break up the French system of alliances in Eastern Europe and to increase France's dependence upon Britain. Every effort was made to delay a European conflict in the hope that time would weaken the Rome-Berlin-Tokyo alliance and strengthen the position of Great Britain and France. At the same time Chamberlain sought to wean Mussolini away from Hitler by concessions made largely at the expense of Loyalist Spain, France, and the League of Nations. The Prime Minister also strove to establish the closest possible relations with the United States in the hope of securing her material if not military aid in case his appeasement policy failed. He was even prepared to grant Hitler's colonial claims in return for a definitive settlement of all issues likely to cause war in Western Europe. He envisaged agreements between Britain and Italy and between France and Italy, to be followed by Anglo-German and Franco-German settlements. The capstone of his projected European peace structure was to be a working agreement between Britain, Germany, France, and Italy, who were to replace the League of Nations as arbiters of Europe's destiny.

Major developments in connection with the carrying out of this program during the year were the resignation of Foreign Secretary Eden in February; British acquiescence in Germany's annexation of Austria in March; the signing of a comprehensive Anglo-Italian treaty in Rome on April 16; the consolidation of the Anglo-French defensive alliance at London on April 28; British efforts to secure the recognition of Italian sovereignty over Ethiopia at the League Council session in May; the persistent attempts to induce Mussolini to withdraw his troops from Spain through Anglo-French steps to cut off munitions shipments and other foreign aid to the Spanish Loyalists; the state visit of King George and Queen Elizabeth to Paris on July 19 to consolidate the Anglo-French alliance; abandonment of collective security at the League Assembly meeting in September; the partitioning of Czecho-Slovakia by the four-power Munich conference on September 29-30; official recognition of Italy's sovereignty over Ethiopia on November 16; and the conclusion of the Anglo-American trade agreement on November 17.

Steps were taken to restore the Anglo-Portuguese alliance to full vigor. Britain aided France in promoting a settlement of her Near Eastern difficulties and in establishing what appeared to be a Franco-Turkish defensive accord. On May 27 the London Government advanced a £6,000,000 loan to Turkey for the purchase of munitions in Great Britain. At the same time the British Export Credits Guarantee Department guaranteed another £10,000,000 of purchases by Turkey of mining, industrial, and other equipment in Britain, to be paid for through the sale of Turkish commodities in the British Empire and certain foreign countries. The Earl of Athlone and Princess Alice were sent on an official mission to strengthen British friendship with King Ibn Saud of Saudi Arabia. There was evidence of closer collaboration between British and Dutch in defense of their mutual interests in Malaya. The great British naval base was opened at Singapore early in the year but the tense European situation prevented any large concentration of British war vessels in Asiatic waters. A setback to British defense preparations was the expropriation of British-Dutch oil properties in Mexico by the Mexican Government and the subsequent severance of Anglo-Mexican diplomatic

relations, thus threatening to interrupt an important source of fuel supply for the British navy in the event of a European war.

Anglo-Italian Negotiations. The principal issues outstanding between Britain and Italy were dealt with in the accord signed in Rome by the British Ambassador and Count Ciano, Italian Foreign Minister, on April 16. It consisted of a protocol, 8 annexes, 3 sets of letters, and a "good neighbor" agreement concluded by Britain, Italy, and Egypt regarding frontier problems in East Africa. The accord was to go into effect at a date to be fixed later by the two governments; the British indicated that they would not agree to a date until after settlement of the Spanish question by the withdrawal of Italian troops from the peninsula. The main provisions of the accord follow:

Italy agreed to accept the British formula for proportional evacuation of foreign volunteers from Spain and to withdraw forthwith all Italian troops and material remaining in Spain at the end of the civil war, in which Franco's victory was taken for granted. She assured Britain that Italy had no territorial or political aims, and sought no privileged economic position with regard to Spain, the Balearic Islands, Spanish possessions overseas, or the Spanish zone in Morocco, and had no intention of keeping armed forces in those territories.

With regard to the Mediterranean, Britain and Italy reaffirmed their gentlemen's agreement of January, 1937 (see 1936 YEAR BOOK, p. 313). Italy further agreed not to use her existing positions in Spain and Italian East Africa to menace Britain's Mediterranean lifeline. In return for Italy's promise to withdraw from Spain, Britain agreed to support recognition of Italy's conquest of Ethiopia at the May session of the League Council. Italy in turn renewed previous assurances that she had no intention of "overlooking or repudiating" her obligations to Britain with regard to Lake Tana in Ethiopia, headwaters of the Blue Nile. Italy further agreed to reduce to peace strength her forces in Libya, which menaced Egypt. Both governments agreed to respect the independence of Saudi Arabia and Yemen and to oppose any third power which might seek to acquire sovereignty or a privileged position in these Arab states.

Both governments agreed to abide by the 1888 convention guaranteeing free use of the Suez Canal to all powers in both peace and war. They agreed to exchange information regarding redistribution of their military, naval, and air forces, and to notify each other in advance of any decision to provide naval or air bases in the Mediterranean and the Red Sea. Italy also agreed to adhere to the London Naval Treaty of 1936. They stated that any attempt by one of them to injure the interests of the other by propaganda would be inconsistent with the good relations envisaged in the accord.

Progress toward putting this agreement into effect proved unexpectedly slow. Viscount Halifax was unable to secure unanimous consent of the League Council to withdrawal of the non-recognition stand previously taken against Italy in Ethiopia. Instead the Council authorized the individual League members to "decide as they choose" on the question of recognition. The British-sponsored negotiations for a Franco-Italian settlement collapsed over the Spanish issue, and on July 26 Chamberlain again told the House of Commons that the Anglo-Italian accord would not go into effect until a settlement of the Spanish question had been reached. He professed himself satisfied, however, when at Munich Hitler and Mussolini both assured him they had no territorial ambitions in Spain and Mussolini early in October withdrew 10,000 of between 40,000 to 80,000 Italian soldiers estimated to be assisting the Spanish Insurgents. The Italian Government subsequently assured Britain that no further Italian troops or air forces would be sent to Spain, and that the remaining Italian forces there would be withdrawn as soon as the London Non-Intervention Committee recognized Franco's belligerent status. On the basis of these developments, Chamberlain submitted the Anglo-Italian accord to Parliament, where it was

ratified by an overwhelming vote on November 2. On November 16 Britain formally recognized the Italian conquest of Ethiopia and on the same day the Anglo-Italian accord went into effect.

It was announced on November 28 that Chamberlain and Halifax would go to Rome in January in furtherance of their reconciliation program. On December 1 Italy formally accepted the limitations on battleship size and gun power laid down in the 1936 London naval treaty. But the Prime Minister's hopes for further agreement were disillusioned by the launching of the Italian campaign for territorial and other concessions from France. On December 14 he declared that Tunisia was covered by the Anglo-Italian agreement to maintain the status quo in the Mediterranean. Charges of additional Italian intervention in Spain raised further doubt as to the success of Chamberlain's appeasement policy with respect to Mussolini.

Relations with Germany. Negotiations for a general settlement with Germany made equally slow progress. When Prime Minister Chamberlain returned from Munich on September 30 he apparently believed that an agreement was assured. Proudly displaying the Anglo-German amity declaration signed by himself and Hitler, he announced that "for the second time in our history, a British Prime Minister has returned from Germany bringing peace with honor." Most of his countrymen apparently felt the same way. He received a hero's welcome and the House of Commons approved his policy in the Czecho-Slovak crisis by a vote of 366 to 144 on October 6. But disillusionment soon spread as a result of various developments in Germany which plainly indicated that Hitler was not satisfied with the triumph he had achieved at Munich through Chamberlain's co-operation.

On December 13 Chamberlain in a speech before the Foreign Press Association in London deplored "the recent attitude of the German press, which in one case has not scrupled to pour its vituperation against our most respected statesman (Earl Baldwin) . . . and in few cases has shown much desire to understand our point of view." Because of this protest, noted in advance copies of the speech, the German Ambassador, his entire staff, and the German newspaper correspondents in London boycotted the dinner. Defending his foreign policy before Parliament on December 19 the Prime Minister declared: "I am still waiting for a sign from those who speak for the German people that they . . . are prepared to make their contribution to the peace which would help them as much as it would help us." He warned that it would be a tragic blunder to mistake Britain's love of peace for weakness. See CZECHO-SLOVAKIA and GERMANY under *History* for more complete details.

The anti-Jewish purge of November in the Reich had a particularly adverse effect upon Anglo-German relations. Leading members of the powerful pro-German faction in Britain, such as Lord Mount Temple and Lord Londonderry, denounced the German Government. British public and private agencies extended generous assistance to Jewish and other refugees from Germany and the government took steps to find havens for them in the British colonies (see JEWS). An angry German reaction followed Chamberlain's statement of November 17 that "the possibility of the settlement of refugees from Germany has been taken up with a number of colonial Governors, including the Governor of Tanganyika." Tanganyika being one of the former German colonies, this was taken to

indicate that the Prime Minister did not intend to return them to Germany. This was confirmed by Malcolm MacDonald, Secretary for Colonies, before the House of Commons on December 7. He insisted, and the entire House appeared to agree with him, that Nazi "racial theories" made them unfit to govern subject peoples. The House voted 171 to 124 that "no change in the status of colonies, protectorates or mandated territories could at any time be considered which did not take full account of the interests and wishes of the inhabitants."

Collaboration with United States. In contrast with the tension prevailing in Anglo-German and Anglo-Italian relations, British relations with the United States showed an increasing degree of cordiality and co-operation. The two governments took "parallel action" to defend their mutual economic and other interests in China and the Far East against constant Japanese encroachments (see CHINA under *History* for details). They also collaborated increasingly in naval moves indicating their growing solidarity against Japan. Three United States cruisers attended the ceremonies in connection with the opening of the Singapore naval base in February. The controversy between the two countries over the ownership of two Pacific islands on the direct route from New Zealand to Hawaii was compromised by the following joint communiqué issued simultaneously in London and Washington on August 10:

The governments of the United States and of the United Kingdom have agreed to set up a regime for the use in common of the islands of Canton (q.v.) and Enderbury (q.v.) in the Phoenix group and for the employment of these islands for purposes connected with international aviation and communication, with equal facilities for each party. The details of the regime will be determined in notes to be exchanged between the two governments.

This agreement made possible the immediate development of air facilities and observation posts that might be used not only for commercial air transport but also as air bases in the event of naval hostilities in the Pacific. Discussions between American and British naval officers regarding the co-operation of the two navies in a possible war with Japan were reported to have taken place in London during the year.

The outstanding event in Anglo-American relations, however, was the signing at Washington on November 17 of reciprocal trade treaties between the United States and Canada and between the United States and the United Kingdom, Newfoundland, and the British colonial empire. For the terms of the Canadian-American treaty, see CANADA under *History*. The treaties went into effect Jan. 1, 1939, for a period of three years and were to continue in force thereafter until either government gave notice of termination. Great Britain's major concessions affected American agricultural products, especially with the removal of duties on wheat, lard, canned grapefruit, and certain fruit juices, and reduction of duties on rice, apples, pears, and certain canned fruits. Canadian wheat, which formerly entered England duty-free only when shipped from Canada, might now be shipped through New York and Boston. The quota for American ham was expanded, and the duty-free entry of ham and other pork products, corn and cotton was bound for the future. Additional concessions were granted on American fishery, lumber, and factory products.

In return for these concessions, the United States granted reductions in, or bound at the existing level, duties on British textiles, metals and various specialties, most of them complementary to Amer-

ican manufactures. Important reductions were made in the duties on high-grade cotton, wool, flax and hemp manufactures, as well as certain earthenware, pottery, glassware, and leather products. The duty on whiskey was bound at the existing level and that on books was reduced 50 per cent. On the same day the treaties were signed, the United States and British Governments exchanged notes assuring one another of access to the raw materials in their respective territories and possessions, and agreeing to give advance notice of the imposition of additional tariff duties.

These agreements reversed the trend toward national economic self-sufficiency, which had been accelerated by the Smoot-Hawley Tariff of 1930 in the United States and the Ottawa Trade Agreements of 1932 establishing a preferential British Empire tariff system. They permitted some United States products to enter Great Britain at the same rate as that paid by competing products from the British Dominions. To compensate the Dominions for the loss of their previous advantage in the British market, Britain agreed to the abolition of the preference that British goods had enjoyed over United States goods in the Dominion markets. This left the Dominions free to make their own trade agreements with the United States without the handicap offered by the Imperial preference system. The British gave way on this issue after long negotiation partly because of the political advantages accruing from the trade agreements. They served as a check to the economic nationalism of the dictatorships and tightened the diplomatic solidarity of the democratic countries.

See the various British Dominions and colonies and ARABIA, AUSTRIA, CHINA, CZECHO-SLOVAKIA, EGYPT, FRANCE, GERMANY, IRAQ, ITALY, JAPAN, MEXICO, NETHERLANDS, PALESTINE, POLAND, PORTUGAL, RUMANIA, SPAIN, TURKEY, and YUGOSLAVIA under *History*; *EXPLORATION*; *LABOR*; *LEAGUE OF NATIONS*; *MILITARY PROGRESS*; *NAVAL PROGRESS*; *PEACE*; *POLAR RESEARCH*; *REPARATIONS AND WAR DEBTS*; and *SHIPBUILDING*.

GREECE. A Balkan kingdom. Capital, Athens. Greece has an area of 50,270 square miles (mainland, 41,652; islands, 6818), and a population estimated at 7,000,000 in 1937. The 1928 census showed 6,204,684 (urban, 2,058,510). Living births in 1936 numbered 193,343 (28 per 1000); deaths, 104,804 (15.2 per 1000); marriages, 38,700 (5.6 per 1000). There were 16,379 emigrants in 1935. Estimated populations of the chief cities in 1937 (preliminary) were: Athens, 494,059; Piraeus, 284,057; Salonika, 264,523; Patras, 73,308; Kavalla, 54,977; Volos, 50,679; Candia (Érakleion), 43,037; Xanthi, 37,289; Corfu (Kerkyra), 34,772.

Religion and Education. According to the 1928 census 1,953,875 persons of 10 years and over were illiterate. The school attendance in 1935-36 was: Elementary, 924,816; secondary, 71,717; university, 10,257. The 1929 census returns showed 5,961,529 members of the Greek Orthodox Church, 126,017 Moslems, 72,791 Jews, 35,182 Roman Catholics, and 9003 Protestants. See *History*.

Production. Approximately 54 per cent of the working population are supported by agriculture and fishing; 16 per cent by industry, and 8 per cent by commerce. There were 6,000,000 acres of cultivable land in 1937, 2,877,000 acres of meadow and pasture, and 5,945,000 acres of forests. The value of agricultural production in 1936 was 21,470,066,000 drachmas. Yields of the chief cereals in 1938 were (in metric tons): Wheat, 978,000; barley, 253,900; rye, 62,200; oats, 158,000; corn, 199,300.

Other leading crops in 1937 were: Potatoes, 5,938,000 bu.; currants and raisins, 431,647,000 lb.; figs, 48,501,000 lb.; wine (must), 79,358,000 gal.; olive oil (1937-38), 41,293,000 gal.; tobacco, 141,441,000 lb.; cotton (ginned), 36,806,000 lb. The 1936 livestock returns showed 1,049,000 cattle, 607,000 swine, 8,440,000 sheep, 5,514,000 goats, 948,000 horses, mules, and asses.

The value of mineral production in 1936 was about 49,603,000 drachmas. Mineral production in 1936 was (in metric tons): Chromite, 47,347; emery, 15,000; galena and zinc blend, 20,565; iron ore, 280,271; iron pyrites, 208,050; lead (smelted), 4383; lignite, 105,621; magnesite, calcined, 29,784; magnesite, crude, 116,106; nickel ore, 50,195; bauxite, 129,898. The value of factory production (excluding wines, olive oil, and flour) in 1937 was 13,773,000,000 drachmas (preliminary). The value of the chief manufactured products in 1937 was (in 1000 drachmas): Cotton yarn, 1,083,600; wool fabrics, 1,050,000; cotton fabrics, 443,300; upper leather, 661,000; sole leather, 522,000; soap, 564,800; knitted goods, 395,000; liquors and brandy, 516,000; paper and board, 348,100; cigarettes, 210,000.

Foreign Trade. In 1937 imports for consumption were valued at 15,204,363,000 drachmas (11,962,620,000 in 1936) and general exports totaled 9,555,293,000 drachmas (7,378,877,000 in 1936). The principal 1937 imports in order of value were wheat, iron and steel, chemicals and allied products, machinery, and coal. The leading exports were (in U.S. paper dollars): Leaf tobacco, \$39,697,000; currants, \$8,868,000; raisins, \$4,003,000. Germany supplied 27.2 per cent of the 1937 imports; the United Kingdom, 11 per cent; United States, 4.3 per cent. Of the exports, Germany took 31 per cent; United States 16.5 per cent; United Kingdom 9.7 per cent, and Italy 6.3 per cent.

Finance. Budget estimates for the fiscal year ending Mar. 31, 1939, placed receipts at 14,519,000,000 drachmas (including loans of 1,950,000,000) and expenditures at 15,106,000,000 drachmas. Revenue estimates for 1937-38 placed receipts at 16,486,000,000 drachmas (including loans of 3,421,000,000) and expenditures at 16,883,000,000 drachmas. The public debt on Dec. 31, 1937, was 80,990,000,000 drachmas, including the railway debt. Of this total, about 63,000,000,000 drachmas represent the external debt, with foreign currency converted at current rates. During 1938 only 40 per cent of the interest on the debt was being paid. The average exchange rate of the drachma was \$0.0091 in 1937 and \$0.0090 in 1938.

Transportation. The length of railway lines in operation on Mar. 31, 1937, was 1799 miles, including 898 miles of state railway. During the year ending Mar. 31, 1937, all railways carried 29,501,500 passengers and 2,096,262 metric tons of freight. Gross revenues were 735,298,000 drachmas. Highways extended 7736 miles in 1937; number of automobiles, 14,000 on Jan. 1, 1938. Statistics for Greek civil airlines for 1937-38 are: Miles flown, 215,042; passengers, 6327; baggage, 140,789 lb.; freight, 451,308 lb.; mail, 17,835 lb. Athens is an important aviation center, having connections with French, British, Italian, German, Polish, and other airlines. During 1937, 2985 vessels of 5,150,336 net registered tons entered Greek ports in the foreign trade. The Greek merchant marine in 1938 consisted of 638 vessels (of 100 tons or over) with a gross tonnage of 1,889,269.

Government. The Monarchist Constitution of 1911 re-entered into force with the overthrow of

the republic on Oct. 10, 1935, and the return of George II to the Greek throne on Nov. 25, 1935. It provided for a bicameral legislature, with the Lower Chamber elected by male suffrage and the Upper Chamber represented by a Council of State of not more than 25 members, of whom 10 were to be ex-officio judicial members and 15 appointed by the Crown. On Aug. 4, 1936, Premier John Metaxas established a dictatorship of marked Fascist tendencies. Royal decrees were issued dissolving Parliament, suspending constitutional guarantees, abolishing all political parties, and instituting supervision and censorship of the press. The Premier announced that parliamentary government had gone forever and that Greece would be transformed into a corporative state on the Italian model. For developments in 1938, see *History*.

HISTORY

Domestic Affairs. In line with the precedents established in 1936 and 1937 (see 1937 YEAR BOOK, p. 308), Premier Metaxas further solidified his dictatorship during 1938 by crushing all efforts to organize opposition to his regime and by extending his program of political, economic, and social reorganization. A serious challenge to the dictatorship was frustrated in January through stratagem and the arrest and deportation of leaders of the disbanded political parties.

According to news seeping through the censorship, manifestos attacking Metaxas and demanding restoration of representative government were secretly circulated early in January by George Kaphandaris, leader of the Progressive party and former Premier and Minister of Finance, and Alexander Mylonas, leader of the Agrarian Democratic party. The pamphlets were seized by government agents and suppressed. A third circular denouncing Metaxas was then issued under the signatures of Kaphandaris, Mylonas, and Themistocles Sophoulis, leader of the Liberal (Venizelist) party and ex-Premier. To offset the effect of this pamphlet, Premier Metaxas was reported to have published a fraudulent counter-manifesto, purporting to be signed by Kaphandaris and denouncing the Kaphandaris-Mylonas-Sophoulis statement as a tissue of falsehoods. When Kaphandaris demanded that the government repudiate this document as a forgery, he was arrested for the "dissemination of seditious literature" and deported to an Aegean island. The same fate was meted out to three other ex-Premiers—Sophoulis, A. Michalakopoulos, leader of the Conservative Democratic party, and John Theotokis, leader of the pro-monarchist National Populist party. More than a hundred supporters of the arrested leaders, including some army officers, were arrested at the same time. They were charged with plotting to assassinate Premier Metaxas. It was then officially announced that a purely dictatorial regime had replaced the regime established by Metaxas on Aug. 4, 1936.

Additional arrests were reported from time to time. On May 4, 76 alleged Communists were jailed, including some former members of Parliament. On July 5 the police arrested 17 persons in Salonika on a charge of providing funds for a Communist organization. On July 29 a revolt broke out in Canea, Crete, led by a nephew of Venizelos, a former mayor of Canea, and a former army officer. They seized control of the city with the aid of some 400 armed followers, but Metaxas rushed warships, troops, and airplanes to the island and quickly crushed the uprising. Most of the leaders were reported to have escaped to the hills. On the

day after the rising it was announced that Metaxas would be dictator for life. A few days later (August 4) the second anniversary of the dictatorship was celebrated with officially sponsored parades and ceremonies in various parts of the country. There were, however, evidences of widespread discontent and other indications that the dictatorship was increasingly dependent upon the support of King George and the army. On November 3 amnesty was extended to 400 political deportees in celebration of the birth of a daughter to Prince Paul.

Meanwhile, Metaxas developed his ultra-nationalist policy in other fields. In an apparent effort to exclude foreign influences, the government on May 19 ordered the cessation of all Christian Science services, lectures, and other activities. Early in September a series of decrees were issued giving the state religion unprecedented privileges and discriminating against other religious faiths. Persons attempting to win converts to any except the Greek Orthodox Church were made subject to imprisonment and fine. School children were required, with certain exceptions, to attend the state church on Sundays. Publication or circulation of literature at variance with the dogmas of the state church was prohibited. A number of instances were reported in which foreign Roman Catholic priests, Protestant ministers, and Jews were refused permission to visit the country, even as tourists. The first radio broadcasting station was opened March 25 and was devoted to the dissemination of government propaganda. Recreation, sports, social customs, and other aspects of the national life were all deeply affected by the establishment of government control and guidance. A two-year plan for further modernization of the army, navy, and air force was announced in June. The improvement of the navy was to be carried out with British financial aid.

On December 9 the Premier announced that he would assume direct charge of education and public worship in order to co-ordinate the educational system with the totalitarian state and to "bring order into the church." Greek National Youth, an organization modeled on the Hitler Youth movement, was organized to strengthen the regime among the young people. Shortly before Christmas 22 additional persons with Royalist connections were arrested and several clandestine presses seized in what the police described as an important coup against enemies of the dictatorship.

One of the most violent earthquakes in recent years shook Athens and the plain of Attica in July. Eighteen persons were killed, more than 100 injured, and several thousands left homeless.

Foreign Relations. The major developments of the year were the conclusion of a virtual political and military alliance with Turkey on February 28, and the signing of a pact on July 31 between Greece, Turkey, Rumania, and Yugoslavia (the Balkan Entente) on the one hand and Bulgaria on the other, abolishing the restrictions imposed upon Bulgaria's rearmament by the Treaty of Neuilly. On the latter date Greece, Turkey, and Bulgaria agreed to abolish the demilitarized zones along their mutual frontiers established by the second Treaty of Lausanne in 1923 (see BULGARIA under *History*).

The Greco-Turkish treaty, which was initiated by Premier Metaxas and Kemal Ataturk at Ankara, Turkey, was a further development of the 1930 treaty of neutrality and arbitration and of the 1933 treaty of co-operation. It provided that in case of unprovoked aggression upon either of the signatories, the other would exert its influence in behalf

of peace and would prohibit passage of the aggressor's troops and material through its territory. If war developed, the two governments were to consult with a view to safeguarding their vital interests. Greece followed a policy of neutrality in the European crises developing during 1938 over Germany's expansion in Austria and Czechoslovakia.

See BALKAN ENTENTE; REPARATIONS AND WAR DEBTS.

GREENLAND. A Danish Arctic colony, second in size among the islands of the world. Area, 736,518 square miles, of which only 31,284 square miles are ice free. The estimated population on Jan. 1, 1936, was 17,000 (about 16,600 Eskimos and 400 Danes). The chief settlements are Julianehaab (about 3500 inhabitants), Godthaab (1300), Godhavn, and Angmagsalik. Trade is a monopoly of the Danish Government and is mainly in cryolite, furs, skins, and oil. Exports to Denmark in 1936 were valued at 5,201,000 Danish crowns and imports from Denmark at 2,182,000 crowns. The colony is administered by a director in Copenhagen, Denmark, with the aid of local assemblies in Godthaab and Godhavn, the capitals of the districts of South and North Greenland, respectively. East Greenland is the remaining administrative district.

On Dec. 20, 1937, it was reported that the port of Faeringehavn, on the southwestern coast of Greenland, was opened for navigation, and would stay open until Oct. 31, 1941. It marked an important event in Greenland's history. In February, 1938, the annual fur auction of the Greenlands Trading Company was held at Copenhagen, Denmark. A total of 750,000 crowns was realized on the entire sale, which was 80,000 crowns more than in 1937. See POLAR RESEARCH.

GRENADA, grê-nă'da. A British island colony in the Windward Islands group of the West Indies. Area, including South Grenadines, 133 square miles; population (Jan. 1, 1937, estimate), 87,105, compared with 66,302 (1921 census). Capital, St. George's (4629 inhabitants in 1921). The principal products are cacao, nutmegs, mace, limes, sugar, bananas, cotton, and coconuts. In 1937 imports were valued at \$367,707; exports, \$362,075. For 1936 revenue totaled £150,235; expenditure, £143,396; net public debt, £377,523. The colony is administered under the Governor of the Windward Islands (resident at St. George's, Grenada), and has its own legislative council of 16 members (8 official, 3 nominated, and 5 elected). In the absence of the governor the colonial secretary becomes the administrator. See WINDWARD ISLANDS.

History. During the latter part of October, 1938, 5 lives were lost and 300 head of cattle were killed in a disastrous rainstorm in which homes were swept away and the town of St. George's was isolated when bridges and telephone lines were destroyed. The damage was estimated at £20,000. See JAMAICA under History.

GRINNELL, grî-nêl', GEORGE BIRD. An American editor, author, and ethnologist, died in New York, Apr. 11, 1938. Born in Brooklyn, N. Y., Sept. 20, 1849, he attended Yale University (A.B., 1870; Ph.D., 1880) and upon graduation he joined Prof. O. C. Marsh of the Peabody Museum on an expedition to the Far West to collect vertebrate fossils. On this visit he continued a friendship with the Pawnee Indians that had begun in 1872. This led to his visiting their section of the country almost every summer.

After engaging in business in New York from 1871 to 1874, he became assistant in osteology at the Peabody Museum, a work with which he was

associated until 1880, during which time, and until 1894, he made many trips to the plains and to the Rocky Mountains in search of fossils for the Museum. As a naturalist he accompanied Gen. George Custer on an expedition to the Black Hills and was with Col. William Ludlow, engineer of the Department of Dakota, on his reconnaissance to Yellowstone Park, 1875. Grinnell's zoological reports prepared then are still considered the authority on the mammals and birds of that region. Although invited to join Custer on his campaign in 1876, Grinnell was unable to do so and thus probably escaped the fate of that expedition.

While still associated with the Peabody Museum he became an editor of *Forest and Stream* in 1876, and in 1880 came to New York as publisher and editor of that magazine, relinquishing his control in 1911. From 1887 he was president of the Bosworth Machine Co.

In 1885 Dr. Grinnell, on a hunting trip to Montana, discovered Grinnell Glacier, and gave to the world an account of the beauties of that region in an article in *The Century Magazine* for September, 1891. After many years of effort on his part, Congress established the Glacier National Park in 1910. Also in 1885 he was appointed a commissioner to deal with the sale of the land of the Blackfoot and Fort Belknap Indians. In 1889 he was a member of the Harriman Expedition to Alaska, and his papers on the salmon industry and the Alaskan natives formed an important part of the record of the expedition.

Always interested in conservation, Dr. Grinnell was one of the founders (1887) of the Boone and Crockett Club, an organization of sportsmen and conservationists, and served as its president from 1918 to 1927. It was the membership of this organization that founded the New York Zoological Society in 1895, fought tirelessly to stop the exploitation of Yellowstone Park, and worked for the passage of legislation to cope with the menace of the destruction of wild life in that section. With Theodore Roosevelt, Grinnell edited, for the club, *American Big Game Hunting* (1893); *Hunting in Many Lands* (1895); *Trail and Campfire* (1897), and *Harper's Camping and Scouting* (1911). After Roosevelt became president of the United States, Grinnell edited *American Big Game and Its Haunts* (1904); *Hunting at High Altitudes* (1913); *Hunting and Conservation* (1925), and *Hunting Trails on Three Continents* (1933).

Other conservationist organizations to which he belonged were the American Ornithologists Union; the National Parks Association; American Game Association, which he helped to found in 1911, and the National Association of Audubon Societies. In 1925 he received the gold medal of honor of the Roosevelt Memorial Association for his services in behalf of conservation of natural resources.

An authority on the history and habits of the plains Indians, particularly the Pawnee, Blackfeet, and Cheyenne, he wrote *Pawnee Hero Stories and Folk Tales* (1889); *Blackfoot Lodge Tales* (1892); *The Story of the Indian* (1895); *The Indians of Today* (1900); *The Indians of Today to 1910* (1911); *Blackfeet Indian Stories* (1913); *The Fighting Cheyennes* (1915); *The Cheyenne Indians* (2 vols., 1923); *By Cheyenne Campfires* (1926). Also, he wrote a series of books for boys (1899-1913) as well as *Punishment of the Stingy* (1901); *American Duck Shooting* (1901); *American Game Bird Shooting* (1910); *Trails of the Pathfinders* (1911); *Beyond the Old Frontier*

(1913); *The Wolf Hunters* (1914); *When Buf-falo Ran* (1920); *Ben's Old Fort and Its Builders* (1923), and *Two Great Scouts* (1929).

GRINNELL COLLEGE. A coeducational, nonsectarian institution of higher learning in Grinnell, Ia., founded in 1846. The enrollment for the year 1938 was 760. There were 70 faculty members. The productive funds amounted to \$2,000,000 and the income for the year was \$366,837. The library contains 110,000 volumes. President, John Scholte Nollen, Ph.D.

GROWTH. See ANTHROPOLOGY.

GUADELOUPE, gā'de-lōōp'. A French West Indian colony comprising the main islands of Guadeloupe (Basse-Terre) and Grande-Terre, and the dependent islands of Les Saintes, Désirade, St. Barthélemy, St. Martin, and Marie Galante. Total area, 688 square miles; population (1936 estimate), 305,000. Basse-Terre, the capital (on the island of Guadeloupe), had 9268 inhabitants in 1932; Pointe-à-Pitre, 30,465. The production of chief crops, in metric tons, was: Cane sugar, 46,000 (1934-35); cacao, 200 (1932-33); coffee, 400 (exports, 1934). Other products are rum, bananas, vanilla, logwood, and manioc. In 1937 the estimated value of merchandise imports (in old U.S. gold dollars) was \$5,300,000 (1936, \$4,400,000); exports, \$7,200,000 (1936, \$6,100,000). There were 596 miles of roads in 1937. The budget for 1934 was balanced at 62,345,195 francs. On Dec. 31, 1934, the public debt totaled 5,000,283 francs (franc averaged \$0.0657 for 1934). The colony is under a governor who is assisted by an elected council, and is represented in the French parliament by one senator and two deputies.

GUAM. An insular possession of the United States; the largest and most populous island of the Marianas group, in the mid-Pacific. It lies about 5100 miles from San Francisco, 3400 from Honolulu, and 1500 from Manila. Area, 225 square miles; population (July 1, 1938), 22,314, which included 20,880 native-born, 755 foreign-born, and 679 members of the naval establishment. Capital, Agaña (pop., about 12,000).

The native population is mainly of the Chamorro stock. The languages in use are English, Spanish, and Chamorro. School education is free and is compulsory for ages from seven to 12 years, inclusive. The number of enrolled pupils in the public schools averaged 4066 for the year 1937-38. Most of the pupils were in native schools, taught by native teachers. An American school, for children of non-natives, was maintained. Copra, coconut oil, alligator pears, and kapok were exported. Products grown for the domestic market were cacao, coffee, rice, sugar, corn, sweet potatoes, and fruits. Exports (1937) amounted to \$215,204 and were mainly of copra. Imports totaled \$774,244.

Guam is a United States naval station; its Governor, who is also the commandant of the Station, is a naval officer and an appointee of the President. Com. Benjamin V. McCandlish became Governor in 1936. An elective native Congress consisting of a House of Council (16 members) and a House of Assembly (27 members) has an advisory voice in the government. A station of the transpacific route of the Pan American Airways is maintained in Guam, and a cable station on the island relays messages between San Francisco and the Philippines, China, and Japan.

GUATEMALA, gwā'tā-mā'lā. A republic in Central America. Capital, Guatemala City.

Area and Population. The area was officially reported at 42,364 square miles in 1938 as compared

with 48,290 square miles in 1937, the reduction being apparently due to boundary adjustments with Honduras and El Salvador. The estimated population on Dec. 31, 1937, was 2,466,227 (2,004,900 at the 1921 census). About 30 per cent of the inhabitants live in cities and towns. Sixty per cent of the population are Indians and the bulk of the remainder are mestizos. The small ruling class is largely of European origin. A census of February, 1938, taken in Guatemala City showed 166,456 residents. Estimated populations of the other cities in 1936 were: Quezaltenango, 23,449; Antigua, 11,315; Cobán, 7167; Zacapa, 6119.

Education and Religion. About 80 per cent of the adult population are illiterate. The school enrollment in 1937-38 was: Rural schools, 54,544; primary, 79,786; secondary, 1102; normal, 1292; special, 2264; university, 755. A School of Economic Sciences was established in the capital in 1937. The Guatemalans are predominantly Roman Catholic, but other creeds enjoy complete liberty of conscience.

Production. Coffee and bananas normally account for about 90 per cent of the value of all exports. Coffee exports for the year ended Aug. 31, 1938, totaled 95,095 metric tons (101,510 in 1936-37), of which 54.7 per cent went to the United States (46.6 per cent in 1936-37). Exports of bananas in 1937 totaled 8,604,000 bunches (7,541,000 in 1936). Corn, sugar, wheat, rice, and potatoes are grown for domestic consumption. The forests yield hardwood and chicle. Livestock statistics for 1937 were: Cattle, 548,000; sheep, 246,000; goats, 19,000; swine, 346,000; horses, mules, and asses, 122,000. Gold production in 1937 was 4190 oz. Coffee-cleaning plants, flour and sugar mills, and shoe, soap, and pottery factories are the main industrial establishments.

Foreign Trade. Total imports in 1938 were valued at \$16,761,388 (\$16,742,907 in 1937) and exports at \$16,336,282 (\$16,108,609 in 1937). The United States supplied 44.7 per cent of the 1938 imports (45.3 in 1937); Germany, 35.1 (32.4). Of the 1938 exports, the United States purchased 69.5 per cent (64.2 per cent in 1937); Germany, 14.1 (17.4). Cotton fabrics, foodstuffs, iron and steel manufactures, machinery and tools, and railway and tramway equipment and materials were the leading 1937 imports. The chief exports were: Clean coffee, \$10,503,000; bananas, \$4,302,000; chicle, \$306,000.

Finance. Budget receipts during the 1936-37 fiscal year totaled 11,605,415 quetzales and expenditures 9,853,314 quetzales, leaving a surplus of 1,752,314 quetzales which was "used for the payment of budgetary obligations of different years." Extrabudgetary receipts for the same year were 11,147,000 quetzales and expenditures 12,311,000. The budgetary receipts and expenditures were estimated to balance at 9,789,000 quetzales in 1937-38 and at 10,333,000 in 1938-39. The public debt on Dec. 31, 1937, amounted to \$1,520,432 and 11,029,700 quetzales. The quetzal (par value, \$1.693 U.S. currency) exchanged at \$1 in 1937.

Transportation. In 1937 Guatemala had about 600 miles of railway line. In March, 1938, there were 3472 miles of highways and roads open to traffic and 917 miles under construction. Air traffic statistics for 1937 were: International, 3165 passengers and 217,310 lb. of mail and freight; internal, 4324 passengers and 2,518,334 lb. of freight. In the same year 998 vessels of 2,377,588 net registered tons entered the ports of the republic.

Government. The Constitution of Jan. 1, 1928,

provided for a President, elected for 6 years and ineligible for re-election for 12 years afterwards; a single-chambered National Assembly (with 79 members in 1938); and a Council of State of 7 members (3 elected by the National Assembly and 4 appointed by the President) which supervises public contracts and concessions. A constitutional convention which met on May 15, 1935, annulled the constitutional bar to the President's re-election, and a "plebiscite" held on July 10, 1935, approved the extension of President Jorge Ubico's term to Mar. 15, 1943. He assumed office Feb. 14, 1931.

History. Despite several unconfirmed reports of revolutionary outbreaks early in 1938, President Ubico's dictatorship encountered no serious political opposition during the year. Congress nevertheless took the precaution to provide in advance for a presidential successor in case the office became vacant. On March 21 it elected Escolastico de Leon, Gen. Demetrio Moldonado, and Gen. Juan B. Alonzo as first, second, and third presidential designates for a period ending Mar. 15, 1939.

The President strengthened his military forces by the purchase of six military airplanes in the United States during the year. He also continued the distribution of government lands among small farmers. In his annual message to the National Assembly on Mar. 1, 1938, Ubico announced that 875 plots with a total area of 12,246 acres had been distributed and that it was planned to divide other lands with an area of 170,500 acres. Work was begun on the dredging of the Chiquimulilla River on the Pacific coast to provide water transportation for a rich farming, cattle raising, and commercial region. Guatemala also renewed its demand that Great Britain construct a road from the Atlantic coast to Guatemala City in fulfillment of a clause in the Guatemala-British Honduras boundary treaty of 1859. The British Government declined to discuss the matter.

A contract signed Oct. 22, 1938, between the Guatemalan Government and the Bank of London and South America provided for the cancellation of the balance of \$2,417,000 due on the \$3,000,000 loan of 1931 by the payment of \$2,000,000 in U.S. currency. The report of a mixed commission that surveyed the Guatemala-El Salvador frontier under an agreement signed in 1935 was accepted as the basis of a definitive boundary treaty signed Apr. 9, 1938, and ratified by the congresses of both countries on April 27. Soon afterward President Ubico took steps to enforce an old law prohibiting foreigners to own land within 10 miles of the frontiers, seacoasts, and certain rivers and lakes.

It was reported in December that the government had arranged to liquidate its debt of 230,034 quetzales to the National City Bank of New York by the delivery of mortgage credits held by the government. The face value of these credits was 447,664 quetzales as of June 30, 1937, but the market value was estimated at about \$150,000 in December, 1938.

GUIANA. See BRITISH GUIANA; FRENCH GUIANA AND ININI; SURINAM.

GUILLAUME, gē'yōm', CHARLES EDOUARD. A French physicist, died in France, June 13, 1938. Born in Fleurier, Switzerland, Feb. 15, 1861, he was educated at Neuchâtel and at Zurich (Ph.D.). Becoming an assistant in the Bureau of International Weights and Measures in 1883, he was appointed Associate Director in 1902 and Director in 1915. In 1935 he retired as honorary director and was awarded the French Legion of Honor.

In 1896 Guillaume discovered invar, an alloy

of nickel, 36 per cent, and steel, with 0.2 per cent of carbon. It was employed in the manufacture of instruments of precision and of standard measures because it was practically free from expansion or contraction by heat or cold. His researches were published in 1898 under the title *Nickel and Its Alloys*. For his work in this and kindred fields he was awarded the Nobel Prize for Physics in 1920, and in 1930 received the gold medal of the British Horological Institute.

Duddell Medallist in 1929, he was a past president of the Society of French Physicists and the author of *Thermometry of Precision* (1889); *Units and Standards* (1893); *X-Rays* (1896); *Metrical Convention* (1902); *Applications of Nickel-Steels* (1904); *Progress of the Metric System* (1907, 1913, 1921, 1927, 1934); *Initiation to Mechanics* (1909), and *Works of the International Bureau of Weights and Measures* (1927). Also he contributed to the publications of the Bureau: *Thermometry Studies* (1886); *Meteorological Research on Nickel Steel* (1927); *New Thermometric Studies* (1929).

GYMNASTICS. See SPORTS.

HADRAMAUT. See under ARABIA.

HAGUE, FRANK. See NEW JERSEY; FASCISM.

HAITI, hā'ti. A West Indian republic, occupying the western third of the island of Haiti or Hispaniola. Capital, Port-au-Prince.

Area and Population. Haiti has an area of 10,204 square miles and a population estimated on Jan. 1, 1937, at about 2,650,000 (1,631,000 at the 1918 census). With the exception of some 3000 white foreigners, and a few thousand mulattoes comprising part of the ruling class, the inhabitants are all Negroes. Estimated populations of the chief cities in 1936 were: Port-au-Prince, 105,000; Cap-Haïtien, 15,000; Aux Cayes, 15,000; Gonaïves, 10,000; Saint Marc, 10,000; Jacmel, 10,000. French is the language of government and the upper class; the peasants, comprising more than 80 per cent of the population, speak a dialect known as Creole French. Most of the inhabitants profess the Roman Catholic religion. About 85 per cent of the population are illiterate. The educational system included about 1060 primary and farm schools with 87,000 pupils, 21 secondary schools with 6000 pupils, two normal schools, and colleges of agriculture, medicine, law, and applied science.

Production. Haiti is an agricultural country whose prosperity is largely dependent upon export crops, especially coffee. Exports of the chief crops during the fiscal year ended Sept. 30, 1938, were: Coffee, 25,062,634 kilograms (kilogram equals 2.2 lb.), valued at 17,327,215 gourdes (gourde equals 20 cents U.S. currency); cacao, 1,566,383 kilos, valued at 693,608 gourdes; cotton, 4,681,814 kilos, valued at 5,261,949 gourdes; bananas, 1,363,176 stems, valued at 2,001,128 gourdes; sisal, 7,222,891 kilos, valued at 3,236,252 gourdes; raw sugar, 33,480,311 kilos, valued at 3,728,416 gourdes. Other exports were logwood (8,888,685 kilos, valued at 372,833 gourdes in 1937-38), grapefruit, oranges, goatskins, lignum vite, rum, honey, and corn. Livestock in 1936 was estimated at 110,000 cattle, 360,000 swine, 12,000 sheep, 320,000 goats, and 1,113,000 horses, mules, and asses. Minor deposits of gold, silver, copper, iron, antimony, coal, etc. exist but they remain entirely undeveloped. Manufacturing is confined to sugar refining, rum distilling, and the preparation of tobacco products, vegetable lard, and canned fruit.

Foreign Trade. For the year ended Sept. 30, 1938, imports were valued at 37,974,000 gourdes

(46,076,000 in 1936-37) and exports at 34,732,000 gourdes (44,854,000 in 1936-37). The combined value of imports and exports in 1937-38 was the lowest in 21 years. See *Production* for the chief exports. Leading import articles in 1937-38 were, in order of value: Cotton tissues, 10,468,988 gourdes; wheat flour, 2,772,525 gourdes; machinery and apparatus, 2,719,405 gourdes; iron and steel and their articles, 2,322,726 gourdes; fish and fish products, 1,128,283 gourdes; automobiles and busses, 893,681 gourdes. The principal sources of the 1937-38 imports were: United States, 20,627,627 gourdes; United Kingdom, 5,879,615 gourdes; Germany, 2,441,699 gourdes; Japan, 2,021,739 gourdes; Belgium, 1,090,291 gourdes. The distribution of exports was: United States, 14,860,616 gourdes; United Kingdom, 4,720,422 gourdes; Belgium, 4,329,746 gourdes; France, 4,010,796 gourdes; Denmark, 1,858,112 gourdes.

Finance. Government revenues during 1937-38 totaled 28,109,488 gourdes (34,448,671 in 1936-37) and expenditures were 28,940,782 gourdes (35,033,437 in 1936-37). As a result of the 1937-38 deficit of 831,294 gourdes, the unobligated Treasury surplus was reduced from 1,383,000 gourdes on Sept. 30, 1937, to 708,000 gourdes a year later. The gross public debt was 43,950,000 gourdes on Sept. 30, 1938 (44,317,000 on Sept. 30, 1937).

Communications. In 1938 there were about 158 miles of railway line, 1337 miles of highways (3180 automobiles), a connection with the Pan American Airways circuit at Port-au-Prince, and radio-telephone service between Port-au-Prince and the outside world. Port-au-Prince has a modern telephone system and there are some 1500 miles of government-owned telegraph wires. During 1937-38, 655 steam and motor ships of 1,518,449 tons (net) entered the ports.

Government. The Constitution of June 17, 1935, vested wide executive powers in a President elected for five years through primary assemblies in each commune from three candidates designated by Parliament. Parliament consists of a Lower Chamber of 37 deputies elected for 4 years, and a Senate of 21 members, of whom 10 are appointed by the President and the remainder by the Chamber of Deputies, all for 6 years. The Constitution provides that the President, Senators, and Deputies must own real property. Taxpayers alone are permitted to vote on local questions. President in 1938, Stenio Vincent, who was elected by the National Assembly on Nov. 18, 1930, and whose term of office was extended for five years from May 15, 1936, by a special clause in the 1935 Constitution. All members of Parliament elected in September, 1936, and of the cabinet were personal followers of President Vincent. There was no organized opposition to the President's rule.

History. From the economic viewpoint the year 1938 was one of the worst experienced in Haiti for the preceding two decades. The adverse effects of the higher shipping rates imposed in 1937 and the collapse of coffee prices (see 1937 YEAR BOOK, p. 313) were intensified. The sharp decline in export values during the 1937-38 fiscal year was reflected in lowered governmental revenues that placed a severe strain upon the budget.

The Vincent Government took various steps to meet this situation. On Jan. 13, 1938, it signed an accord with the U.S. Government providing for reduction of amortization payments on the dollar bonds of the 1922 loan (which constituted Haiti's public debt) during the period from Jan. 1 to Sept.

30, 1938. By another accord signed July 1, this agreement was extended to Sept. 30, 1939. Interest payments on the debt were continued, but lower amortization payments reduced the cost of servicing the debt from 7,457,000 gourdes in 1936-37 to 3,047,000 gourdes in 1937-38.

To relieve the economic depression and check the accompanying development of discontent with President Vincent's dictatorship, the government on July 6 signed a contract with the J. G. White Engineering Corporation of New York under which the latter concern undertook to carry out a \$5,000,000 public works program. The Haitian Government issued notes to that amount to the engineering company. On July 23 the Export-Import Bank at Washington made the deal feasible by agreeing to discount the notes. The program, which was expected to take three or four years to complete, provided for the construction with native labor of roads, bridges, irrigation works, and municipal water systems. All foreign materials and equipment required on these works were to be purchased in the United States and transported on American ships. Work on these projects started soon after the contract became effective on July 14 and by the end of August 800 men were already on the J. G. White payrolls.

The Franco-Haitian trade convention signed June 24, 1938, was another development designed to check the economic decline in Haiti, chiefly through the provision assuring Haiti of a market for 12,000,000 kilos of coffee annually in France. In return, Haitian duties on many French products were lowered.

These measures, together with the satisfaction obtained by Haiti from the Dominican Republic in the agreement signed at Washington Jan. 31, 1938, served to calm somewhat the anti-Vincent agitation that had gained headway during 1937 (see 1937 YEAR BOOK). Haiti received from the Dominican Republic not only a formal expression of regret for the slaughter of numerous Haitians in the Dominican Republic during 1937 but also a pledge to pay \$750,000 as compensation for the injuries and damages inflicted (see DOMINICAN REPUBLIC under *History* for full details of the settlement). A first payment of \$250,000 was received by the Haitian Government on Feb. 28, 1938, following formal ratification of the accord.

An abortive attempt to overthrow the Vincent regime was reported to have occurred in Port-au-Prince October 29-30. According to this report, five Senators were deprived of their posts for complicity in the attempted coup and a number of newspapers were closed. A short time before President Vincent announced that he had requested the United States Government to send a military mission to reorganize the military school and act as technical advisers to the general staff of the Garde d'Haiti.

Important reforms in the educational system were introduced during the year. The period of training in the elementary normal school course was extended from three to four years. A section of rural economics and sociology was established in the Division of Rural Education and advanced courses for rural pupils completing the primary grades were established. By the decree-laws of Jan. 13, 1938, an advisory Technical Council on Education was created and participation in sports was made obligatory for primary and secondary school pupils. A National Museum, housing historical documents and portraits and relics of Toussaint L'Ouverture and other national heroes, was opened at Port-au-Prince, Jan. 23, 1938.

HALE, GEORGE ELLERY. An American astronomer, died in Pasadena, Calif., Feb. 21, 1938. Born in Chicago, Ill., June 29, 1868, he was educated at the Massachusetts Institute of Technology (B.S., 1890), Harvard College Observatory (1889-90), and the University of Berlin (1893-94).

His interest in astronomy manifested itself early and while still at college he invented (1890) the spectroheliograph, an instrument for photographing the sun with its prominences. With this he successfully photographed the solar prominences and made the discovery of the luminous clouds of calcium vapor which he named "flocculi." This first spectroheliogram was made on Apr. 14, 1890, at the Kenwood Observatory, founded with his father's help in 1890 and of which he was the director until 1896. For his invention of the spectroheliograph he was awarded the Janssen medal of the Paris Academy of Sciences in 1894.

Dr. Hale lectured at Northwestern University in 1891, and then joined the staff of the University of Chicago as associate professor of astrophysics (1892-97), professor (1897-1905), and organizer and director of the Yerkes Observatory (1895-1905). During this period he made many improvements on the spectroheliograph. With the establishment of the Carnegie Institution of Washington in 1902, he was invited to assist in the organization of a proposed observatory. This was located at Mount Wilson, near Pasadena, Calif., and was founded and equipped under Dr. Hale's direction. He served as its director from 1904 to 1923 when he was named honorary director in charge of policy and development and continued his experiments in his private observatory. He was active in the transformation of Throop Polytechnic Institute of Pasadena into the California Institute of Technology, and was chairman of the Institute's observatory council in charge of the construction of the new Palomar Observatory, which is to contain the largest reflector in the world. Also, he was especially interested in the Huntington Library and Art Gallery, of which he was a trustee.

Dr. Hale contributed to many departments of solar research and was known particularly for his discovery of the magnetic field of sunspots with powerful instruments of his own design in 1908, which was termed "the most vital thing accomplished in solar astronomy in 300 years" and "the most important development in astronomy since Galileo devised his telescope." For this he was awarded the Copley medal of the Royal Society, London, in 1932. For his work in inventing the spectroscope, the spectroheliograph, and other basic astronomical instruments, he received the Franklin medal of the Franklin Institute, and for his researches of the sun, the Crosson medal of the Institute (1926-27). Among his other achievements were the invention or development of several new instruments; the discovery of hydrogen vortices centering in sunspots, and the general magnetic field of the sun.

He was one of the founders of the *Astrophysical Journal* about 1895, and in 1902 was elected to the National Academy of Sciences, and was primarily responsible for the establishment of the Academy's *Proceedings*. In 1916 he originated the National Research Council, and for three years served as its chairman and devoted all his time and effort to it. He retired in 1919 as honorary chairman.

The Dean of American astronomers, Dr. Hale held membership in the leading scientific societies throughout the world and was president of the In-

ternational Council of Scientific Unions during 1931-34. He was a commander of the Order of Leopold II, and of the Order of the Crown of Italy, and was the recipient of the Rumford medal (1902); the Draper medal (1903); the gold medal of the Royal Astronomical Society (1904); the Bruce medal, Astronomical Society of the Pacific (1916); the Janssen medal of the Astronomical Society of France (1917); the Galileo medal, Florence (1920); Actonian prize, Royal Institute (1921); Arthur Nobel medal for civic service in Pasadena (1927); the Holland Society medal (1931), and the Ives medal of the Optical Society of America. In April, 1936, a symposium was held at Harvard Observatory in his honor.

Besides the annual reports of the Mount Wilson Observatory and contributions to scientific journals, Dr. Hale wrote *The Study of Stellar Evolution* (1908); *Ten Years' Work of a Mountain Observatory* (1915); *The New Heavens* (1922); *The Depths of the Universe* (1925); *Beyond the Milky Way* (1926), and *Signals from the Stars* (1931).

HAMBURG. See GERMANY.

HAMILTON COLLEGE. A nonsectarian institution for the higher education of men in Clinton, N. Y., founded in 1812. A total of 446 students was registered for the 1938 autumn session. There were 45 members of the faculty for the year 1938-39. The productive funds of the college were approximately \$4,708,000 and the income for the year 1937-38 was \$349,790. The library contained 179,282 volumes. Construction of a new gymnasium and swimming pool will be begun in the spring of 1939. President, W. H. Cowley, Ph.D., inducted Oct. 29, 1938.

HAMLIN, CHARLES SUMNER. An American lawyer and financial expert, died in Washington, Apr. 24, 1938. Born in Boston, Aug. 30, 1861, he was educated at Harvard University (A.B., 1883; LL.B., *cum laude*, 1886). After admittance to the bar he practiced law in Boston from 1886 to 1893.

Participating in Democratic national politics, he was appointed assistant secretary of the U.S. Treasury in 1893, and as such was particularly interested in changing the accounting system of the department; in the consular service, and in the question of seal fisheries, being appointed, on his resignation from the Treasury, in 1897, a commissioner to negotiate a satisfactory settlement of the fur-seal fisheries controversy among the United States, Great Britain, Japan, and Russia. Subsequently a treaty was signed by the United States, Russia, and Japan, and later in the year the differences between the United States and Great Britain were settled.

Returning to the practice of law, Mr. Hamlin still found opportunity for civic duty. He was a member of the board of the Paris Exposition Commissioners from Massachusetts (1898); a member of the executive committee of the Indianapolis Monetary Convention (1899); a member of the U.S. Assay Commission to examine the Philadelphia Mint (1903); a delegate to the National Democratic Convention, St. Louis (1904); a member of the Japanese Famine Relief Commission (1906), for which he was decorated by the Japanese Government in 1908; a delegate of the American Bar Association to the National Peace Conference, N. Y. (1907); a member of the U.S. Commission on the Limitation of Armaments (1909); a delegate to the fisheries conference called by the New England governors (1908), and a member of the Committee of 100 in the Boston municipal election

(1909). In 1910 he received the unanimous nomination of his Massachusetts district to Congress, but declined it. During 1907-12 he acted as arbitrator in many industrial disputes.

A supporter of Woodrow Wilson for the presidency, he was president of the Woodrow Wilson College Men's League and of the Woodrow Wilson League of Massachusetts in 1912. Upon the election of Wilson, Hamlin returned to the Treasury Department as assistant secretary, and in 1914 he was appointed the first governor of the newly organized Federal Reserve Board, the purpose of which was to supervise the finances of the nation as a whole much in the same manner as the Interstate Commerce Commission supervises the railroads. He was reappointed to this post for the terms 1916-26 and 1926-36 and on Feb. 4, 1936, was named special counsel to the Board of Governors of the Federal Reserve System. From 1917 to 1919 he served as chairman of the Capital Issues Committee.

Mr. Hamlin lectured on the U.S. government at Harvard (1902-03) and from 1906 to 1914 was a member of the committee on government there. The author of many pamphlets on financial matters, he also compiled *Index Digest of Interstate Commerce Laws* (1907); *Index Digest of the Federal Reserve Act* (1915), and *Index Digest of the Federal Reserve Bulletin* (1921).

HAMPTON INSTITUTE. An institution founded in 1868 at Hampton, Va., for the education of Negroes. The enrollment for the autumn term of 1938 was 625 men, 444 women; total 1069, while that for the summer school was 76 men, 445 women; total 521. The faculty numbered 125. The endowment for the fiscal year ending June 30, 1938, was \$10,332,688, from which the income was \$419,485. Gifts to the endowment and investment funds amounted to \$62,517. There were 60,392 volumes in the library. President, Arthur Howe.

HANDBALL. See SPORTS.

HAPSBURGS. See AUSTRIA and HUNGARY under *History*.

HARBORS. See PORTS and HARBORS.

HARLAN CO., KY. See LABOR ARBITRATION.

HARVARD UNIVERSITY. A nonsectarian institution of higher education for men in Cambridge, Mass., founded in 1636. The number of students enrolled for the year 1938-39 was 8583. Of the 3684 registered in the college 795 were seniors, 864 juniors, 930 sophomores, 1030 freshmen, and 65 out of course. Those in the graduate schools were distributed as follows: Arts and sciences, 1055; business administration, 1001; and education, 202. The professional schools reported the following registrations: Public administration, 16; engineering, 162; divinity, 73; law, 1419; medicine, 516; dentistry, 162; public health, 72, and design, 103. For the summer session of 1938 the registration was 2186. The officers of instruction and administration for 1938-39 numbered 1956, of whom 303 were professors, 80 associate professors, 164 assistant professors, and 22 clinical professors. Endowment funds of the University in June, 1938, exclusive of land and buildings used for educational purposes, had a book value of \$137,157,835. Total expenses of the year for instruction, research, and administration were \$10,666,858. Gifts for the year ending June, 1938, totaled \$4,776,386. The library contained 3,941,359 volumes and pamphlets. President, James Bryant Conant, Ph.D., LL.D., D.C.L.

HATAY, REPUBLIC OF. Official name for the former Sanjak of Alexandretta in SYRIA (q.v.).

Haverford College. An institution

of higher education, under the control of the Society of Friends, in Haverford, Pa., founded in 1833. Enrollment for 1938-39 totaled 326, including 12 graduate students. There were 44 members on the faculty. The total endowment as of Aug. 31, 1938, was \$4,437,498. A number of small bequests and gifts, including \$7700 additional from the Alumni for the Centenary Fund, totaled \$28,778. The library reported 140,000 volumes. President, William Wistar Comfort, Ph.D., LL.D., Litt.D.

HAWAII. A group of islands in the Pacific Ocean, 2809 miles southwest of San Francisco, forming a Territory of the United States. Capital, Honolulu.

Area and Population. Occupying an area of 6407 square miles, Hawaii, according to the Governor's report, had (June 30, 1938) 411,485 inhabitants. This number exceeded by about 11 per cent Hawaii's population of 368,336 as determined by the census of 1930. The city of Honolulu had (1938) 153,073 inhabitants; the city of Hilo, 16,015. The strikingly diverse composition of the population, as classed by origin, was notable because of the presence of Orientals, mainly Japanese, to the proportion of more than two-fifths of the total. The Caucasian proportion of the population had gained by more than 4 per cent after the census of 1930; the Hawaiian and part-Hawaiian, by 1.28 per cent; the Japanese had declined slightly, in proportion to the total population, their number increasing less fast than other groups; the Filipino element had decreased both in number and proportionately.

HAWAII: POPULATION JUNE 30, 1938

Race	Total	Citizens	Aliens
Japanese	153,539	116,584	36,955
Hawaiian and part-Hawaiian ..	62,135	62,135	.....
Caucasian	106,999	103,988	3,011
Spanish	1,248	1,069	179
Portuguese	30,406	28,898	1,508
Puerto Rican	7,639	7,639	.....
Other Caucasian	67,706	66,382	1,324
Filipino	52,810	16,201	36,609
Chinese	28,380	24,097	4,283
Korean	6,707	4,355	2,352
All other	915	825	90
Total (italic items omitted) ..	411,485	328,185	83,300

Education. The enrollments of pupils in the public schools of the Territory rose to 88,885 for the academic year 1937-38, exceeding by 2499 the total of the year before. The increase, however, occurred in the high-school grades, while in the elementary group the number of pupils ran somewhat lower. A falling birthrate had brought about the lower enrollments in the lower grades, while the increase in the higher grades was attributable to the widening spread of opportunity for secondary education as the school facilities increased in many parts of the islands. The University of Hawaii, like the public high schools, reported higher enrollments for 1937-38 than for 1936-37; in the case of regular undergraduate students, the total rose to 1637, from 1397.

Production. Industry in the islands suffered somewhat during 1938 from adversity in the sugar business, which, together with the production of pineapples, provided the Territory with the bulk of its commercial exports. The sugarcane crop of 1938, harmed by weather, yielded about 30,000 tons of sugar less than Hawaii's allowed quota of sales to the mainland. The year's shipments of sugar to the States totaled 882,942 short tons, as against 960,335 for 1937. As the prices obtainable averaged less than the year before, the receipts from the sales of Hawaiian sugar were currently estimated at

\$50,000,000 for 1938, as compared with \$70,000,000 for 1937.

The production of pineapples was reported to have passed a satisfactory year, in which shipments of fruit and juice amounted to 15,500,000 cases and in value approximated \$50,000,000.

Overseas Trade. Hawaii shipped to the United States, in 1938, exports to the total value of \$96,556,679, as against \$130,138,166 for 1937. The imports into Hawaii, of goods from the United States, dropped to \$101,223,813 for 1938, from \$104,302,531 for 1937. Of the exports, sugar supplied \$50,743,327 (1938); canned pineapples, \$24,631,405; and pineapple juice, \$13,216,988. The imports included a considerable proportion of foodstuffs and food preparations, as well as manufactures in great variety.

Finance. The Territory's general fund received \$12,772,141 in the fiscal year ended with June 30, 1938. Out of the general fund the Territory expended in that year \$11,656,721 for governmental costs. The chief part of this expenditure, \$6,346,707, was for education. The outstanding bonded debt on June 30, 1938, amounted to \$36,167,000. The assessed value (June 30, 1937) of real and personal property was \$394,159,873. Corporations authorized to operate in the Territory, 947 in number, were reported to have a total capitalization of \$358,087,758; in consonance with the strongly agricultural nature of the Territory's industries, 84 corporations classed as agricultural provided somewhat over half of the total capitalization of all the corporations.

Communications. The mileage of roads in the Territory was not high but was increasing; 3095 miles of highways were reported as existing in 1937; in the fiscal year 1938, 44 miles of additional highway were built by the Territory's department of public works. In addition to the regular service of shipping lines connecting Honolulu with the United States, the Philippines, Australia, and Japan, weekly flights from Honolulu to the Orient were maintained through 1938 by the Pan American Airways.

Government. The Governor of Hawaii in 1938 was Joseph B. Poindexter. The President of the United States appoints the Governor and the Secretary of the Territory for terms of four years. The voters of Hawaii elect a bicameral legislature; its Senate consists of 15 members, whose terms run four years, and its House of Representatives has 30 members, who serve for two years. The Territory elects a delegate to the U.S. Congress. Samuel W. King (Rep.) was re-elected Delegate on Nov. 8, 1938. The Territory had (1936) 75,059 registered voters.

History. The Joint Congressional Committee on Hawaii, having visited the Territory in 1937 to investigate the bearings of the proposed granting of Statehood, reported its findings on Feb. 15, 1938. The report held it inadvisable to proceed with a proposed plebiscite in Hawaii for determining the extent of the desire among the inhabitants for the granting of Statehood. Further study of the question was recommended. "The present disturbed state of international affairs" afforded the most conspicuous assigned reason against early action to make Hawaii a State; the report put stress, however, on Hawaii's right to "the same treatment accorded to any other part of the nation," with regard to its products and industries.

The report gave a setback to the organized movement for Statehood, and it disappointed hopes that had been entertained for a generation; but as

Governor Poindexter pointed out, the Commission's clearly formulated declaration as to Hawaii's status gave the Hawaiian people good authority to quote when seeking Federal legislation. The report's coldness to the idea of early Statehood lent new interest to the special racial and strategic conditions affecting Hawaii.

Prominent among these conditions was the presence of persons of Japanese race in numbers exceeding one-third of the population. This group was gradually becoming more prevailingly Hawaiian-born and bred in American customs. Yet the Japanese were not among the five racial groups that furnished the great majority of the members of the Hawaiian National Guard, and the number of men of Japanese race serving in the National Guard diminished during the year ended with June 30, 1938.

The importance of Hawaii as an outlying defense of the United States was emphasized by uncertainties connected with the war carried on by Japan in China. Congress authorized, in its regular session of 1938, a special study of the facilities at the U.S. naval bases, and the resulting board of inquiry gave much attention to the Hawaiian base at Pearl Harbor, where, according to another source, the drydock dimensions would not accommodate the great airplane-carriers nor the heaviest battleships, in case of the latter's coming in damaged and drawing much water. The publication of the board's report awaited the convening of Congress in 1939. See George H. Blakeslee, "Hawaii, Racial Problem and Naval Base," *Foreign Affairs* (October, 1938).

HAWKS, FRANK MONROE. An American aviator, died in an airplane crash at East Aurora, N. Y., Aug. 23, 1938. Born in Marshalltown, Ia., Mar. 28, 1897, he was educated at the Long Beach, Calif., high school, and subsequently studied at the University of California and the U.S. School of Military Aeronautics. He began to fly in 1916 and in April, 1917, entered the U.S. Air Service, serving as an instructor until March, 1919, when he was discharged with the rank of captain. In June, 1932, he received the commission of lieutenant-commander in the U.S. Naval Reserve Air Force.

Like the majority of American aviation pioneers, Hawks took to barnstorming to awaken interest, and then in 1921 he signed a contract with the Mexican government to put on an air circus. He remained in Mexico until 1927 when he returned to the United States and became interested in high-speed transport flying. In that year he flew in the National Air Tour, and early in 1929 in a Lockheed monoplane owned by the Texas Corporation, he made his first transcontinental flight. With a mechanic, Oscar E. Grubb, he flew non-stop over 2500 miles from Los Angeles to New York in 18 hours, 21 min. From this time until 1932 he made numerous speed records which, although broken in later years, were influential in speeding up American air transportation.

On August 6, 1930, he broke the westerly transcontinental record by flying from New York to Los Angeles in 14 hours, 50 min. Although he made five stops for gasoline, his flight, averaging 200 m.p.h., was hailed as showing the possibility of rapid commercial and passenger service across the American continent. During the autumn he made a number of notable flights and speed records. On November 6 he flew from New York to Havana, 1400 miles, stopping for fuel at Jacksonville and Miami, Florida. His actual flying time was 8 hours, 38 min. Three days later he made the return trip

to New York in actual flying time of 8 hours, 3 min. In this year he was awarded the Harmon Trophy as well as a decoration of the French Aero Club.

In 1931 he made a unique series of record-breaking flights over America and Europe. On April 22 he breakfasted in London and flew to Rome for luncheon, making the trip of 950 miles in 5 hours and 24 min. He returned to London in time for tea, making the round trip of 1900 miles in 9 hours and 44 min. On May 27 he left Paris at 8:20 a.m. and reached London in 1 hour and 15 min. After breakfast he flew to Berlin, about 600 miles, in 3 hours and 15 min., where he lunched and arrived at Paris, 568 miles, in time for dinner. He then made a series of equally notable trips around France and other European cities, and shipping his airplane by steamer, returned to America by way of Canada. On his return to New York he flew the 350 miles in 1 hour and 45 min., thus making a new record.

On July 23, 1931, he breakfasted in New York, flew to Havana for luncheon, and returned in time for dinner in New York, making a new record on the trip down of 8 hours, 8 min., and 30 sec., and for the return, 7 hours and 31 min. On August 12 he broke the record from New York to Chicago, making it in 4 hours and 6 min., and returning to New York, surpassed his westerly record by 20 minutes. On August 26 he broke nine city-to-city records.

On Apr. 7, 1932, Captain Hawks was injured in a crash at Worcester, Mass., and on June 2, 1933, he made a non-stop record transcontinental flight from Los Angeles to New York in a little less than 13½ hours. His last attempt at making a speed record was on Apr. 13, 1937, when he took off from Hartford, Conn., and landed in Miami in 4 hours and 55 min. After luncheon he took off for Newark and 4 hours and 21 min. later he swooped in to land at Newark, N. J. But the main wing spar broke while landing and, as the damage done was too costly to replace, Hawks decided to give up speed flying.

For a time he headed the aviation division of the Texas Company, and in September, 1937, was appointed vice-president in charge of sales for the Gwinn Aircar Company of Buffalo. He was exhibiting one of the Company's planes when he had his fatal accident.

A daring flyer, Hawks was interested also in gliding, and in 1930 he sailed a gliding craft in tow of an airplane from San Diego to New York, making many stops. The distance of 2860 miles was covered in a flying time of 36 hours, 47 min.

HAY. As estimated by the U.S. Department of Agriculture the 1938 hay crop of the United States amounted to 90,743,000 tons, 10 per cent more than harvested in 1937 and 14 per cent more than the average for the 10 years 1927-36. This production included 10,444,000 tons of wild hay, 27,754,000 tons of clover and timothy hay, 4,210,000 tons of grains cut for hay, 1,745,000 tons of cowpea hay, 872,000 tons of peanut hay, 5,076,000 tons of soybean hay, 2,758,000 tons of lespedeza hay, 1,057,000 tons of sweet clover hay, and 28,858,000 tons of alfalfa hay. (See ALFALFA.) The 1938 harvested acreage was 68,083,000 acres, an increase of 3 per cent over the acreage harvested in 1937 and practically the same as the 10-year average. The 1938 hay crop was the largest in 10 years and, coupled with a large carry-over from the 1937 crop, gave a hay supply per animal unit the second largest in 30 years. The average yield of 1.43 tons of tame hay per acre and of .89 of a ton of wild hay was of greater sig-

nificance than the larger acreage harvested in the production of the large yield of 1938.

The States leading in tame hay production and their yields were as follows: Wisconsin 6,479,000 tons, New York 5,436,000 tons, Iowa 4,997,000 tons, Minnesota 4,893,000 tons, and California 4,352,000 tons. The yields of the leading wild-hay producing States were as follows: Nebraska 1,788,000 tons, Minnesota 1,571,000 tons, North Dakota 1,269,000 tons, and South Dakota 1,011,000 tons. The States ranking highest in the production of the different kinds of tame hay reported the following yields: New York 4,266,000 tons of clover and timothy hay, California 970,000 tons of grain hay, Texas 579,000 tons of cowpea hay, Georgia 232,000 tons of peanut hay, Illinois 1,011,000 tons of soybean hay, Tennessee 1,006,000 tons of lespedeza hay, and Minnesota 304,000 tons of sweet clover hay. In the fiscal year ended June 30, 1938, the United States exported 99,000 long tons of hay of various kinds and imported 23,000 short tons. Estimates on hay production in foreign countries as a rule are not available.

HAYDEN-CARTWRIGHT ACT. See AUTOMOBILES.

HAYES, PATRICK JOSEPH, CARDINAL. An American Roman Catholic prelate, died near Monticello, N. Y., Sept. 4, 1938. Born in New York City, Nov. 20, 1867, he was educated at Manhattan College (A.B., 1888; A.M., 1894), and upon graduation entered St. Joseph's Seminary, Troy, N. Y., being ordained priest in 1892. Thereupon he matriculated at the Catholic University of Washington for two years (S.T.D., 1894), laying the basis for his future authority on matters theological and canonical. Assigned to parochial work he was stationed at St. Gabriel's Church, New York, in 1894 as assistant to the pastor, Mgr. John Farley.

Upon Dr. Farley's appointment as auxiliary bishop of New York in 1897, Father Hayes was appointed his secretary, and in 1903, chancellor of the diocese of New York. Also in that year he was named president of Cathedral College, the new diocesan preparatory seminary, in which position he served until 1914. In addition to these duties, he contributed several articles to the *Catholic Encyclopedia* and prepared an accurate and clear explanation of the new marriage law of the church, *Ne Temere*, for the *North American Review*. Rome conferred upon him the degree of Doctor of Divinity in 1904, and in 1907 he was made a Domestic Prelate with the title of Monsignor.

When Bishop Farley was raised to the Archbishopric, Mgr. Hayes continued as his secretary, and on Oct. 28, 1914, was consecrated in St. Patrick's Cathedral as auxiliary Bishop of New York and titular bishop of Tagaste. A year later he was named irremovable rector of St. Stephen's Church. Upon the entrance of the United States into the World War, the Bishop devoted considerable time and effort to the spiritual welfare of the American forces and on Nov. 24, 1917, Pope Benedict XV appointed him Bishop Ordinary of the U.S. Army and Navy, carrying ecclesiastical jurisdiction over Catholics in the service wherever the American flag was raised. As such he traveled throughout the United States visiting training camps, and organized and selected those priests who were to act as chaplains. Also, he was one of five bishops who organized the Catholic War Council and was a director of the Knights of Columbus drive for war funds and of the United War Work drive.

About to sail for Europe on a visit to American

forces abroad, his visit was canceled by the death of Cardinal Farley, and on Mar. 10, 1919, he was appointed Archbishop of New York, the first native-born American to hold that office. In 1924 he, with Archbishop Mundelein of Chicago, an old schoolmate, was called to Rome, and on Mar. 24, 1924, they were made Princes of the Church.

The Cardinal-Archbishop of New York was best known for his work in the field of charity and so intense were his labors that the well-earned title "Cardinal of Charities" became his. The unification of all the charities in the diocese under one head had been considered by Cardinal Farley, but the outbreak of War intervened, and this work was left until 1919 when the new Archbishop took up the subject. On May 1, 1920, the Catholic Charities of the Archdiocese of New York was inaugurated with the Cardinal as its president. In the annual report of the New York State Board of Charities for 1920 this was referred to as "the most significant and important event of the year in the field of charitable work."

Although devoted to the cause of charity, the Cardinal did not neglect any measures necessary to the well-being of his flock. He organized the Cardinal's Literature Committee, which prepared seasonal reports on contemporary books in all fields, and the Catholic Theater Movement, which did the same for the theater. He was outspoken in his condemnation of birth control, and on Dec. 8, 1935, delivered a vigorous sermon denouncing its advocates as "prophets of decadence," and voicing his "measured, deliberate, and emphatic condemnation of the effrontery" of those "who would fly in the face of God and bring ruin and disaster to the land." In 1937 he was one of the leaders of the Catholic Church in New York who urged the defeat of the Federal Youth Control (Child Labor) amendment to the Constitution.

Cardinal Hayes was honored by France with the Legion of Honor (1919); by Italy with the Grand Official Order of St. Maurizio and St. Lazzaro (1929); he received the Grand Cross of Devotion of the Knights of Malta (1927) and in 1928 was made the Cardinal Protector of the American Branch of that Order. He was appointed to the Congregation "Pro Ecclesia Orientali" in 1931, and in 1935 became the first American to serve as a Papal Legate when he served in that capacity at the National Eucharistic Congress held at Cleveland, Ohio.

HEARST COLLECTION. See ART SALES.

HEJAZ. See ARABIA.

HELIUM. See AERONAUTICS.

HEREDITY. See ANTHROPOLOGY.

HERRESHOFF, hēr'ēs-hōf, NATHANAEAL GREENE. An American ship designer and builder, died at Bristol, R. I., June 2, 1938, where he was born on Mar. 18, 1848. Educated in the public schools of Bristol and at the Massachusetts Institute of Technology (1866-68), this was supplemented by practical study and experience in the best engineering shops and yards abroad. In 1869 he became a draftsman with the Corliss Engine Works at Providence, R. I., where he assisted in the construction of the large engine which furnished motive power for all machinery at the Philadelphia Exposition of 1876.

His reputation was first made with the speedy sailing craft *Riviera* (1874), built at Nice, and by a jointed boat or catamaran, which he patented in 1875. In the following year he designed *Lightning*, a 60-foot torpedo boat capable of 20 m.p.h. for the U.S. Naval School. He joined his brother in 1879

as designer for the Herreshoff Mfg. Co., of which he became superintendent in 1881 and president in 1915. In 1924 he retired and the Company was purchased by a syndicate.

His invention in 1874 of a tubular or coil boiler which increased speed without adding weight made the firm famous for high-speed steam yachts, the first of these being the *Stiletto* (1885), which was purchased by the Government and brought the firm the order for the torpedo boat *Cushing*. Although but 86 feet long and in use for 20 years, the *Stiletto* was able in 1903 to make 18 knots an hour.

It was with sailing yachts, however, that the Herreshoffs were best known. The *Shadow*, the first Herreshoff-designed sloop appeared in 1881 and in 1891 an epoch-making yacht appeared—the *Gloriana*, built for E. D. Morgan. The memorable features of her model included a long overhang at each end and a straightline bow in place of the hollow vertical wedge. The advantages of overhangs at each end were added initial stability and lengthened fore and aft lines of hull, thereby refining the angle presented to the water, and thus avoiding the heaping up of water under the lee bow in windward work. With the advent of the *Gloriana* the illusion that a racer must necessarily have a sharp, vertical-wedge bow with hollow lines vanished. She started in eight races in her first year and won them all. With the appearance of the *Wasp* and *Dilemma*, his success was established.

In 1893 Herreshoff designed and built his first America's Cup defender, the *Vigilant*. This was followed by the *Defender* (1895), the *Columbia* (1899, 1901) and the *Reliance* (1903), which was the fastest boat built up to that time. The last America's Cup defender designed by him was the *Resolute* (1920), which perhaps was the greatest of them all, for it defeated the *Shamrock II* and 10 years later sailed in the trials that preceded the 1930 cup race.

Other boats designed by him were the yachts *One Hundred* (1883), *Now Then* (1887), *Say When* (1888), and *Vamoose* (1891); the *Pelican* (1890); the *Navahoe* (1893); *Colonia* (1893); *Henrietta* (1886); *Ballymena* (1888); *Javelin* (1891), and the torpedo-boats, *Dupont*, *Porter*, and *Morris*, in 1897-98.

One of the outstanding yacht designers of all time, Mr. Herreshoff designed and superintended the building of thousands of boats between 1877 and 1924, ranging from sailing dinghies to the largest ocean-going schooners, from fast-driven steam yachts and torpedo boats to power-driven houseboats. His yachts won 13 Goelet Cup races; 22 out of 62 Astor Cup matches; 14 of 24 King's Cup races; triumphed twice in the Camp May Challenge Cup events, and four times in the fight for the Brenton Reef Cup.

He was a member of the Institute of Naval Architects of England and of the American Institute of Naval Architects and Marine Engineers.

HERRICK, ROBERT (WELCH). An American novelist, died at Charlotte Amalie, Virgin Islands, Dec. 23, 1938. Born in Cambridge, Mass., Apr. 28, 1868, he was educated at Harvard University (A.B., 1890), and upon graduation was appointed instructor in rhetoric at the Massachusetts Institute of Technology. Three years later he joined the faculty of the University of Chicago, serving successively as instructor in rhetoric, assistant professor of English (1895-1901), associate professor (1901-05), and professor (1905-23).

Mr. Herrick's novels included broad pictures of

American life and were concerned with the social issues of the day and with the clash of commercialism and idealism. With *Together* (1908), Mr. Herrick first achieved prominence as a novelist both at home and abroad. His other works included *The Man Who Wins* (1895), *Literary Love Letters and Other Stories* (1896), *The Gospel of Freedom* (1898), *Love's Dilemmas* (1898), *The Web of Life* (1900), *The Real World* (1901), *Their Child* (1903), *The Common Lot* (1904), one of his outstanding works, *The Memoirs of An American Citizen* (1905), *The Master of the Inn* (1908), *A Life for a Life* (1910), *The Healer* (1911), *One Woman's Life* (1913), *His Great Adventure* (1913), *Clark's Field* (1914), *The World Decision* (1915), *The Conscript Mother* (1915), *Homely Lilla* (1923), *Waste* (1924), *Wanderings* (1925), *Chimes* (1926), *Little Black Dog* (1931), *The End of Desire* (1931), and *Sometime* (1933). In 1899 he published, with L. T. Damon, *Composition and Rhetoric*.

During the World War, Mr. Herrick served as a war correspondent for the *New York Tribune*. After his retirement from the University of Chicago, in 1923, he devoted himself to writing, and in 1935 he was appointed Secretary-General of the Virgin Islands. He was a member of the National Institute of Arts and Letters.

HERTY, CHARLES HOLMES. An American chemist, died in Savannah, Ga., July 27, 1938. Born in Milledgeville, Ga., Dec. 4, 1867, he was a student at Georgia Military and Agricultural College (1880-84) and in 1886 received the degree of Bachelor of Philosophy at the University of Georgia. He took his doctorate at Johns Hopkins University in 1890, where he studied chemistry, mineralogy, and geology, and wrote for his thesis "The Double Halides of Lead and the Alkali Metals." In 1899 and 1900 he studied at the universities of Berlin and Zurich.

Dr. Herty's first post was as an assistant chemist in the Georgia State Experiment Station (1890-91). He joined the faculty of the University of Georgia in 1891 and was successively instructor and adjunct professor of chemistry (1894-1902). Joining the Department of Agriculture, he became a collaborator (1901-02) and an expert (1902-04) with the Bureau of Forestry. In the summer of 1901 he investigated the turpentine industry, the results of which he published in "Practical Results of the Cup and Gutter System of Turpentineing." In 1932 he received the Medal of the American Institute of Chemists for his "researches that revolutionized the turpentine industry," and which put it on a sound basis.

Leaving the Government service, he became associated with the Chattanooga Pottery Co. during 1904-05 and in 1905 was appointed professor of chemistry at the University of North Carolina, which position he held until 1916. During 1908-11 he was dean of the School of Applied Science there. He then became editor of the *Journal of Industrial and Engineering Chemistry*, and his belligerent editorials awakened the chemists and chemical industries to the necessity of action for a national offense as well as a defense. In 1919 Dr. Herty was sent abroad by President Wilson to negotiate with the reparations authorities for the purchase of impounded stocks of German dyes, and he successfully obtained the importation and purchase of dyes directly from the leaders of the German dye trust. He became president of the Synthetic Organic Chemical Manufacturers Association in 1921 but left that organization in 1926 to become, for two

years, an adviser to The Chemical Foundation, Inc. Until 1932 he was an industrial consultant in New York City, when he entered the Department of Forestry and Geological Development of Georgia as director of the division of pulp and paper research, and in 1933 he became director of the Pulp and Paper Laboratory of Industrial Committee of Savannah, which post he held at his death.

A leading figure in the world of chemistry, his researches were done principally in organic chemistry and included the determination of the constitution of inorganic compounds by physico methods; also, he invented a new method of turpentine orcharding and a rapid method for the determination of oil in cottonseed products. For the past 10 years or so he had made intensive investigations to determine the possibilities of producing newsprint and other grades of white paper from young southern pines, and in 1937, the first newsprint paper mill was erected in eastern Texas at a cost of \$5,000,000, to produce 150 tons of newspaper daily from southern loblolly pine by the Herty process.

For his work in this direction, Dr. Herty received the Lucas Trophy in 1934, an award given annually to the resident of Savannah, Ga., who performed the most worthwhile service for the city; and also the Herty medal given by the Students and Staff of the Chemistry Department of The Georgia State College for Women for "excellent service rendered the field of chemistry within the Southeast." A fellow of the American Association for the Advancement of Science, he was a member of many scientific societies and served as president of the American Chemical Society (1915-16), the highest honor American chemistry could give. During his incumbency, the National Exposition of Chemical Industries was organized and realizing the potentialities in this Exposition to assist the permanent establishment of a self-contained chemical industry, he became intensely interested in its success. He held the chairmanship of the Advisory Committee from its inception until 1925, when he retired, retaining membership on the Committee, however.

Besides articles in the scientific press, Dr. Herty wrote *Tables for Cottonseed Oil Products* and *Relations of Light Chipping to the Commercial Yield of Naval Stores* (1911).

HESSE. See GERMANY.

HINES CASE. See NEW YORK; LAW.

HISPANIC SOCIETY OF AMERICA, THE (Spanish Museum and Library). Founded in 1904. An educational institution, containing objects of artistic, historic, and literary interest, its purposes are to advance the knowledge of the Spanish and Portuguese languages, literature, and history and to encourage the study of the countries wherein Spanish and Portuguese are or have been spoken languages. In furtherance of these aims, paintings and other art objects together with manuscripts, maps, and a library of about 40,000 books were placed in charge of the Society. These varied collections have been gradually increased so that, for example, the library now forms one of the most notable Hispanic libraries in America. A number of temporary exhibitions have been held of the works of noted Hispanic artists. The Society has issued more than 600 imprints relating to Spanish art, history, and literature. In this group are the Huntington reprints of early books, monographs, catalogues on the collections, a Handbook of the museum and library collections (1938), and several works published in co-operation with other institutions. Membership in the Society is honorary and

is limited chiefly to Hispanists of distinction. President, Archer M. Huntington. Headquarters: Broadway, between 155th and 156th Streets, New York City.

HISPANIOLA. Official name of the island commonly known as Haiti. See HAITI; DOMINICAN REPUBLIC.

HISTORICAL ASSOCIATION, AMERICAN. A society for the promotion of historical studies and writings formed in 1884 by a group of scholars and chartered by Congress in 1889. Its membership in 1938 numbered 3424.

The Association's fifty-third annual meeting was held in Chicago, Ill., Dec. 28-30, 1938. Meeting concurrently were the Agricultural History Society, American Association of University Professors, American Catholic Historical Association, American Military History Foundation, American Oriental Society (Middle West Branch), American Society of Church History, Bibliographical Society of America, Conference of State and Local Historical Societies, History of Science Society, Mediaeval Academy of America, Mississippi Valley Historical Association, National Council for the Social Studies, Society of American Archivists, and the Southern Historical Association. The Herbert Baxter Adams Prize was awarded to McCandless Wilson, Dartmouth College; the George Louis Beer Prize to René Albrecht-Carrié, and the John H. Dunning Prize to Robert A. East. The Jusserand Medal was abolished. The official organ of the association is the *American Historical Review*, a quarterly.

The officers elected for 1938 were: President, Laurence M. Larson (died Mar. 9, 1938) and succeeded by the first vice-president, Frederic L. Paxson, University of California; second vice-president, William Scott Ferguson, Harvard University; secretary, Dexter Perkins, University of Rochester; treasurer, Solon J. Buck, The National Archives, Washington, D. C.; executive secretary, Conyers Read, Philadelphia, Pa.; editor, Lowell J. Ragatz, George Washington University; assistant secretary-treasurer, Patty W. Washington. Headquarters are at 740 Fifteenth Street, N.W., Washington, D. C.

HISTORY. See FRENCH LITERATURE; GERMAN LITERATURE; LITERATURE, ENGLISH AND AMERICAN; PHILOLOGY, MODERN, ETC.; also, sections on *History* under each country.

HLINKA, ANDREAS. A Slovak churchman and politician, died at Buzomberck, Czecho-Slovakia, Aug. 16, 1938. Born at Černova, Austria-Hungary, Sept. 27, 1864, he was educated in the local schools and seminary and ordained to the Roman Catholic priesthood in 1889. Stationed at Trich Slacich he converted that little village into a model community, and in 1895 was transferred to Rosenberg. His work for the maintenance of the Slovak culture and nationalism led to his imprisonment in 1907-10, during which period of incarceration he translated the Old Testament from Latin into Slovak. During the World War he served on the Red Cross and other local welfare committees.

With the establishment of the Czecho-Slovak Republic in 1918, Father Hlinka became editor of *Ludove Noviny* and a leader of the strongly Catholic Slovak People's party, serving as their chairman in the first national assembly at Prague. In the following year he attended the Paris Peace Conference where he lobbied for Slovak autonomy. During his 20-year association with the People's party he constantly agitated and led the fight for Slovak administrative autonomy and practical

independence in all domestic affairs. In a public address in 1932 he claimed that there was no such nation as Czecho-Slovakia and that the Slovaks had their own traditions. Although an opponent of Lord Rothermere's campaign in 1927 to have the peace treaties revised, fearing no doubt that the control of Slovakia might pass to Hungary, he had in late years joined in a more or less united front with the militant Sudeten German minority and the Hungarian minority in their demands for liberation from the rule of the Czechs. He was imprisoned for 10 days in 1926 for libeling President Masaryk.

Hlinka was an apostolic protonotary with the title of monsignor, president of *Ludova Banka*, director of the daily newspaper *Slovak* and of the weekly edition, *Slovak Tyzsdennik*, and of many co-operative enterprises in his parish.

HOBART COLLEGE. An institution for the higher education of men in Geneva, N. Y., founded in 1822. William Smith College, a co-ordinate institution for separate instruction of women, was established in 1908. Undergraduate work at both colleges leads to A.B. or B.S. degrees, with advanced work leading toward Master's degree in some departments. The student enrolment at Hobart for autumn of 1938 was 381, and for William Smith was 164. The combined faculty totaled 54 members. Library contained 104,150 volumes. Endowment was \$1,357,800; value of grounds and buildings \$1,017,000; income for the year approximately \$275,000; gifts received in 1937-38 college year \$43,641. President, William Alfred Eddy, A.B., A.M., Ph.D., LL.D., L.H.D.

HOCKEY. See SPORTS.

HOLLINS COLLEGE. A liberal arts college for women, founded 1842, located 6 miles north of Roanoke, Va. It is nonstate, nonsectarian, with an endowment of \$424,807. The 1938 enrollment was 317. The faculty numbered 38, excluding all administrative officers. There were 11 academic buildings, exclusive of faculty residence halls and residences on a campus which included more than 400 acres. The library contained 28,840 volumes. The physical equipment was valued at \$1,468,523 in 1938. President, Bessie C. Randolph, Ph.D.

HOLY CROSS COLLEGE. A Roman Catholic college for men, under the Society of Jesus, in Worcester, Mass., founded in 1843. The enrollment for the autumn of 1938 totaled 1237. The faculty numbered 90. The library contained 122,000 volumes. President, The Rev. Francis J. Dolan, S.J.

HONDURAS, hōn-dōō'rās. A Central American republic. Capital, Tegucigalpa.

Area and Population. The area is about 46,250 square miles and the population at the census of June 30, 1935, was 962,000 (854,154 in 1930). The people are mainly of mixed Spanish and Indian blood, except for the considerable Negro element in the north coast banana region and some 35,000 aborigines. The 1935 populations of the chief cities, including suburbs, were: Tegucigalpa, 42,903; San Pedro Sula, 32,721; Comayagua, 15,095; Tela, 14,460; Progreso, 13,748; La Ceiba, 13,795; Choluteca, 13,024; Juticalpa, 11,593; Puerto Cortes, 11,306; Comayagua, 10,332; Trujillo, 10,275.

Education and Religion. About 67 per cent of the population over seven years of age were illiterate in 1935. In 1937 there were 757 public elementary schools, with 40,836 pupils registered and 1232 teachers. There were also 16 secondary schools, 6 normal schools, and the National University at Tegucigalpa (312 students in 1935-36).

A large majority of the inhabitants are Roman Catholics, but freedom of worship is guaranteed all creeds.

Production. Agriculture and stock raising are the chief occupations. Shipments of the principal export crops in 1937 were: Bananas, 12,710,000 bunches; coconuts, 10,804,000 nuts; coffee, 5,427,000 lb.; leaf tobacco, 1,030,000 lb. Corn, kaffir corn, beans, and sugar cane are grown for local consumption. The forests yield mahogany and other hardwoods. There is one large silver mine and several small gold workings. Manufacturing is of minor importance, supplying only a small part of the local needs.

Foreign Trade. By an act of Congress in 1938 the fiscal year was made to end on June 30 instead of July 31. Consequently the following trade figures for 1937-38 represent an 11-month period. Imports for this period amounted to \$9,468,000 and exports to \$7,356,000. The United States supplied 62 per cent of the 1937-38 imports (58.1 per cent for the same 11 months in 1936-37); Germany, 11.1 (9.5); Japan, 9.2 (14.5). Of the general 1937-38 exports, the United States took 86.4 per cent (88.8 in 1936-37); Germany, 2.8 (1.3). The value of the chief exports for the fiscal year ended July 31, 1937, was: Bananas, \$5,739,000; coconuts, \$127,000; coffee, \$127,000; gold and silver, \$2,155,000; mineral tailings, \$359,000.

Finance. For the change in the fiscal year, see *Foreign Trade*. The budget for 1937-38 estimated receipts at 11,811,627 lempiras and expenditures at 18,811,627 lempiras; for 1938-39 the estimates balanced at 14,451,000 lempiras. The external public debt on July 31, 1937, totaled \$3,061,938 and the internal debt about \$10,500,000. The entire internal debt outstanding as of July 31, 1936, was to be converted and liquidated by Aug. 1, 1938, under a law passed by Congress in 1937 (see 1937 YEAR BOOK, p. 319). The lempira (nominal value, \$0.8466 U.S. currency) had an average exchange value of about \$0.49 in 1937 and 1938.

Transportation. There were about 965 miles of railway line in operation in 1938. Highways extended about 511 miles in 1937; number of automobiles Jan. 1, 1938, 1225. Air services in operation in 1938 covered 2420 route miles and linked the principal towns with one another and with the Pan American Airways international network.

Government. The Constitution of Apr. 15, 1936, extended the terms of office of the President, Vice-President, and members of Congress from four to six years. It stipulated that the incumbent President and Vice-President should continue in office until Jan. 1, 1943, and that the Constitutional Assembly of 59 members (all Nationalists) should automatically become the regular National Congress with the members holding office until Dec. 4, 1942. The first election under the new Constitution was set for the last Sunday of October, 1942. President in 1938, Gen. Tiburcio Carias Andino (Nationalist), who assumed office Feb. 1, 1933.

History. Little news of developments under the Carias Andino dictatorship seeped through the censorship during 1938. Reports of minor revolutionary outbreaks in Honduras, given out by Nicaraguan sources, were denied by Honduran officials. The government strengthened its armed forces by the purchase of additional military airplanes from a United States manufacturer. The government's far-reaching efforts to extricate itself from a serious financial crisis (see 1937 YEAR BOOK, p. 319) were continued in 1938. A law of February 15 imposed a tax varying from 1 to 10 per cent on in-

heritances and gifts of real or personal property. The tax on such a legacy to a foreigner not domiciled in Honduras was fixed at 20 per cent.

The interest of the country was focused during the year upon the negotiations for a settlement of the boundary dispute that broke out with Nicaragua in 1937 (see 1937 YEAR BOOK). The Mediation Commission established in 1937 reconvened at San José, Costa Rica, on Feb. 23, 1938, to seek a final solution of the controversy. It was unable to break the deadlock between the Honduran representatives, who insisted on fulfillment of the King of Spain's 1906 arbitration award on the frontier issue, and the Nicaraguans, who declared the King's award unacceptable. The negotiations were hindered by Honduran charges that Nicaragua was violating the provisions of the agreement of Dec. 10, 1937, regulating the conduct of the two governments during the boundary negotiations.

On April 9 the commission adjourned. It failed to reconvene during the remainder of the year due to the persistence of the deadlock. The failure of the Costa Rican public to accept the Costa Rican-Panama boundary treaty (see COSTA RICA under *History*) militated against the success of the Honduran-Nicaraguan negotiations. It was announced on October 23 that the Mediation Commission would reconvene early in 1939 after the Pan American Conference (q.v.) at Lima, Peru, had been given an opportunity to influence the disputants.

HONDURAS, BRITISH. See BRITISH HONDURAS.

HONG KONG. A British crown colony consisting of the island of Hong Kong (32 sq. mi.), Old Kowloon (3 sq. mi.), and the New Territories (356 sq. mi.) leased from China (June 8, 1898) for 99 years. Total area, 391 square miles; total population (mid-year 1937 estimate), 1,006,982 of whom 98 per cent were Chinese. This is considered to be 30 per cent below the actual population because of the large number of refugees who have entered the colony as a result of the Sino-Japanese conflict. The following figures of vital statistics are also affected by this refugee problem. In 1937 there were 32,303 births and 34,635 deaths. The 1177 schools (1015 vernacular and 162 English) had a total enrollment for 1937 of 86,993. Hong Kong University had (in 1936) 350 full-time students.

Production and Trade. The main industries were the manufacture of sugar, cement, flashlights, rubber shoes, lard, and ships. Deep-sea fishing is an important occupation. In 1937 imports (exclusive of treasure, HK\$386,448,955) were valued at HK\$617,100,000; exports (exclusive of treasure, HK\$395,226,524), HK\$467,300,000 (Hong Kong dollar averaged \$0.3069 for 1937). China sent 33.6 per cent of the imports and took 42.7 per cent of the exports. The principal commodities of trade were foodstuffs, metals, piece goods, oils and fats, Chinese medicines, and fertilizers. Hong Kong is a free port and the chief port for South China. Its harbor is fortified and is the headquarters for the China Squadron of the British Navy. A total of 73,257 vessels aggregating 37,830,760 tons, entered and cleared the colony during 1937.

Communications. There is an electric tramway of over 9 miles, a cable tramway joining the Peak district with the lower levels of Victoria, and a government railway on the mainland joining Kowloon with Canton. Highways extended 371 miles (173 miles on the island of Hong Kong, 106 on Kowloon, and 92 miles in the New Territories).

The commercial wireless telegraph services, previously controlled by the Hong Kong telegraph administration, were taken over by Cable and Wireless Limited. The Air France service which formerly ended at Hanoi was extended to Hong Kong during 1938. There are now five large air companies (Pan American Airways, Imperial Airways, Air France, China National Airways, and Eurasia Airways) using Kai Tak airport in Hong Kong as a terminus for their services. The air mail between Bangkok and Hong Kong, hitherto on a once-a-week basis, was duplicated during 1938.

Government. For 1937 revenue amounted to HK\$33,196,368; expenditure, HK\$32,111,222; total public debt (Dec. 31, 1937), HK\$17,158,000. The colony is governed under Letters Patent of Feb. 14, 1917, and Royal Instructions of the same and following dates, by a governor who is assisted by an executive council of 6 official and 3 unofficial members. There is a legislative council, presided over by the governor, of 9 official and 8 unofficial members. Governor, Sir G. A. S. Northcote (appointed Jan. 19, 1937).

History. The legislative council, early in 1938, approved the expenditure of HK\$337,769 on the second section of the Shing Mun Valley water scheme. In addition, it approved the sum of HK\$815,577 on other 1937-38 loan works. Wing-Commander A. H. S. Steele-Perkins was appointed by the Colonial Office in London to be Air Raid Precautions officer in Hong Kong. Local rubber factories were converted, at the suggestion of the government, to manufacture gas masks which were placed on sale in stores at a small cost. An ordinance for the protection of women and girls, covering Mui-Tsai policy, was passed with a number of minor amendments by the legislative council (*Crown Colonist*, London; July, 1938).

The shipbuilding industry was extremely active during 1938. At the end of June the ships under construction totaled 40,000 tons, including two ships of 10,000 tons each. An accumulation of over 80,000 tons of cargo awaiting transit was caused by the blockade of the China coast by the Japanese. Hong Kong money, as a result of the Sino-Japanese conflict, was much in demand by the Chinese and the Hong Kong government as well as the four note-issuing banks had to increase their issues during the year. New security rim coins were released for circulation by the treasury in an effort to foil counterfeiters.

The governor announced in July that he had decided to appoint a full-time labor officer to the secretariat for Chinese affairs. His duties would include investigations into rates of wages, cost of living, and local industrial conditions. An acute housing shortage developed in the colony because of the large influx of refugees from the Sino-Japanese hostilities and a plan for the accommodation of the refugees in camps was considered by the government. A small-pox epidemic, which lasted all winter, caused the loss of 1720 lives out of 2243 cases reported. The government instituted the vaccination of over a million inhabitants in an effort to stamp out the epidemic. Then, when the small-pox epidemic had ceased, cholera swept the colony and by mid-July very few of the 189 cases reported had recovered. Quarantine restrictions, for the first time in the history of Hong Kong, were imposed against the city of Canton in order to control the small-pox epidemic which was thought to have been caused by the influx of refugees from South China.

Hong Kong's trade received a severe blow in

mid-August as a result of the cutting off of traffic with the interior, via Canton, but moderate trade continued with coastal ports, and trade with Macao, Kwangchow, and Haiphong increased. The British admiralty, in view of the decision to expand the Hong Kong naval program, contemplated the repurchase of the former naval arsenal site which was sold to the Hong Kong government last year (1937) for HK\$2,000,000. British protests against the Japanese violations of the frontier on Nov. 26, 1938, resulted in the evacuation of the entire Hong Kong border by the Japanese in order to avoid incidents. See CHINA under History.

HOPS. Data on the 1938 hop production in different countries other than the United States were quite incomplete at the close of the calendar year. The International Institute of Agriculture reported for France a crop of 4,495,000 lb. produced on 4200 acres as compared with 5,182,000 lb. and 4300 acres in 1937. A preliminary estimate placed the acreage in Belgium at 1800 acres, compared with 2100 acres the year before. The 1938 production of England and Wales was placed at 26,784,000 lb. grown on 18,500 acres, an increase of 464,000 lb. in production and of 400 acres in acreage over 1937.

The 1938 crop of the United States was reported by the Department of Agriculture at 35,261,000 lb. of which, owing to market conditions and marketing agreement quotas under the Agricultural Adjustment Administration, 3,140,000 lb. remained unharvested. The acreage of 31,500 acres was 8 per cent smaller than in 1937 and the yield per acre, 1,119.4 lb., was about 13 per cent less than in the preceding year. This report included only the Pacific Coast States as production elsewhere is not of commercial importance. Oregon produced 16,434,000 lb., Washington 9,675,000 lb., and California 9,152,000 lb. of which 1,200,000, 1,300,000, and 640,000 lb. respectively were unharvested. In 1937 these States produced 43,913,000 lb. of which 4,365,000 lb. remained unharvested due to market conditions and labor shortage. The three principal varieties grown on the West Coast are Late Clusters, the Fuggles, and Early Clusters, of which Late Clusters occupies about 75 per cent of the hop acreage of the region.

During the fiscal year ended June 30, 1938, the United States exported 5,603,000 lb. of hops compared with 2,723,000 lb. the preceding fiscal year and imported 9,291,000 lb. of hops and 3200 lb. of hop extract and lupulin. The hop industry and some of its problems are described in Washington Experiment Station Bulletin No. 363, Pullman, August, 1938, entitled "Migratory Farm Labor and the Hop Industry on the Pacific Coast."

HORMONES. See BIOLOGICAL CHEMISTRY.

HORSE RACING. See SPORTS under Turf.

HORTICULTURE. In general, 1938 was a favorable year for American horticulture. Production of commercial crops was, in most cases, lower than in 1937 but sufficient to meet needs and not so large as to depress prices except in a few instances, such as grapefruit and oranges. Severe spring freezes occurring in the south and north-central states and in the northeast area caused serious local losses and the unprecedented hurricane occurring in New England on September 21 destroyed the crops unharvested at the time. Roughly, half of the New England apple crop was blown from the trees and either lost or forced into the cider and cull markets. More serious still was the loss of trees by uprooting from the soil softened by excessive rains just prior to the hurricane. In

addition to the fruit crop, great damage was done to vegetable and ornamental plants. Withal, however, considering the nation as a whole, these local losses had but little effect on total production and total values.

Ornamental horticulture continued to gain rapidly in national significance. The extent of business in this field is shown in nearly \$1,500,000 worth of imported tulip bulbs and over \$500,000 worth of hyacinth bulbs. The interest in ornamentals is reflected in the many new books on the general subject published in 1938 (see *Bibliography* below).

The World Situation. As indicated in the mimeograph, "World Fresh Fruit Statistics," published by the Department of Agriculture in August, the United States leads in the production of many fruits, including the apple, peach, grapes for table use, oranges, and grapefruit. In the world at large, more grapes are produced than any other fruit, apples taking second place. The trend in world-total production for the 14 principal fruits, excluding grapes for wine and raisins, is upward, with the most rapid expansion in citrus fruits. Total orange and mandarin production for 27 countries reporting had increased from an average of 133 million boxes in the five years 1922-26 to 207 million in the five years ended 1937. The greatest citrus gains have been in Palestine, Brazil, and the Union of South Africa. For the United States, increasing production in foreign lands is highly significant since it means increasing competition for American fruit in foreign markets.

The Canadian apple crop in 1938 was smaller than in 1937 and there was a considerable reduction in all fruit crops in Central Europe. The European filbert crop was estimated at 96,000 short tons as compared with 128,400 tons in 1937. Bumper crops of raisins in Australia and Turkey resulted in a 29 per cent increase in production in countries outside the United States. Reduced citrus crops in Mediterranean countries, due partly to the war situation in Spain, favored United States trade in Europe. The winter tomato crop in West Mexico was drastically reduced from 30 to 8 thousand acres, due largely to the unfavorable market situation in the preceding season.

Domestic Production. Fruit crops were generally smaller and vegetable crops generally larger in 1938, according to data released by the U.S. Department of Agriculture on December 19. Among fruits to show material declines were the apple from 210,783,000 bu. in 1937 to 131,882,000 bu. in 1938; peaches from 59,724,000 bu. in 1937 to 51,945,000 in 1938; grapes, 2,777,000 tons in 1937 to 2,503,000 in 1938; cranberries, 877,000 bbl. in 1937 to 457,000 in 1938; pecans, 76,893,000 lb. in 1937 and 46,566,000 in 1938. On the other hand, orange estimates for the 1938-39 season were 78,281,000 boxes as compared with 74,476,000 in the preceding crop year; grapefruit 40,696,000 boxes in 1938-39 against 31,093,000 in the 1937-38 season. Among vegetables to show substantial yield increases were asparagus, lima beans, snap beans, beets, cabbage, cantaloupes, carrots, cauliflower, celery, cucumbers, eggplants, onions, and market tomatoes. Crops to show moderate declines were sweet corn, fresh peas, spinach, and watermelons. In most cases, increased vegetable production was based on a corresponding acreage increase rather than larger acre yields. The production of peas and snap beans for canning set new records, partly to meet the need for material for freezing preservation, a rapidly developing new industry.

Foreign Trade. Comparing figures in the

Monthly Summary of Foreign Commerce for October, 1937, and October, 1938, there is noted a sharp rise in the value of imported horticultural materials in 1938 from \$45,787,445 in 1937 to \$62,153,351 in 1938. Exports also show a substantial gain from \$77,795,567 in 1937 to \$90,274,270 in 1938. Considering disturbed international conditions, restrictive trade barriers, etc., this was a promising situation. As always, bananas constituted the major import item, \$24,622,697 worth being received from Jan. 1 to Oct. 31, 1938. Other important items were tomatoes, fresh and canned, olives, Brazil nuts, cashews, and tulip bulbs. The orange was the most valuable export item, totaling \$13,964,822. Apples followed closely with a value of \$9,734,980. Other items of large value included prunes, canned peaches, canned pears, fresh pears, pecans, and canned asparagus.

Research. Among interesting developments in the field of horticultural research was the use of certain chemicals popularly designated as growth-promoting substances, for promoting root growth in cuttings. So favorable were the results that several proprietary materials were developed for the gardener's use. None of the materials appears capable of inducing rooting in species that fail to root at all by the older methods but produced astonishing results in stimulating and increasing root formation in many difficult species. Practically speaking, the use of growth-promoting substances should result in more abundant and lower-priced plants of many species. Of more technical nature but perhaps of even greater significance to horticulture was the growing interest in the use of drugs, notably colchicine, in disturbing the normal cell division process in plants and thereby inducing the development of new forms. This new technic, although purely in the preliminary stage, unfolds opportunities for the plant breeders that have been entirely impossible heretofore. Following the accepted lines of plant breeding, much progress was made by agricultural experiment stations in the development of new fruits and vegetables. The New Hampshire Station produced a new eggplant that won a place on the 1938 All-American list of valuable new vegetables. The New York Experiment Station at Geneva continued its productive breeding program by naming seven new apples, four new grapes, a pear, a cherry, and a strawberry. Other institutions made notable contributions in the form of new and improved fruits, flowers, and vegetables. The extent and high grade of horticultural research was indicated in the 250 odd papers published in the *Proceedings* of the American Society for Horticultural Science, issued in May and reported at the winter meetings held in Indianapolis in late December, 1937.

Miscellany. Prof. J. C. Blair, horticulturist of the University of Illinois, was appointed dean of the College of Agriculture and director of the Experiment Station of the university to succeed Dean Mumford, deceased.

Dr. John H. Beaumont, horticulturist of the Hawaii Station, was promoted to the directorship following the resignation of Dr. O. C. Magistad.

Dr. H. Harold Hume, assistant director of the Florida Experiment Station and well known as author of "Azaleas and Camellias" and other books, was appointed Dean of Agriculture in Florida University.

Necrology. Henry M. Dunlap, commercial horticulturist of Champaign, Illinois, died Jan. 8, 1938. The Senator Dunlap strawberry was named in his honor.

Mrs. Louise B. Wilder, noted garden author, died Apr. 20, 1938. In 1937 she was awarded a gold medal for horticultural achievement by the Garden Club of America.

Leonard Barron died Apr. 9, 1938, at the age of 69 years. He was editor of the *Flower Grower* magazine at the time of his death.

Glen P. Van Eseltine, associate horticulturist of the New York Agricultural Experiment Station and widely known for his botanical and genetic studies with squashes and other economic plants, died suddenly at Geneva, N. Y., on Nov. 14, 1938.

A. L. Wilson, Professor of horticulture at the Utah State College, died October 30. In the research field, Dr. Wilson was well known for his constructive studies on the improvement and storage of the onion.

Bibliography. Although the following is by no means a complete list of horticultural books appearing in 1938, it is indicative of the scope of the subject matter covered. Ornamental gardening was evidently of dominant interest. In addition, many hundreds of helpful and instructive articles appeared in monthly and weekly periodicals and in the daily press: Bailey, L. H., *The Garden of Pinks*, New York, 1938; Bissland, J. H., *Common Sense in the Rock Garden*, New York, 1938; Bowers, C. G., *Hardy Azaleas*, New York, 1938; Dutton, R., *The English Garden*, New York, 1938; Ellis, C., and Swaney, M. W., *Soilless Growth of Plants*, New York, 1938; Fairchild, D., *The World Was My Garden*, New York, 1938; Felt, E. P., *Our Shade Trees*, New York, 1938; Fisher, A. S., *Flower Shows and How to Stage Them*, New York, 1938; Foley, D. J., *Annuals for Your Garden*, New York, 1938; Kamm, M. E. W., *Old Time Herbs for Northern Gardens*, Boston, 1938; McFarland, J. H. et al., *Garden Bulbs in Color*, New York, 1938; Nicolas, J. H., *The Rose Manual (Revised)*, Garden City, N. Y., 1938; Perry, A., *Water, Bog, and Moisture Loving Plants*, Enfield, 1938; Roberts, J. L., *Modern Dahlias*, Garden City, N. Y., 1938; Rockwell, F. F., and Grayson, E. C., *Gardening Indoors*, New York, 1938; Van de Boe, L., *Planning and Planting Your Own Place*, New York, 1938; Wright, R. L., *The Gardener's Day Book*, Philadelphia, Pa., 1938; Wyman, D., *Hedges, Screens and Windbreaks*, New York, 1938.

HOUSE, EDWARD MANDELL. An American diplomat, died in New York, Mar. 28, 1938. He was born in Houston, Tex., July 26, 1858, and educated at the Hopkins Grammar School in New Haven, Conn., and at Cornell University (1878-79), from which he was recalled by the death of his father after he had been there but one year. He devoted himself thereafter to the management of undeveloped property left him by his father.

Interested in politics, he became active in Democratic circles in his State and from 1892 to 1904, especially, and thereafter always, in the role of adviser to those seeking or in political office. His successful management of the campaigns of four governors and one senator gained him a State-wide reputation for sagacity and wisdom. He never sought political office for himself, and at the outset had decided that he could best further the interests of the measures that he favored by the complete avoidance of personal publicity.

After 1904 he retired from State politics and turned his attention to studying economic, political, and social conditions at home and abroad. Desirous in 1911 of entering national politics, he searched for a candidate to whom he could give allegiance,

and meeting Woodrow Wilson, then Governor of New Jersey, found that they had an almost identical agreement in the theory of government, and Colonel House—he had received his colonelcy as a member of the staff of Governor Culberson of Texas—then began quietly to obtain other supporters for the nomination of Wilson in the Democratic convention of 1912. Hence, though, following his accustomed policy, he himself had no official connection with the Convention, he not only had the solid Texas delegation pledged to Wilson but had also secured the support of key men from other States. By the exercise of great diplomacy, he succeeded in disabusing the mind of Bryan from prejudices formed earlier against Wilson. After the election of Wilson, House was invited to become a member of the Cabinet, but, feeling that he could serve better without an official position, refused.

In 1914, Colonel House was sent abroad by the President as an unofficial ambassador in an effort to find a basis for a peaceful settlement of the war they felt was brewing in Europe. Unsuccessful, he returned home and war became a reality. In the first years of the War, he made frequent trips to the belligerent nations, constantly seeking a peaceful solution to the conflict or at least to obtain modifications of its ruthlessness. The presidential campaign of 1916 found him warmly advancing the re-election of Wilson. Upon the entry of the United States into the War, House acted almost in the capacity of confidential secretary to the President. He received visiting dignitaries, digested reports, conducted various missions, and advised on policies. In 1917 he began the preparation of material bearing upon the ultimate peace treaty, and served as chairman of the American delegation to the Inter-Allied Conference. In October, 1918, he again sailed for Europe as a member of the American Commission to Negotiate Peace, and remained after the Armistice as the President's aide and colleague during the long weary sessions in Paris leading to the final Peace Treaty and the League of Nations document.

Some real or fancied injury, the nature of which remained a mystery to Colonel House, caused a break in the attitude of the President toward him while he was yet abroad. After his return to the United States in the autumn of 1919, he was not again invited to the White House. The later physical illness of the President, lasting until his death, left no opportunity for a reconciliation. Colonel House then retired to private life. However, he emerged from retirement to support Alfred E. Smith for the presidency in 1928 and for a time was adviser to Franklin D. Roosevelt upon his election to that office in 1932.

Mr. House was co-author, with Charles Seymour, of *What Really Happened at Paris* (1921) and was credited with the authorship of a novel, *Philip Dru, Administrator* (1912). The publication of *The Intimate Papers of Colonel House* (4 vols., 1927-28), collected and edited by Dr. Charles Seymour from the Colonel's voluminous papers and diaries, caused considerable controversy over the role played by House during the years he was the trusted adviser and friend of the President.

HOUSING. See ARCHITECTURE; UNITED STATES under *Administration and Congress*; AGRICULTURE; BUSINESS REVIEW.

HOWARD UNIVERSITY. A nonsectarian coeducational institution in Washington, D. C., open to students without regard to race, but principally for the education of Negroes. The registration for the first semester of 1938-39 was 1969.

The faculty numbered 258; 148 of this number were full-time members and 110 part-time, with a full-time equivalent of 166 persons. The total endowment amounted to \$948,271. The total appropriation of the United States Government for 1938-39 was \$723,000 for current expenses and \$121,200 for construction. The Founders Library, a new library building, was completed and put in operation at a cost of \$1,105,711. A new Men's Dormitory was under construction and will be completed in the fall of 1939, at a cost of \$525,000, the funds being supplied by the PWA. The library contained 111,801 volumes. President, Mordecai W. Johnson, S.T.M., D.D., LL.D.

HOWLAND ISLAND. See BAKER, HOWLAND, and JARVIS ISLANDS.

HUGHES, HOWARD. See AERONAUTICS.

HUMANISM. A religious movement emphasizing faith in the supreme value and self-improvability of human personality, individually and socially, instead of belief in the supernatural. In the United States it has arisen largely from and in the left wing of Unitarianism, although it is spreading among other liberal religious groups. Some 60 or more Unitarian churches are led by ministers who have openly announced their belief in Humanism. There are at least 16,000 avowed Humanists in the United States.

In May, 1933, 34 eminent leaders of American thought, including six university professors of philosophy, signed and issued a Humanist Manifesto of 15 theses, setting forth the main points of religious Humanism. The complete text, together with the names of the signers, is available in the book *Humanizing Religion*, by Charles Francis Potter. Among the periodicals of the movement are the *Humanist News*, published weekly in New York, and the *Humanist Bulletin*, published quarterly in Chicago. At the call of Charles Francis Potter, founder and leader of the First Humanist Society of New York (established 1929), the first national Humanist Assembly was held Oct. 10-11, 1934, at the New York headquarters, 113 West Fifty-seventh Street, now removed to 1775 Broadway, N. Y. C. Chicago headquarters are at the office of The Humanist Press Association, 301 N. Mayfield Ave.

HUNGARY. A kingdom of central Europe. Capital, Budapest. Regent in 1938, Nicholas Horthy de Nagybánya (elected Mar. 1, 1920).

Area and Population. The area at the beginning of 1938 was 35,875 square miles and the population was estimated at 9,034,815 in 1937 (8,688,319 at 1930 census). By the arbitral award of Nov. 2, 1938, Hungary obtained an additional 4566 square miles with an estimated population of 1,027,450 from Czecho-Slovakia (q.v.). Living births in 1937 numbered 177,821 (20.2 per 1000); deaths, 126,795 (14.2 per 1000); marriages, 79,350 (8.9 per 1000). Estimated populations of the chief cities in 1937 were: Budapest, 1,059,131; Szeged, 140,182; Debrecen, 126,588; Pesterzsébet, 84,653; Kecskemét, 82,997; Kispest, 75,671; Újpest, 74,647; Pécs, 71,848; Miskolc, 66,947; Hódmezővásárhely, 59,171; Nyíregyháza, 57,093; Békéscsaba, 51,886; Győr, 51,032; Rákospalota, 47,010; Szolnok, 43,337; Székesfehérvár, 41,990.

Education and Religion. About 9.6 per cent of the population, 6 years of age and over, was illiterate at the 1930 census. The school enrollment in 1936-37 was: Elementary, 1,292,955; secondary, 183,039; vocational, 9679; university, 13,821. According to the 1930 census, Roman Catholics comprised 64.9 per cent of the population, Helvetian

Evangelicals 20.0 per cent, Augsburg Evangelicals 6.1 per cent, and Jews 5.1 per cent.

Production. In 1930, 51.8 per cent of the working population was engaged in agriculture, 23 per cent in industry and mining, 9.3 per cent in trade, transportations, and communications. There were 13,877,000 acres of cultivable land in 1936 (60.3 per cent of the total). Yields of the chief cereals in 1938 were (in metric tons): Wheat, 2,609,100; barley, 667,200; rye, 781,000; oats, 278,500; corn, 2,580,800. Other leading crops in 1937 were: Potatoes, 94,040,000 bu.; sugar beets, 1,103,000 metric tons; beet sugar (1937-38), 144,000 metric tons; fodder beets, 3,207,000 metric tons; wine (must), 119,158,000 gal.; tobacco, 45,008,000 lb. Livestock in 1937 included 1,756,000 cattle, 2,624,000 swine, 1,484,000 sheep, 36,000 goats, and 798,000 horses.

The value of mine and foundry products in 1936 was 155,429,000 pengős, divided as follows: Lignite, 89,271,000; coal, 14,995,000; briquets, 8,631,000; coke, 924,000; purified lignite, 1,875,000; pig iron, 31,350,000; iron ore, 3,630,000; bauxite, 3,962,000; copper ore, 199,000. The production of coal in 1937 was 917,000 metric tons. The value of manufactured products in 1936 was 2,582,485,000 pengős. The principal articles produced were food products, textiles, clothing, leather, chemicals; iron, steel, and other metals; stone, clay, and glass products; wood and bone products, machinery, electric power, paper, printed matter, and alcohol. The national income was estimated at 3,495,000,000 pengős in 1937 (3,631,000,000 in 1936).

Foreign Trade. Merchandise imports in 1938 were valued at 418,440,000 pengős (483,600,000 in 1937) and exports totaled 522,600,000 pengős (588,000,000 in 1937). The principal 1937 imports in order of value were: Chemicals and related products, hewn and sawn wood, hides and skins, cotton and linters, machinery, and mineral oils. The values in current U.S. dollars of the principal 1937 exports were: Wheat, \$18,340,000; machinery, \$12,923,000; swine, \$7,163,000; poultry, \$7,557,000. Of the 1937 imports Germany supplied 26.2 per cent; Austria, 18 per cent; Rumania, 9.6 per cent; and Italy, 6.9 per cent. Germany took 24.1 per cent of the exports, Austria 16.9 per cent, Italy 12.3 per cent, and the United Kingdom 7.1 per cent.

Finance. Actual budget receipts for the fiscal year ending June 30, 1937, showed receipts of 1,312,000,000 pengős and expenditures of 1,305,000,000 pengős. The budget estimates for 1938-39 (with 1937-38 estimates in parentheses) were: Revenues, 1,335,000,000 pengős (1,119,000,000); expenditures, 1,335,000,000 pengős (1,267,000,000). The public debt on Dec. 31, 1937, amounted to 1,768,562,000 pengős (funded, 893,432,000; floating, 714,196,000; state guaranteed, 160,314,000). The average exchange value of the pengő was \$0.1978 in 1937 and \$0.1973 in 1938.

Transportation. The Hungarian railways, with 5727 miles of line in 1936, carried 92,846,000 passengers and 22,417,000 metric tons of freight. The gross receipts totaled 236,070,000 pengős. Highways extended 38,891 miles in 1937; number of automobiles, 21,237 on Jan. 1, 1938. Civil airline statistics for 1936 were: Miles flown, 578,984; passengers carried, 18,635; goods and mail, 6171 metric tons. There were 1019 miles of inland waterways, which in 1936 carried 1,688,000 passengers and 2,391,630 metric tons of freight.

Government. Hungary in 1938 was a constitutional monarchy with the throne vacant, power being exercised by the Regent pending the selection of a monarch. There is a parliament of two houses

—the Lower Chamber of 262 members (including 17 new deputies representing districts ceded by Czecho-Slovakia), elected by restricted male suffrage for five years, and the Upper Chamber of 243 elected or appointed representatives of various social, economic, and political groups, the term being 10 years. Premier at the beginning of 1938, Dr. Koloman Darányi, heading a National Union cabinet formed Oct. 12, 1936. For changes in 1938, see *History*.

HISTORY

Hungary's long campaign for restoration of the territories lost during the World War achieved its first important success in 1938. The partition of Czecho-Slovakia under German pressure enabled the Budapest Government to annex an estimated 4566 square miles of territory in Slovakia and Ruthenia (see CZECHO-SLOVAKIA under *History* for full details). This triumph spurred the Hungarians to intensify their revisionist drive against the remnants of Slovakia and Ruthenia as well as against Rumania and Yugoslavia—the other Little Entente states that profited at Hungary's expense in 1918 (see map on p. 288 for Hungary's prewar territories). They hoped to repeat their role in the partition of Czecho-Slovakia and to seize additional territories from their neighbors in the further reshuffling of Central European boundaries anticipated from the shattering of the World War peace treaties by Germany's expanding armed might. But at the same time the expansion of Germany raised a new threat to Hungary's political and economic independence. The Reich's acquisition of Austria and domination of Czecho-Slovakia brought it into direct contact with Hungary for the first time in modern history. It greatly increased Hungary's economic dependence upon Germany, already the chief Hungarian export market and source of imports. It gave a powerful stimulus to the agitation of the German minority in Hungary for greater political, cultural, and civil rights. And it strengthened the Hungarian Nazi movement, which had made much headway during preceding years (see 1937 YEAR BOOK, p. 324).

Internal Politics. Premier Darányi's National Union government represented the interests of the landed aristocracy, the upper middle class, the well-to-do peasants, and some of the Catholic and Protestant clergy. While all of these groups hoped for German aid in regaining Hungary's lost territories, they were alarmed at the danger that German support of the Nazi movement in Hungary would result in the elimination of the aristocracy, expropriation of the large estates, and termination of the privileges enjoyed by the ruling groups. Consequently the government followed a pro-German policy abroad and an anti-Nazi policy at home.

In February Maj. Ferenc Szalasi, head of the dissolved Hungarian National Socialist movement, and 72 associates were arrested for attempting to reorganize their party. In an effort to weaken the appeal of the Nazi program, Premier Darányi on March 5 announced a five-year plan of economic and social reorganization. This called for modernization of the army, a public works program to provide employment, extension of land reforms, financial assistance to poor farmers, the curbing of Jewish cultural activities, and the partial exclusion of Jews from business and finance.

After the Reich's seizure of Austria on March 12-13, however, the Hungarian Nazis became more bold in their agitation and attacks upon the Darányi Government and even the Regent. On

March 9 the cabinet was reorganized to meet the Nazi menace and overcome opposition to its five-year plan. Among the additions to the cabinet was Béla Imrédy, president of the Hungarian National Bank, who became Minister of Commerce. On April 3 Admiral Horthy warned the country by a radio broadcast that the government knew "how to . . . eliminate disturbing elements." Premier Darányi, however, proved too conciliatory and cautious in his treatment of the Nazis to suit his conservative supporters and on May 13 he was forced to permit the formation of a stronger government under Béla Imrédy.

Dr. Imrédy immediately announced that he would continue Hungary's co-operation with Germany and Italy whose "two ideas" he described as "triumphantly marching through the world." This policy was emphasized by subsequent visits paid by the Regent, the Premier, and the Foreign Minister to Rome and Berlin. At the same time he proceeded with severity against both the Nazis and Leftists in Hungary, while carrying into effect a Nazi-Fascist program affecting both economic and political life. Jews were expelled from banks and business enterprises and their control of private capital was curbed (see *Jews*). A number of government monopolies were established. The trade unions were abolished, labor organizations were taken over by the state, and public servants were forbidden to belong to either the Nazi or Social Democratic political organizations.

This program was extended following the return of Regent Horthy and the Premier from a state visit to Berlin early in September. Major Szalasi was sentenced to three years in prison and new measures were taken against his adherents. Additional anti-Jewish measures were applied. A national militia of former service men was created as a precaution against a possible Nazi coup. Most important of all, the government announced a serious program of land reform. The state was to lease one-third of every entailed estate of more than 320 acres and one-fourth of every estate of more than 535 acres that was not entailed. Land left by childless couples was to be confiscated. All lands thus acquired—estimated at 2,000,000 acres—were to be leased in small plots to landless peasants. In addition, the Premier adopted a housing program and initiated extensive reforms in social insurance, wages, taxation, public health, and recreation.

These measures, combined with Hungary's failure to obtain all of Ruthenia in the partition of Czecho-Slovakia, led to a split among the government supporters in Parliament in November. On November 15 Premier Imrédy submitted his cabinet's resignation, but the Regent authorized him to form a new one. In the reshuffling of the cabinet four extreme Rightists were eliminated, indicating that the government planned to continue its program of internal reform and the curbing of the Nazis. On November 22, 68 government members withdrew their support from the Imrédy Cabinet and it was defeated in the Lower Chamber the following day, 115 to 94. Social Democrats and other opponents of authoritarianism joined with reactionary landowners in ousting the Premier. The Regent, however, declined to accept the Premier's second resignation and Dr. Imrédy continued in office during the remainder of the year.

Meanwhile, the Nazi agitation appeared to have gained momentum. There were riotous Nazi street demonstrations in Budapest on December 1. Yielding to pressure from Germany, the Premier on

December 28 announced that the German minority would be granted the right to have its own schools and cultural and religious organizations. A German political party was launched. Meanwhile, more severe anti-Jewish laws, enacted earlier in December, established greater discrimination against Jews on a racial basis, closely resembling provisions of Germany's Nuremberg laws.

Foreign Relations. While drifting further into the German orbit as a result of the year's developments, Hungary attempted to retain friendly relations with Italy and with the other great powers in an effort to avoid the fate of Czecho-Slovakia. Her former close attachment to Italy had been weakened in 1937 (see 1937 YEAR BOOK, p. 325) and at the meeting of the Rome Protocol Powers in Budapest in January, 1938, Hungary joined with Austria in rejecting the Italian proposal that they withdraw from the League of Nations and join the Rome-Berlin-Tokyo anti-Communist pact.

The danger of a German-Czech crisis led the Little Entente states in their conference at Bled, Yugoslavia, on August 21-23 to recognize Hungary's right to rearm, prohibited by the Treaty of Trianon. They offered to conclude a non-aggression pact with her. Premier Imrédy declined to sign the non-aggression pact until the "rights" of minority Hungarian groups in Czecho-Slovakia, Rumania, and Yugoslavia were recognized, thus postponing the issue until after the Sudeten crisis had strengthened Hungary's position.

After Munich, reconciliation between Hungary and Yugoslavia was pushed by Mussolini, who was anxious to prevent further German expansion in southern Europe. A Hungarian-Yugoslav alliance or non-aggression pact was urged by Foreign Minister Ciano of Italy in a visit to Budapest on December 19-22. Italy had also joined with Poland in supporting Hungary's claim to all of Ruthenia, while Germany's opposition had aroused resentment in Hungary. Rumania, believing she would be the next object of Hungary's attack, likewise objected to the Hungarian claim to Ruthenia, and the year end saw Hungarian-Rumanian relations in a state of tension. Apparently with the rich Rumanian territory of Transylvania in mind, Premier Imrédy at the end of December declared his firm adherence to the Rome-Berlin axis.

Also see AUSTRIA, CZECHO-SLOVAKIA, GERMANY, ITALY, POLAND, RUMANIA, and YUGOSLAVIA under *History*; LITTLE ENTENTE; REPARATIONS AND WAR DEBTS.

HUNTER COLLEGE OF THE CITY OF NEW YORK. A college of liberal arts and sciences in New York City, established in 1870 for the higher education of women. Maintained by public funds, it is one of the four municipal colleges governed by the Board of Higher Education, the other three being The Queens College for men and Brooklyn College and City College for men and women. The enrollment for the fall semester of 1938 included 7000 students in the Day Session and 4652 students in the Evening and Extension Sessions. The enrollment in the Summer Session of 1938 was 3505. The teaching staff for Day, Evening, and Extension Sessions for the fall semester of 1938 numbered 623. The library contained approximately 99,256 volumes. President: Eugene A. Colligan, A.M., Ph.D., LL.D.

HUON ISLANDS. See NEW CALEDONIA.

HURRICANE. See AGRICULTURE; ELECTRICAL TRANSMISSION AND DISTRIBUTION; ENTOMOLOGY, ECONOMIC; FIRE PROTECTION; FORESTRY; FLOODS; HORTICULTURE; INSURANCE; METEOROL-

OGY; TELEPHONY; CONNECTICUT, MASSACHUSETTS, NEW HAMPSHIRE, NEW YORK, RHODE ISLAND, VERMONT.

HYDROPONICS. See SOILS.

ICELAND. An independent island state between Great Britain and Greenland. Area, 39,709 square miles; population (Dec. 31, 1936), 116,948 compared with 108,861 (1930 census). Chief towns: Reykjavik (capital), 35,300 inhabitants in 1936; Akureyri, 4519; Hafnarfjordur, 3676; Vestmannaeyjar, 3541. In 1936 there were 2522 births, 1256 deaths, and 612 marriages.

Production and Trade. The principal agricultural crops are hay, potatoes (1936, 166,000 cwt.), and turnips. The yield of cod fisheries in 1937 totaled 27,958 metric tons. Livestock in the country (1936): 653,000 sheep, 46,000 horses, 37,000 cattle, and 2000 goats. Chief imports are textiles, metals, machinery, timber, coal, and cereals. Chief exports are wool (1936, 800 metric tons), fish, frozen mutton, and sheepskins. Imports in 1938 totaled 49,102,000 crowns and exports 57,752,000 crowns (preliminary) as compared with imports of 53,309,000 and exports of 58,988,000 crowns (final) in 1937. The crown (krónur) exchanged for about \$0.22 in 1937 and \$0.21 in 1938.

Communications. In 1937 the mercantile marine of Iceland (above 12 gross tons) consisted of 394 ships aggregating 39,906 gross tons. There were, in 1937, 2174 miles of roads. During September, 1936, the town councilors of Reykjavik approved the lease of a plot of land outside Reykjavik to Pan American Airways for use as an observation and wireless station. A local airline between Reykjavik and Akureyri was started early in 1938.

Government. National debt (Dec. 31, 1937), 45,957,000 krónur. Budget estimates for 1938 were revenue, 17,464,280 krónur; expenditure, 16,322,141 krónur. Iceland and Denmark are free sovereign states, united by one King, and by the agreement embodied in the Act of Union of Nov. 30, 1918. According to the Charter of May 18, 1920 (with an amendment made in 1934), the King exercises executive power, through a responsible ministry. Legislative power rests conjointly with the King and the parliament (called Althing) consisting of not more than 49 members (one-third of whom are elected to the upper chamber by the whole Althing; the other two-thirds form the lower chamber). Ruler, King Christian X of Iceland and Denmark; Premier, Hermann Jónasson (appointed July 29, 1934; Progressive).

IDAHO. Area and Population. Area, 83,888 square miles; included (1930) water, 534 square miles. Population: Apr. 1, 1930 (census), 445,032; July 1, 1937 (Federal estimate), 493,000; 1920 (census), 431,866. Boise, the capital, had (1930) 21,544 inhabitants.

Agriculture. Acreage, production, and value of the chief crops of Idaho, for 1938 and 1937, appear in the table on p. 326.

Mineral Production. Gold, silver, copper, lead, and zinc, commonly contributing some nine-tenths of Idaho's yearly mineral production, by value, yielded among them about 24 per cent less in aggregate value for 1938 than for 1937. Their yearly total approximated \$28,742,000 for 1938, as against \$37,840,174 for 1937. Lower prices both cut the value of the product of 1938 and discouraged production, in the cases of all but gold, for which the Government held to its price of \$35 an oz. The production of gold rose by nearly one-fourth, to some 101,000 oz. for 1938, from 81,861 for 1937; by value, to \$3,535,000, from \$2,865,135. Of silver, the

Crop	Year	Acreage	Prod. Bu.	Value
Wheat	1938	1,149,000	29,848,000	\$11,939,000
	1937	1,153,000	28,360,000	20,136,000
Hay (tame) .	1938	1,028,000	2,323,000 *	15,332,000
	1937	1,013,000	2,249,000 *	17,767,000
Potatoes	1938	115,000	28,750,000	12,650,000
	1937	124,000	30,380,000	7,595,000
Dry beans ..	1938	108,000	1,566,000 *	2,594,000
	1937	135,000	1,836,000 *	4,138,000
Apples	1938	.....	3,953,000	2,965,000
	1937	.....	4,960,000	2,295,000
Sugar beets .	1938	73,000	1,019,000 *	.....
	1937	51,000	615,000 *	3,192,000
Barley	1938	129,000	4,644,000	1,440,000
	1937	103,000	3,708,000	1,891,000
Dry peas ...	1938	54,000	1,080,000	1,296,000
	1937	63,000	1,323,000	1,786,000
Oats	1938	126,000	4,914,000	1,228,000
	1937	124,000	4,960,000	1,637,000

* Tons. b 100-lb. bags.

State's most important mineral, the year's yield (recoverable metal in ore mined) diminished to about 18,601,127 oz. (1938), from 19,587,766 (1937); by value, affected by a lower price, it fell to \$12,024,971, from \$15,151,137. The small production of copper, mainly as a secondary metal in ore mined for silver, fell in value below \$500,000 for 1938. Lead and zinc, obtained both from the same ore to a great extent, were somewhat similarly affected. The production of lead declined to some 181,000,000 lb. (1938), from 207,422,000 (1937); by value, to \$8,507,000, from \$12,237,898. That of zinc, to some 87,000,000 lb. (1938), from 108,398,000 (1937); and to \$4,263,000, from \$7,045,870. The Coeur d'Alene district, in Shoshone County, remained, except for gold, the one great mining area; its percentages of the State's production were: Silver, 92; copper, 87; lead, 89; and zinc, 71.

Finance. Idaho's State expenditures in the year ended Dec. 31, 1937, as reported by the U. S. Bureau of the Census, were: For maintaining and operating governmental departments, \$16,575,144 (of which \$6,075,751 was for highways, \$3,998,930 was for charities, and \$1,658,869 was for local education); for interest on debt, \$106,737; for capital outlay, \$1,528,590. Revenues were \$18,805,171. Of these, property taxes furnished \$1,265,621; income taxes, \$1,928,665; sales taxes, \$4,362,982 (including tax on gasoline, \$4,025,988); departmental earnings, \$742,302; sale of licenses, \$1,669,387; unemployment compensation, \$1,668,863; Federal or other grants-in-aid, \$5,078,640. Funded debt outstanding on Dec. 31, 1937, totaled \$2,286,500. Net of sinking-fund assets, the debt was \$2,204,178. On an assessed valuation of \$381,047,373 the State levied in the year ad-valorem taxes of \$1,965,158.

The State's monopoly of alcoholic beverages, which kept its accounts separately from the State's, expended in the year \$3,472,078; received \$3,910,000; and contributed to the State \$807,065.

Education. Idaho's inhabitants of school age (from 8 to 18 years), as stated for the academic year 1937-38, numbered 104,542; this was less than the total of pupils' enrollments, which included many pupils younger or older than the so-called school-age group; and the number within the ages actually admissible to public schools was put at 142,030. The enrollments in public schools totaled 121,411; this comprised 88,513 in elementary study and 32,898 in high schools. The year's expenditure for public-school education amounted to \$11,293,986. There were 4529 teachers. Their salaries, by groups, averaged for the year, \$1270 for men and \$1231 for women in high schools and, in elementary positions, \$977 and \$937 for men and women, respectively. A movement under way in 1938 sought

legislation in 1939 to provide a system of retirement on pension for the State's public-school teachers.

Charities and Corrections. Functions of central administration as to the State's care and custody of persons, under the system in effect in Idaho during 1938, were divided among several authorities. The Department of Public Assistance dealt with grants of support to the needy. The Department of Public Welfare had among its duties the supervision of five State institutions: The State Hospital, South, at Blackfoot; State Hospital, North, at Orofino; State School and Colony, Nampa; Idaho Soldiers' Home, Boise; and the State's hospitals for the tuberculous. Penal institutions were administered by a separate commission.

Political and Other Events. In Ada County (containing Boise), a grand jury spent a great part of the year in secret investigations of official misconduct among former and actual servants of the State government. Its inquiries led to the indictment of more than a dozen persons on criminal charges.

Herds of elk in the vicinity of the Chamberlain Basin were reported early in the year to be dying in numbers from an unknown cause. In an effort to preserve the elk, a specialist for the U. S. Biological Survey, accompanied by other technical experts, went to this wild area of upland in February by airplane and ranged through it on snowshoes, in order to diagnose the elks' malady and, if possible, to treat it with medicines.

An amendment to the law governing primary elections in the State, adopted in 1937, came into operation in 1938; under the new system, the same ballot was to be handed to every voter in primaries, whatever his party, and each voter was at liberty, whatever his previous partisan choice, to vote in secret for the candidates in the list of whichever party he might choose, without making in his own identity any declaration of party. The system tended to throw open the selection of the candidates of either major party to voters normally belonging to the opposite party. This innovation played a part in the course of the year's political campaign, as noted below.

Elections. U. S. Representative D. Worth Clark (Dem.) was elected U. S. Senator (November 8), defeating Wallace A. Callahan (Rep.). One Republican and one Democrat were sent to the Federal House of Representatives. C. A. Bottolfsen (Rep.) was elected Governor, defeating C. Ben Ross (Dem.), former Governor for three terms. The Senatorial election, though won by a Democrat, amounted to a defeat for the Democratic Federal Administration. Clark proclaimed himself, in his campaign, "a conservative, not a New-Deal, Democrat." On this understanding in the primary election (August 8), he was chosen as the Democratic Senatorial candidate, in preference to James P. Pope, the incumbent Senator, who sought another term. Pope, in contrast to Clark, was an avowed and thoroughgoing New Dealer, who was said never to have voted against a measure demanded by the President. In advance of the primary Postmaster-General Farley, acting as spokesman for the Administration, delivered (July 14) an address at Boise, approving Pope's candidacy and declaring that it was "highly important" that the State elect "a Democratic Senator who will support the President in any program he undertakes."

The new single-ballot primary in Idaho made it possible and lawful for Republicans on August 9 to vote as Democrats and thus to increase the nom-

inating vote for Pope's rival, Clark. Many of them appeared to have done so, to judge by the total vote in the primary, as reported soon afterward: the Democratic vote attained about 84,000, as against about 54,000 for that in the primary of 1936, while the Republican vote fell to some 29,000, from the 41,000 of 1936. This made it natural to impute Clark's superiority of about 3500 votes over Pope to an influx of Republican minute-men. President Roosevelt, taking this view, attacked (August 23) as bad political morality the behavior of Idaho Republicans in preventing the renomination of the Administration's candidate. Actually, the prospect of their doing so had been foreseen as a consequence of the new single ballot and had been discussed in the press as early as March.

Officers. The chief officers of Idaho, serving in 1938, were: Governor, Barzilla W. Clark (Dem.); Lieutenant-Governor, Charles C. Gossett; Secretary of State, Ira H. Masters; Attorney-General, J. W. Taylor; Auditor, Harry C. Parsons; Treasurer, Myrtle P. Enking; Superintendent of Public Instruction, John W. Condie.

Judiciary. Supreme Court: Chief Justice, Edwin M. Holden; Justices, William M. Morgan, Raymond L. Givens, James F. Ailshie, Alfred Budge.

IDAHO, UNIVERSITY OF. A coeducational State institution of higher learning at Moscow, Ida., founded in 1889, with a southern branch at Pocatello. The total regular collegiate enrollment at Moscow in the autumn of 1938 was 2791, and at Pocatello 870. The enrollment for the 1938 summer session was 932. The faculty numbered approximately 200. The endowment principal amounted to \$2,590,032. June 30, 1938, and the income for the year 1937-38 was \$1,331,833, not including income from auxiliary enterprises or receipts from N.Y.A., I.W.A. or bond sales. Added to the University plant during the year were two new residence halls for men. This construction program, costing approximately \$178,000, was financed by loans and private bond issues. The library contained approximately 100,000 volumes. President, Harrison C. Dale.

IDENTIFICATION. See MEDICAL JURISPRUDENCE.

ILLINOIS. Area and Population. Area, 56,665 square miles, exclusive of State's part of Lake Michigan; included other water, 622 square miles. Population: Apr. 1, 1930 (census), 7,630,654; July 1, 1937 (Federal estimate), 7,878,000; 1920 (census), 6,485,280. Chicago had (1930) 3,376,438 inhabitants. Peoria, 104,969; Springfield, the capital, 71,864.

Agriculture. Acreage, production, and value of the chief crops of Illinois, for 1938 and 1937, appear in the accompanying table.

Crop	Year	Acreage	Prod. Bu.	Value
Corn	1938	8,430,000	379,350,000	\$185,882,000
	1937	9,367,000	449,616,000	211,320,000
Hay (tame)	1938	2,753,000	4,083,000 *	25,723,000
	1937	2,360,000	3,129,000 *	30,038,000
Wheat	1938	2,300,000	42,550,000	25,530,000
	1937	2,617,000	45,668,000	47,038,000
Oats	1938	3,509,000	110,534,000	22,107,000
	1937	3,655,000	166,302,000	46,565,000
Soybeans ..	1938	1,356,000	31,866,000	22,306,000
	1937	1,352,000	27,040,000	21,632,000
Potatoes ..	1938	39,000	3,822,000	2,675,000
	1937	40,000	3,120,000	2,621,000
Barley	1938	155,000	4,650,000	2,046,000
	1937	125,000	3,438,000	2,269,000

* Tons.

Mineral Production. Of the value of native minerals produced in Illinois (\$121,438,969 for 1936), coal contributed \$81,444,000 (1936), or somewhat over two-thirds. The quantity of bituminous coal mined yearly attained about 51,240,000 net tons for 1937, as against 50,926,599 for 1936. The production of coke, in byproduct ovens, increased to 2,993,906 net tons (1937), from 2,082,516 (value \$13,098,787) for 1936. Using iron ore from the Lake Superior region, blast furnaces in the State produced 3,426,480 gross tons of pig iron (1937), much exceeding their total of 2,991,740 tons (value \$54,583,804) for 1936.

There occurred in 1937 some revival of the production of petroleum. The yearly output advanced to 7,426,000 bbl. (1937), from 4,475,000 bbl. (value \$5,390,000) for 1936. Much of the gain resulted from active drilling in the Clay City and Noble pools, both discovered during the year.

Finance. State expenditures of Illinois in the year ended June 30, 1937, as reported by the U.S. Bureau of the Census, were: For maintaining and operating governmental departments, \$121,830,605 (of which \$5,262,300 was for highways, \$60,105,776 was for charities, and \$14,463,840 was for local education); for interest on debt, \$8,654,360; for capital outlay, \$45,334,538. Revenues were \$194,293,374. Of these, prior years' property taxes furnished \$1,770,423; sales taxes, \$110,839,004 (including tax on gasoline, \$19,301,974); departmental earnings, \$3,287,596; sale of licenses, \$31,705,671; inheritance taxes, \$5,095,866; Federal or other grants-in-aid, \$37,109,761. Funded debt outstanding on June 30, 1937, totaled \$205,003,920. Net of sinking-fund assets, the debt was \$200,539,045. The State levied in the year no general property tax for State purposes.

The Illinois and Michigan Canal, a public-service enterprise of the State, had, for the year, operating expenses of \$20,215 and earnings of \$15,568, not included in the figures above. The Canal was indebted for \$12,000 in called bonds that no longer drew interest.

Education. Inhabitants of school age (between 6 and 21 years) were stated to number 1,959,704 in the academic year 1936-37, the latest year for which full data had been published. The enrollments in public schools totaled 1,345,712; this comprised 994,002 in the elementary group and 351,710 in high schools. The year's current expenditure for public-school education attained \$113,134,340. Teachers numbered 47,819; their salaries for the year averaged \$1403.72.

Illinois, by an appropriation of \$1,000,000 initiated in 1938 the granting of equalization funds for high schools.

Legislation. A special session of the Legislature convened, at the call of Governor Horner, on May 20 and adjourned on July 1. It appropriated \$4,500,000 as further contribution by the State to the cost of poor-aid paid by the State's subdivisions; the sum was to be distributed in installments of \$500,000; the first, at once, and the rest monthly. This appropriation dealt with the chief purpose of the session—the treatment of an emergency caused by the exhaustion of Chicago's means for the succor of the indigent. The sum provided, however, was declared in Chicago not to suffice for the need. To obviate the difficulty of granting more money without exceeding the terms of the call to the Legislature, the Governor summoned a second special session, to run concurrently with the first. It appropriated for poor-aid an additional \$5,300,000, of which \$2,800,000 was to come from

the State treasury and \$2,500,000 was to be deducted from Chicago's share of the receipts from the taxation of gasoline. Both sessions adjourned at the same time.

Apart from the appropriations, the first special session passed a law that enabled Chicago to expand its airport in order to harbor airplanes of greater size, the 40-passenger units expected to go into service about the end of the year. An effort to change the method of ratifying a call for a State constitutional convention, by counting in favor of such a convention ballots merely marked in the circle of a party in favor thereof, at the appropriate election, was defeated. See **CHILD LABOR**.

Political and Other Events. A new institution of the State government, the Legislative Council, created by act of the Legislature in 1937, on the model of the Legislative Council of Kansas, came into being. T. V. Smith, professor at the University of Chicago, and State Senator, who originated the measure creating the council, was made its chairman, and a director of research was named. The council was to furnish legislative information to subsequent sessions and aid in the organization of their legislative programs. The question of the legality of the seizure of employers' property by strikers (the "sitdown" strike) was in the State Courts for determination. The Appellate Court held (May 10) that sentences imposed in 1937 on persons convicted of such an act, in the *Fansteel* strike, were valid despite the stand taken by the NLRB on similar deeds of strikers; that the Wagner Act could not supersede the State's power to maintain order; and that the employer's refusal to bargain with strikers could not stand as warrant for their seizure of his property.

The condition of Chicago's finances remained unsettled. The insufficiency of cash in the city's treasury combined with a continuing demand for poor-aid on a great scale, to keep the municipality in difficulties until the special sessions of the Legislature came to the rescue with additional State grants. While actual indigence remained high, critics of the city's administration charged that the method of dispensing aid to the needy was faulty and tended to keep the cost higher than was warrantable. The city closed all its poor-relief stations on May 18, having then used up all the means at its disposal. Thereby some 34,000 direct recipients from these stations ("families" as currently designated), or about 91,000 individuals, ceased to receive a cash distribution, though they continued to receive food distributed on behalf of the Federal Government and, in the case of the young, daily milk. Chicago had appropriated for the needs of its poor the sum of \$5,404,000, the proceeds, for the year, of a special tax on property, but had used it all, plus nearly \$2,000,000 a month from the State. It reckoned the need as \$3,400,000 a month. The Legislature raised the State's allowance to counties for poor-relief sufficiently to enable Chicago to resume payments on a somewhat less expensive scale.

Chicago increased corporate employees' pay by nearly \$5,000,000 through restorations of old pay rates that had been temporarily cut. Two items of additional revenue, included in the year's budget in order to supply the greater part of the additional expenditure, were held by the County Court incapable of collection in 1938, and the year's budget was therefore held (July 29) invalid; the ruling, unless changed, involved the city's return to expenditure at the lower scale of the budget of 1937. The effort to reorganize the city's lines of surface

traction, long under Federal receivership, was complicated by the expiration (July 15) of the ordinances of 1907 as to their operation. Efforts were made to draw a new plan under which the lines could be reorganized. Chicago projected the construction of a subway for transporting passengers, to cost about \$30,000,000, which was to be obtained from the PWA, part as grant, part as loan. An additional tube for the city's water system, to increase the supply to the Loop district, was dug at a cost of \$1,200,000, in expectation of greater consumption, largely by reason of air-conditioning. A Tumor Institute, endowed by Chicagoans, to provide research, treatment, and professional education in the field of tumors, was opened on March 21.

Illinois suffered its share of the economic decline that reached its depth early in 1938 and lingered, despite some improvement, until the close of the year. Disturbances in the field of labor were relatively few.

Elections. Scott W. Lucas (Dem.) was elected U.S. Senator (November 8), beating R. Lyons (Rep.) by a plurality of over 100,000 votes. Of the 27 members elected to the House of Representatives, inclusive of 2 elected at large, 17 were Democrats and 10 Republicans. The Republican contingent was increased by 4, and the Democrats lost 4 seats. No election of a Governor was held. A proposal to change the State constitution's provisions as to banking, submitted to the voters, failed to gain enough affirmative ballots for adoption.

Lucas, at that time a member of the House of Representatives, gained the Democratic Senatorial nomination in the primary election on April 12. He there defeated Michael L. Igoe, who had campaigned as a champion of the Federal Administration, whereas Lucas was known as having opposed the Administration's demand for legislation to change the Supreme Court.

Officers. The chief officers of Illinois, serving in 1938, were: Governor, Henry Horner (Dem.); Lieutenant-Governor, John Stelle; Secretary of State, Edward J. Hughes; Auditor, Edward J. Barrett; Treasurer, John C. Martin; Attorney-General, Otto Kerner and (successor, November 23) John E. Cassidy; Superintendent of Public Instruction, John A. Wieland.

Judiciary. Supreme Court: Chief Justice, Elwyn R. Shaw; Associate Justices, Norman L. Jones, Paul Farthing, Warren H. Orr, Clyde E. Stone, Francis S. Wilson, Walter T. Gunn.

ILLINOIS, UNIVERSITY OF. A coeducational State institution of higher learning in Urbana-Champaign, Ill., founded in 1867, with professional schools of medicine, dentistry, and pharmacy located in Chicago. The enrollment in the autumn of 1938 was 14,142, of whom 10,586 were men and 3556 were women. The summer session enrollment was 3836, of whom 2172 were men and 1664 were women. The number of persons on the teaching staff above the rank of assistant was 1007. The operating income for the year 1937-38 was \$7,910,256, of which \$5,044,046 was from the State. In addition, the State appropriated \$350,000 for equipping the new Medical and Dental College Building, of which \$324,862 was expended in 1937-38. The productive funds from Federal endowment totaled \$649,013, and from private gifts, \$683,881. The library contained 1,130,584 volumes and 321,666 pamphlets. President, Arthur Cutts Willard, B.S., LL.D.

IMMIGRATION. In the fiscal year ended June 30, 1938, 67,895 alien immigrants entered the

U.S. and 25,210 aliens left for permanent domicile abroad, leaving a net immigration of 42,-685. This continued the trend which had set in once more in 1936 after a number of years of net emigration. In addition to the inward movement of new immigrants, 184,802 non-immigrants were admitted, for the most part temporary visitors. During the same period, 197,404 non-emigrant aliens—visitors, transients, resident aliens leaving for visits abroad—departed. Table I shows the admission and departures for the fiscal years 1937 and 1938.

TABLE I—IMMIGRANT ALIENS ADMITTED AND EMIGRANT ALIENS DEPARTED, FISCAL YEARS 1937 AND 1938, BY COUNTRIES OF LAST OR INTENDED FUTURE PERMANENT RESIDENCE

Countries	Immigrants		Emigrants	
	1937	1938	1937	1938
All countries	50,244	67,895	26,736	25,210
Europe	31,863	44,495	14,258	13,185
Albania	222	254	24	46
Belgium	307	478	122	129
Bulgaria	93	123	35	26
Czecho-Slovakia	1,912	3,203	269	224
Denmark	203	366	266	223
Estonia	29	46	33	18
Finland	218	421	262	267
France	1,018	1,475	570	477
Germany	10,895	17,199	2,340	2,270
Austria	480		105	
Great Britain:				
England	1,377	1,890	2,276	2,034
Scotland	309	338	1,075	892
Wales	40	34	110	65
Greece	875	1,009	374	460
Hungary	739	973	149	119
Ireland (Eire)	412	914	795	652
Italy	7,192	7,712	1,726	1,788
Latvia	92	125	15	20
Lithuania	193	305	105	99
Netherlands	646	698	234	209
Northern Ireland	119	171	242	168
Norway	427	635	580	506
Poland	1,212	2,403	422	400
Portugal	301	374	186	187
Rumania	349	346	180	152
Soviet Union	97	63	197	108
Spain	315	379	256	132
Sweden	341	385	731	976
Switzerland	462	617	160	171
Yugoslavia	632	1,019	335	290
Other Europe	356	540	84	77
Asia	1,065	2,376	2,826	1,665
China	293	613	1,808	672
Japan	132	93	763	726
Palestine	369	1,291	60	70
Syria	136	227	31	47
Other Asia	135	152	164	150
America	16,903	20,486	7,355	8,095
Canada	11,799	14,070	1,027	1,018
Newfoundland	212	334	82	58
Mexico	2,347	2,502	3,745	3,667
West Indies	1,322	2,110	1,379	1,919
Central America	484	582	376	453
South America	738	885	745	980
Other America	1	3	1	....
Africa	155	174	138	97
Australia	106	179	142	88
New Zealand	39	49	32	39
Philippine Islands	84	116	1,980	2,020
Pacific Islands	29	20	5	21

NOTE 1.—The number of immigrants shown above as admitted include not only quota immigrants but nonquota immigrants, being wives of citizens, husbands who married citizen wives prior to July 1, 1932, children of citizens, etc. It will also be noted that this table is based on the country of last residence of the immigrant.

NOTE 2.—Immigrants admitted from the "barred zone" of Asia are mainly persons of the white race.

Table II shows the number of admissions under the Quota Law of 1924. It should be noted that figures in this table do not agree accurately with the figures for arrivals given in Table I, in view of

the fact that the quota under which any immigrant is admitted is that of the country of his birth and not that of the country of his last residence.

TABLE II—ANNUAL QUOTAS ALLOTTED UNDER 1924 ACT, AND QUOTA IMMIGRANTS ADMITTED, FISCAL YEARS 1937 AND 1938, BY COUNTRIES OR REGION OF BIRTH AND SEX

Nationality or country of birth	Annual quota	Quota immigrants admitted in—	
		1937	1938
All countries	153,774	27,762	42,494
Albania	100	98	106
Belgium	1,304	211	278
Bulgaria	100	57	106
Czecho-Slovakia	2,874	1,519	2,853
Danzig, Free City of	100	41	89
Denmark	1,181	192	323
Estonia	116	30	40
Finland	569	215	496
France	3,086	566	720
Germany	27,370	11,127	17,868
Austria			
Great Britain and Northern Ireland:			
England	65,721	1,418	1,698
Northern Ireland		133	238
Scotland		483	634
Wales		73	66
Greece	307	370	351
Hungary	869	739	962
Ireland (Eire)	17,853	447	1,100
Italy	5,802	2,905	3,428
Latvia	236	114	154
Lithuania	386	221	397
Luxembourg	100	10	18
Netherlands	3,153	347	331
Norway	2,377	330	518
Poland	6,524	1,855	4,218
Portugal	440	236	323
Rumania	377	371	407
Soviet Union	2,712	578	917
Spain	252	244	264
Sweden	3,314	303	364
Switzerland	1,707	312	427
Yugoslavia	845	527	852
Other Europe	500	173	208
Asia	1,649	467	886
American colonies ^b	(^b)	339	516
Other quota regions	1,850	302	338
Male		13,673	20,913
Female		14,089	21,581

^a The German quota of 25,957 and the Austrian quota of 1413 were combined on Apr. 28, 1938, by presidential proclamation.

^b Quota for colonies, dependencies, or protectorates, in Other Europe, Asia, Africa, Pacific Islands, and America, included with allotment for European countries to which they belong.

Deportations. During the fiscal year 1938, 9275 aliens were deported from the United States under warrants of deportation, while 9278 aliens who had been adjudged deportable were allowed to depart at their own expense. For the fiscal year 1937, the total number deported was 8829. In 1938 the deported aliens were sent out of the country for the reasons listed in Table III.

TABLE III.—ALIENS DEPORTED FROM THE U.S. DURING THE YEAR ENDED JUNE 30, 1938

Criminals	1,662
Violators of narcotic laws	81
Anarchists and kindred classes	8
Immoral classes	318
Mental or physical defectives	401
Previously disbarred or deported	1,085
Remained longer than authorized	748
Entered without valid visa	3,545
Unable to read (over 16 years)	676
Under Chinese Exclusion Act	30
Likely to become public charges	24
Miscellaneous	697

The great proportion of the deportations took place to Canada (1941) and Mexico (5113). It is interesting to note the large numbers, however, to so-called totalitarian countries, i.e. Germany

(120), Italy (391), Japan (56). Most of these deportations were not for political offenses.

Unnaturalized Aliens. It is generally assumed that the number of unnaturalized aliens in the United States constitutes a very large group. The figures prove the reverse: that the group is small and that it is constantly decreasing in size. According to the Commissioner of Immigration, the following figures represented the state of affairs as of July 1, 1938:

1930 census figure of aliens in the United States not reported naturalized	6,234,613
Decrease since Apr. 1, 1930:	
Naturalized	1,140,315
Derivatives	246,100
Immigrant children of citizens	17,843
Excess of nonemigrant departures over nonimmigrant arrivals	161,853
Less excess of immigrants over emigrants	14,599
Deaths	147,254
	844,173
Total decrease	2,395,685
Estimated alien population, as of July 1, 1938 ..	3,838,928

Asylum for Political Refugees. The unsettled political state of affairs in many countries of the world continued to call the attention of the American people to the problem of creating asylum for those who were fleeing from political and racial terror. The renewal of pogroms in Central Europe in the late fall made the question of the desirability of settlement of Jews in this country a prominent one and many organizations were calling upon the United States to lower its immigration bars and create havens for those who were the victims of the mass terrors raging in Germany, Czecho-Slovakia, and other countries. In addition, the particular situation of political refugees who had sought asylum in this country was being called to the attention of Federal authorities and the courts in an effort to soften the rigors of the country's deportation laws. It was being pointed out by social and welfare agencies that the present Commissioner of Immigration, James A. Houghteling, was moving too vigorously to comply with the letter rather than the spirit of the prevailing statutes.

Apparently, it had previously been the custom of the Commissioner of Immigration, when good character was proved and illegal entry was the only offense of foreign born caught in the net of immigration authorities, that voluntary departure and re-entry from Canada or Cuba would be allowed. Commissioner Houghteling during 1938, however, was beginning to insist upon deportations or voluntary departure to non-adjacent countries, putting the foreign-born in this category to considerable expense and hardship as well as penalizing their helpless dependents.

In an effort to test the validity of the deportation laws, particularly as they affected the status of persons who were affiliated with the Communist party, a case was being brought before the U.S. Supreme Court to clarify the intent of the law. This was the case of Joseph Strecker, whose membership in the Communist party was held to be no grounds for deportation by the Fifth Circuit Court of Appeals in Louisiana on Apr. 6, 1938. Strecker came to the United States legally in 1912 and went to live in Hot Springs, Ark., in 1918, where he was arrested in April, 1934, and held for deportation charged with membership in the Communist party. Controversy over this issue has raged in

the United States since 1921, when Judge Anderson, in the Federal District Court in Massachusetts, in the Colyer case, ruled that membership in the Communist party was not a deportable offense. While Judge Anderson's opinion was later reversed in the Court of Appeals, no opinion on this question was ever written by the Supreme Court. With a view to clarifying the whole matter, the Department of Labor appealed the Strecker decision to the Supreme Court. The Strecker case was being watched closely since the decision in this case would decide what action the Labor Department could take in the case of Harry Bridges, West Coast Regional Director of the C.I.O., who was being threatened with deportation to Australia on the grounds that he was a member of the Communist party.

It was also being maintained, particularly by the American Committee for the Protection of the Foreign Born, that the Department of Labor was denying asylum to refugees who had succeeded in escaping with their lives to this country. The Committee pointed out that there were three cases of refugees still pending in 1938 who were denied asylum. Hans Mueller, 20-year-old anti-Nazi refugee who fled from Germany after six months service in the army, was ordered deported. Walter Richter, a former legal resident of the United States, who left to join the International Brigade in Spain, was denied readmission and faced return to Nazi Germany. Peter Brunoldi, 53-year-old Italian who fled persecution in his homeland in 1926, was ordered to leave the United States or be deported to Fascist Italy. In addition, there were some 30 other persons still being held for deportation whose cases had not yet been decided by the Commissioner of Immigration.

As a result of vigorous representations made by the American Committee for the Protection of the Foreign Born, success was had during the period 1936-38 in the cases of some 10 persons whose deportation orders were stayed and for whom arrangements were made either to continue on in the country or to be moved to adjacent countries from which re-entry would be easy. Typical examples are the following:

Carl Ohm entered legally in 1929 and arrested in 1932 and ordered deported to Germany charged with membership in the Communist Party. After the Federal District Court had sustained the order of deportation, the Circuit Court of Appeals ordered that the case be reheard. In February, 1938, the Labor Department canceled all deportation proceedings against Ohm.

Stella Petrosky entered in 1914, mother of eight American-born children, arrested in Wilkes-Barre, Pa., in 1935 and held for deportation to Poland, charged with membership in the Communist Party, ordered deported. The Labor Department was forced to cancel the warrant of arrest and withdraw deportation proceedings as a result of nationwide protest.

Anna Mari entered in 1929, in 1930 became ill following the birth of her child, ailment later diagnosed as tuberculosis, arrested in 1936 and held for deportation on the ground that she had become a public charge within five years. Evidence presented at her trial proved that Mrs. Mari had contracted tuberculosis following her entry with the result that the deportation proceedings were dropped.

IMPORTS. See articles on various countries; and especially articles AGRICULTURE, CORN, IRON AND STEEL, ETC.

INACCESSIBLE ISLAND. See ST. HELENA.

INCINERATION. See GARBAGE AND REFUSE DISPOSAL.

INDIA. A dependency of the British Empire, consisting of British India, or the territories subject to British law, and the Indian States, ruled by native princes but under the indirect control of

the British Parliament. Capital, New Delhi. Summer seat of the government (April to October), Simla.

Area and Population. On Apr. 1, 1937, Burma (q.v.) and Aden were separated from India and created Crown Colonies. The area and population of the British (Governor's) Provinces and of the Indian States and Agencies at the 1931 census are shown in the accompanying table.

BRITISH PROVINCES AND INDIAN STATES:
AREA AND POPULATION

<i>British Provinces</i>	<i>Area in sq. miles</i>	<i>Population, 1931</i>
Ajmer-Merwara	2,711	560,292
Andamans and Nicobars	3,143	29,463
Assam	67,334	9,247,857
Baluchistan	134,638	868,617
Bengal	82,955	51,087,338
Bihar and Orissa	111,702	42,329,583
Bombay (Presidency)	151,673	26,398,997
Aden	80	51,478
Burma	233,492	14,667,146
Central Provinces and Berar	131,095	17,990,937
Coorg	1,593	163,327
Delhi	573	636,246
Madras	143,870	47,193,602
Northwest Frontier Province	36,356	4,684,364
Punjab	105,020	24,018,639
United Provinces	112,191	49,614,833
Total Provinces	1,318,346	289,491,241
<i>Indian States and Agencies</i>		
Baroda State	8,164	2,443,007
Central India Agency	51,597	6,632,790
Cochin State	1,480	1,205,016
Gwalior State	26,367	3,523,070
Hyderabad State	82,698	14,436,148
Jammu and Kashmir States	84,516	3,646,243
Mysore State	29,326	6,557,302
Punjab States	31,241	4,472,218
Rajputana Agency	129,059	11,225,712
Sikkim	2,818	109,808
Travancore	7,625	5,095,973
Western India Agency	35,442	3,999,250
Total States	490,333	63,346,537
Total Provinces	1,318,346	289,491,241
Total India	1,808,679	352,837,778
India without Burma	1,575,187	338,170,632

NOTE.—Figures for the Provinces include those of the States attached to them except in the case of Madras, where they exclude Cochin and Travancore.

The latest published estimate, that for February, 1937, sets the population of India, inclusive of Burma, not then yet severed, at 374,820,000; an allowance of 15,000,000 for Burma, deducted, would indicate the population of India as at present bounded, to have approximated 359,820,000, in 1937. The population has increased greatly in this century. Not greatly affected by migration, the number of the inhabitants has risen mainly by reason of a yearly excess of births over deaths, commonly approximating 12 to the thousand inhabitants. Registered births in the British Provinces in 1936 numbered 9,981,143 (35.4 per 1000); deaths, 6,375,731 (22.6 per 1000). Populations of the chief cities at the 1931 census were: Calcutta, with suburbs and Howrah, 1,485,582; Bombay, 1,161,383; Madras, 647,230; Hyderabad, 466,894; Delhi, including Shahdara, New Delhi, and Cantonment, 447,442; Lahore, 429,747; Ahmedabad, 313,789; Bangalore, 306,470; Lucknow, 274,659; Amritsar, 264,840; Karachi, 263,565; Poona, 250,187; Cawnpore, 243,755; Agra, 229,764; Nagpur, 215,165; Benares, 205,315.

Education and Religion. Persons able to read and write numbered 28,138,856, as counted in 1931; those unable to read and write, 268,162,814, not

to reckon children five years old or less, nor some 3,000,000 other persons whom this enumeration did not count. The number of pupils reported in attendance by 254,211 educational institutions in the academic year 1935-36 was 13,816,149; of these, 1,847,738 were females. About one-half of the institutions for elementary education were aided or maintained by the State. The system of elementary education is characterized as one based, so far as possible, on indigenous institutions and traditions. Higher education, developed on imported models, is somewhat widespread. Universities numbered 18 in 1935-36; 16 of them were in British India and the remaining two in Indian States.

As to religious faith, in 1931 the majority of the population were Hindus; these numbered 239,195,140. Moslems, 77,677,545 in number, were the next greatest group. Buddhists totaled 12,786,806; 8,280,347 inhabitants were followers of tribal cults; 6,296,763 were Christians; 4,335,771, Sikhs; 1,252,105, Jains; 109,752, Zoroastrians; and 24,141, Jews.

Production. The main occupation is agriculture; the census of 1931 showed about 71 per cent of the population engaged in agriculture or stock-raising. The planted area in the crop year 1934-35 totaled 208,816,000 acres in the British provinces (exclusive of Burma) and an additional 68,455,000 acres in the Indian States; fallow land, 48,500,000 in the provinces and 14,496 in the States. The crop of wheat was estimated at 10,953,000 metric tons for 1938, as against 9,908,500 for 1937. The production of barley attained 2,345,000 metric tons for 1937 (2,362,000 for 1936); the production of corn (maize) approximates 2,200,000 tons a year; of rice, the most abundant of the food crops, there were produced, in 1937, 40,495,400 tons, according to data that left certain of the Indian States uncovered. The crop of cotton in 1937 totaled 1,027,500 tons; in 1936, 1,146,100; jute, produced mainly in India, yielded there a crop of 1,563,600 tons in 1937 (1,743,800 in 1936). From sugar cane grown in India were produced, in the year 1937-38, 3,220,000 tons of sugar (in 1936-37, 3,960,000). The crop of tobacco was 543,600 tons for 1937 (661,400 for 1936); the production of tea amounted to 179,200 tons for 1936. There were 120,640,000 cattle in the British provinces, exclusive of Burma, in 1934-35, and in the Indian States, 42,017,000; the respective totals for buffaloes were 33,161,000 and 12,126,000; sheep, 23,974,000 and 18,847,000; goats, 36,831,000 and 15,655,000; horses, mules, and asses, 3,212,000 and 1,328,000; camels, 530,000 and 498,000.

The production of the minerals of chief importance was thus reported, for 1936 (exclusive of Burma): Coal, 22,611,000 long tons; gold, 331,946 troy oz.; manganese ore, 813,000 long tons; petroleum, 83,156,000 gal. The manufacture of products of cotton, one of the ancient occupations of the land, has been to a great extent modernized in recent years; India's cotton mills on Aug. 31, 1937, numbered 370; their equipment aggregated 9,730,798 spindles and 197,810 looms. The Indian mills produced, in the year ended with Mar. 31, 1938, about 1,159,513,000 lb. of cotton yarn (in the preceding year, 1,050,601,000); the output of cotton cloth (year 1937-38) totaled 4,084,276,000 yd., as against 3,571,987,000 yd. for the year previous. Most of the production of these articles came from the Bombay presidency, where (Aug. 31, 1937), 210 cotton mills operated 6,100,211 spindles and 141,471 looms; mills of this area produced (year 1937-38) 592,126,000 lb. of cotton yarn and 2,722,777,000 yd. of cotton cloth. The great commercial production of textiles of jute is carried on in establishments

situated mainly along the Hooghly River, near Calcutta; this industry is equipped with an estimated total of 66,500 looms, which supplied most of the world's demand for jute sacking and burlap (see *Foreign Trade*). Of the 107 jute mills, 85 were members (Jan. 1, 1938) of an association; these members had 57,313 working looms and 1,131,291 spindles; their employees averaged (1937) 252,887 in number; they produced (1937) 1,170,236 long tons of all kinds of manufactured jute. Among other industrial establishments, as listed in 1933, were 1552 rice mills, employing 72,953 workers; 980 tea factories, employing 57,053; 213 sugar factories, employing 49,545; 93 railway and tramway workshops, employing 51,307; 105 jute presses, employing 31,455; 271 engineering works, employing 26,690; 5 iron and steel mills, employing 23,726; 364 printers and bookbinders, employing 23,795.

Foreign Trade. Preliminary figures upon the foreign trade of the calendar year 1938 put exports at the total of 1,685,606,000 rupees, about four-fifths of the total, for 1937, of 2,104,328,000 rupees; imports were estimated to have declined, for 1938, to the value of 1,534,480,000 rupees, from 1,647,430,000 rupees for 1937. For the calendar year 1937, showing imports as 1,647,600,000 rupees and exports of British-Indian products as 2,021,000,000 rupees, foreign trade on both sides of the account exceeded the totals of 1936, for which year the imports totaled 1,245,800,000 rupees and the exports 1,804,900,000. By commodities, in terms of U.S. currency dollars, the principal imports of specified kinds of goods in 1937 (calendar year) were: Machinery (except automobiles), \$68,384,000; automobiles, \$17,959,000; raw cotton, \$37,644,000; cotton piece goods, \$44,489,000; mineral oils (largely kerosene), \$55,294,000; rice, \$31,774,000. The principal exports of that year were: Raw cotton, \$147,685,000; cotton piece goods, \$22,062,000; tea, \$89,016,000; burlaps and bags of jute, \$108,649,000; raw jute, \$60,598,000; hides, skins, and leather, \$50,786,000. While India both imported and exported in considerable quantity raw cotton and cotton piece goods, it was notable that the imports of the latter had tended for some years to diminish in yearly aggregate value, while the exports had increased. India got 31.5 per cent of its imports of 1937 from the United Kingdom; 22.0, from British colonies; 14.0, from Japan; 9.2, from Germany; and 6.4, from the United States. Of the year's exports, 32.6 per cent went to the United Kingdom; 15.8, to British colonies; 12.7, to Japan; 10.6, to the United States; and 5.0, to Germany.

Finance. The budget of the Central Government, for the fiscal year ending with Mar. 31, 1939, estimated ordinary revenues at 1,215,300,000 rupees and ordinary expenditures at 1,222,800,000 rupees. The revised estimates for the fiscal year ended with Mar. 31, 1938, showed totals of 1,214,800,000 rupees revenue and 1,225,700,000 expenditure. These figures did not cover the whole of the revenues and costs of government, for provincial governments and autonomous States of India maintained budgets of their own. The public debt of the Central Government (inclusive of that incurred on behalf of provincial governments), stood on Mar. 31, 1937, at 12,086,700,000 rupees, of which 7,303,000,000 rupees represented the debt internally held. The monetary unit of India, the rupee, is fixed in value, with relation to the pound sterling; its statutory value is 1s. 6d. Monetary notes in circulation on Mar. 31, 1938, totaled 1,783,000,000 rupees. The monetary stock included gold to the stated value of 444,000,000 rupees

and silver to that of 640,000,000 rupees. The average value of the rupee in terms of the U.S. dollar was reckoned for the calendar year 1937 as \$0.3733; for 1938, \$0.3659.

Transportation. Lines of railroad operated in India in the year ended with Mar. 31, 1937, totaled 41,068 miles, as against 43,118 miles for the fiscal year 1936, with which year's end figures for railroads in Burma ceased to form part of the Indian totals. About three-fourths of the mileage of line in India belonged to the Imperial State system and most of the remainder consisted of Indian State lines. Railway passengers in the fiscal year 1937 numbered 489,646,000, freight carried totaled 82,406,000 long tons, and railroads' gross receipts amounted to 1,043,895,000 rupees. The ships of the Indian merchant marine (of 100 tons or over) numbered 214 on June 30, 1938; their aggregate gross tonnage was 247,819. The aggregate length of highways of all sorts was 277,471 in 1937; automobiles numbered 83,012. The chief Indian cities are linked with British, Dutch, and French air lines to the Far East and, via Hong Kong, with the American transpacific air line.

Government. The Constitution of India, known as the Government of India Act, 1935, went into effect on Apr. 1, 1937. It provided for the establishment by gradual stages of an All-India Federation consisting of the British (governors') provinces, the chief commissioners' provinces, and those Indian States desiring to participate. A large measure of political autonomy was extended to the 11 British provinces at the time the new Constitution was inaugurated (see 1937 YEAR BOOK, p. 333). Elected legislative assemblies were established in each province with ministries responsible to the assemblies. The governors of the British provinces, who are appointed by the Crown, retained power to veto acts of the provincial ministries and assemblies in emergency cases.

Federation was delayed pending its acceptance by rulers of the native States possessing not less than half the population of all the States. The Federal Legislature was to consist of the Governor-General, representing the Crown; a Council of State consisting of members elected by communities in British India and appointed by the rulers of the native States; and a House of Assembly elected in the main by the provincial assemblies. Pending establishment of the Federal Legislature, the Central Legislature continued to function, largely as an advisory body. It consisted of a Council of State of 34 elected and 26 nominated members and a Legislative Assembly of 105 elected and 40 nominated members. In the Legislative Assembly elections of 1934, the All-India Congress party and supporting groups won 57 seats. The Moslem League held the balance of power between the government members and the Congress party.

Under the new Constitution executive power was to be exercised on behalf of the King-Emperor by the Governor-General, assisted by a Council of Ministers responsible to the Federal Legislature. During the transitional period prior to establishment of the Federal Legislature, the Governor-General was assisted by an Executive Council of seven officials appointed by the Crown and responsible to the Governor-General. The Governor-General was under the direction and control of the Secretary of State for India in the British Cabinet. Once the Federal Legislature was established, the authority of the Secretary of State for India was to be restricted to matters involving the exercise of

the Governor-General's discretionary powers. Control over foreign relations, ecclesiastical affairs, and defense was vested exclusively in the Governor-General under the new Constitution and in addition he was empowered to supersede the Federal Legislature in civil administration and finance in time of emergency.

As from Apr. 1, 1937, relations between the British Crown and the Indian States were conducted through the office of Crown Representative, held by the Governor-General. The holder of the two offices of Crown Representative and Governor-General is designated the Viceroy. Viceroy in 1938, the Marquess of Linlithgow (assumed office, Apr. 18, 1936). For developments in 1938, see *History*.

HISTORY

Political Developments. Further progress was made during 1938 toward a working agreement between the powerful All-India National Congress and the British authorities on the basis of the 1935 Constitution. The Congress (Nationalist) party maintained its demand for ultimate complete independence and its opposition to the new Constitution as an obstacle to this aim. It had entered the 1937 elections to the provincial assemblies in order to force the repeal of the new Constitution and the framing of a new one by a constituent assembly elected by adult suffrage. Having won majorities in six provinces and pluralities in three others, it agreed to accept the responsibilities of government after the British governors had promised not to use their special powers "capriciously" or to intervene in "day to day" governmental routine. See 1937 YEAR BOOK, pp. 333-334.

In February, 1938, a new crisis developed over the refusal of the governors of Bihar and the United Provinces to permit the wholesale release of some 40 political prisoners. The Congress party ministries in the two provinces resigned on February 15, asserting that the release of the prisoners was a matter of "day to day" routine and that the governors had no authority to intervene. Supported by the Viceroy, the governors took the position that the wholesale release of the prisoners jeopardized law and order throughout India and encouraged terrorism in Bengal.

On February 15 the Congress executive body, meeting at Haripura, accepted Mohandas Karamchand Gandhi's recommendation against extension of the political crisis by the proposed resignation of Congress ministries in the other provinces. It requested the Bihar and United Provinces ministries to continue in office until their resignations were accepted by the governors. At the same time it invited the Viceroy to reconsider his position under the threat of an extension of the crisis. On February 22, Lord Linlithgow proposed a compromise under which the governors of Bihar and the Central Provinces would accept the advice of the provincial ministries regarding the release of the political prisoners only after individual examination of each case. This formula was accepted by the Congress leaders and the ministries of the two provinces returned to office on February 25.

The settlement was widely received as a triumph for the principles of the new Constitution. In conservative and moderate circles within the Congress party sentiment developed for co-operation with the British authorities in their offer of provisional self-government as a means to promote democratic institutions. The difficulties encountered by the

Congress ministries in the provinces in carrying out their sweeping pledges of economic and social reform also had a sobering effect. Moreover, all Indians were deeply impressed by Japan's aggression upon China, which led them to place far greater value than before upon Britain's offer of dominion status within the British Commonwealth of Nations.

All these developments caused a growing breach within the Congress party between the conservatives and moderates on the one hand and the radical leaders of the party with their adherents on the other. The Socialists, Communists, and other left-wing groups led by Pandit Jawaharlal Nehru and Subhas Bose strove vigorously to transform the Congress party into a socialistic movement by combining the old attack upon British exploitation with a campaign against Indian moneylenders, landlords, and industrialists, many of whom had supported the Congress party's nationalist drive. They stirred up the peasants and industrial laborers to make demands that the Congress ministries were unable to meet. Financial limitations handicapped the ministries in executing their social reform programs and their financial problems were intensified by rent strikes and the disruption of industry from recurrent labor disturbances. The Congress governments in many provinces were forced to oppose the extremist agitation within their own ranks. Meanwhile representative government was being practised in all of the 11 British provinces with better success than had been anticipated.

Progress toward the carrying into effect of the remaining constitutional reforms was blocked by the Congress party's refusal to participate in the projected Federal Legislature and by the growing reluctance of the Indian princes to co-operate with the radical Congress leaders. The Congress party contended that Federation would strengthen the rule of the native princes and check the growth of democracy and social welfare in the British provinces. The princes, on the other hand, sought guarantees that their prerogatives, often of a feudal character, would not be diminished under the federation scheme. Meanwhile, friction between the Congress movement and the Indian rulers developed within some of the native States. A Congress party mob, defying a ban on public meetings during a festival in Viduraswatham, State of Mysore, was fired on by the police April 26 and 32 were killed. The Nizam of Hyderabad in September banned the Congress party organization in that State as a subversive organization.

Congress leaders leveled bitter criticisms at the princes for pledging unreserved support of Britain during the September crisis in Europe over Czechoslovakia. The Maharaja of Bikaner, whom Congress leaders accused of treachery to India in this connection, replied that India's support of Britain would strengthen her claim to an independent status within the British Commonwealth. He declared that the collapse of the British Empire would place India under a different yoke in which the slightest difference of political opinion might lead to the scaffold. Another obstacle to federation was the fear of the Moslems that the entrance of the Indian States, which are mostly Hindu, into the Federal Legislature would give the Hindus an excessive influence in the Federal Government.

The demand of some Congress leaders that representative government should be established in the Indian States as a condition precedent to Federation was answered by the Viceroy in a speech in Calcutta December 19. He declared that the Brit-

ish Government would not obstruct proposals for constitutional reform in the States, but that it would not force the Princes to initiate such reforms. The rulers of the States would remain responsible for determining the forms of government required to meet conditions in their respective domains. The government's primary consideration in the approach to Federation, he said, was the unity of India. He asserted that Provincial Autonomy had proved its workability and essential soundness. Toward the end of the year several of the native Princes, including those of Kolhapur and Bhore, announced their intention of establishing elective legislatures and governments responsible to them. But Gandhi in his journal *Harijan* pointed out that most of the Princes were antagonistic to the Congress party movement. He urged them to "read the handwriting on the wall" and accept the assistance of Congress leaders in establishing representative government.

Other Events. It was announced in February that King George had abandoned his plan to visit India the following winter to hold the Coronation Durbar. The decision was attributed to European political conditions and to the opposition of the Congress party to the King's visit. As a concession to Indian nationalism, the British Government decided to allow India to use its annual £500,000 contribution to Empire defense for the construction of an Indian fleet of six small warships. It also agreed to increase its annual grant of £1,500,000 toward Indian defense by £500,000 and to advance up to £5,000,000 for the re-equipment and mechanization of British and Indian military units in India and for the provision of new airplanes to the Royal Air Force in India. The transfer of four British battalions from India and their replacement by Indian troops was also approved. In October the British Government sent a committee of experts headed by Lord Chatfield to India to study the defense problem with the India Defense Committee and to make further recommendations. These steps were in partial response to Congress party criticism of the high cost of maintaining British troops in India.

Despite the costly military operations carried out in 1937 against the adherents of the Fakir of Ipi in Waziristan (see 1937 YEAR BOOK), guerrilla warfare continued in this mountainous region throughout 1938. The British made heavy use of bombing planes against the fanatical tribesmen. A report of Gen. R. A. Cassel, the commander-in-chief in India, submitted to the British Parliament in February, estimated casualties among the tribesmen in the preceding nine months at nearly 700 killed and more than 350 seriously wounded. In July a series of additional clashes in which a number of British officers were killed was reported. Sporadic rioting between Hindus and Moslems occurred in Allahabad, Bombay, and other cities, but on a relatively small scale.

The new hydro-electric plant at Malakand on the Swat River in the Northwest Frontier Province was opened by the Viceroy in April. The project was designed to furnish cheap power and to extend irrigation in the Peshawar plains district. The President of the Congress party and the Ministers of Industry from all the Congress-administered provinces met at Delhi in November to plan the development of "mother industries" throughout India as part of the party's reconstruction program.

See **AFGHANISTAN** and **BURMA** under *History*.

INDIA, PORTUGUESE. See **PORTUGUESE INDIA.**

INDIANA. Area and Population. Area, 36,354 square miles, exclusive of State's part of Lake Michigan, but including (1930) other water, 309 square miles. Population: Apr. 1, 1930 (census), 3,238,503; July 1, 1937 (Federal estimate), 3,474,000; 1920 (census), 2,930,390. Indianapolis, the capital, had (1930) 364,161; Fort Wayne, 114,946; Evansville, 102,249; South Bend, 104,193; Gary, 100,426.

Agriculture. Acreage, production, and value of the chief crops of Indiana, for 1938 and 1937, appear in the accompanying table.

Crop	Year	Average	Prod. Bu.	Value
Corn	1938	4,229,000	173,389,000	\$81,493,000
	1937	4,752,000	213,840,000	96,228,000
Wheat	1938	1,890,000	30,240,000	18,144,000
	1937	2,171,000	34,718,000	35,065,000
Hay (tame)	1938	1,995,000	2,815,000 ^a	16,046,000
	1937	1,669,000	2,255,000 ^a	18,942,000
Oats	1938	1,310,000	34,060,000	7,153,000
	1937	1,455,000	45,105,000	12,629,000
Potatoes	1938	52,000	4,940,000	2,717,000
	1937	54,000	5,400,000	3,834,000
Soybeans	1938	431,000	8,404,000	6,303,000
	1937	341,000	5,797,000	4,696,000

^a Tons.

Mineral Production. The mining of coal in Indiana diminished slightly to the yearly total of 17,270,000 net tons (1937), from 17,822,536 (value \$26,932,000) for 1936. The by-product coking ovens maintained their yearly production of coke at 5,444,657 net tons for 1937, virtually at the level of the 5,449,755 tons (value \$40,627,036) produced in 1936. The yearly output of pig iron again rose, the blast furnaces' shipments mounting to 3,694,360 gross tons (1937), from 3,256,677 (1936); in value, to \$77,990,597 (1937), from \$59,067,654 (1936). The yearly production of open-hearth steel, 5,947,368 gross tons for 1937, approximated the 5,963,501 tons attained in 1936. The production of architectural limestone was well maintained, the quarries' sales rising to the value of \$3,536,868 for 1937, from \$3,151,103 for 1936.

Finance. Indiana's State expenditures in the year ended June 30, 1937, as reported by the U.S. Bureau of the Census, were: For maintaining and operating governmental departments, \$63,458,681 (of which \$13,447,929 was for local education); for interest on funded debt, \$166,125; for capital outlay, \$13,280,126. Revenues were \$101,331,853. Of these, property taxes furnished \$5,779,318; sales taxes, \$47,513,090 (including tax on gasoline, \$22,140,459); departmental earnings, \$7,263,244; sale of licenses, \$12,495,427; unemployment compensation, \$13,063,635; Federal or other grants-in-aid, \$9,001,862. Funded debt outstanding on June 30, 1937, totaled \$4,644,500. Net of sinking-fund assets, the debt was \$4,458,239. On an assessed valuation of \$5,066,063,791 the State levied in the year ad valorem taxes of \$5,932,006.

Education. Enrollments of pupils in the public schools in the academic year 1937-38 totaled 689,657; this comprised 488,922 in the elementary group, 185,129 in high schools, and 15,606 otherwise classified. The year's expenditure for public-school education totaled \$63,748,509. Teachers numbered 22,956 and their salaries for the year averaged \$1224.11.

The U.S. Supreme Court, in a decision dealing with teachers' tenure of positions in the public schools of Indiana, upheld in 1938 teachers' contractual rights under that law. The system of safety education was developed in the rural high schools.

Consolidations among rural schools made further headway.

Charities and Corrections. The number of persons receiving public support scored some noteworthy increases during the year. The townships, providing poor-aid for their needy, thus carried in January 69,971 cases (said to cover about $3\frac{1}{4}$ persons each, on the average); in March 80,004 cases; and in November 54,811. On June 1 old-age assistance was allowed to the elderly poor at 65 years instead of the former 70 years; the number of the recipients rose from 41,491 in January to 51,960 in November. Children supported by public money numbered 26,344 in January and 31,471 in November. The payment of benefits, under the system of unemployment insurance, to persons losing their employment, was begun in 1938, and created another group of recipients.

The Department of Public Welfare was the State's chief administrative authority both for the dispensation of grants of support and for the institutional care and custody of persons. This Department, headed by a board of five members and an administrator (Thurman A. Gottschalk), supervised the county departments of public welfare, which administered the old-age assistance, and aid to dependent children. Through the county boards as its agents it granted support for the blind. It also supervised five State hospitals for the mentally unsound and institutions for the feeble-minded and the epileptics, which among them all contained (November 30) 11,445 inmates; hospitals for physical ailments, soldiers' homes, a school for the deaf, and a school for the blind, the inmates of which group numbered 2376; and a State Prison, a Reformatory, a State penal farm, a women's prison, a school for delinquent boys, and another for delinquent girls, having for the group a population of 6518.

Legislation. Summoned by Governor Townsend, the Legislature convened in special session on July 19 and adjourned July 30. The stated object of the session was to promote economic recovery from the slump of 1937-38 and in particular to start a program of construction of public buildings. Enactments of the session appropriated \$5,329,750 from the balance of the State Treasury for expenditure matching Federal grants toward paying for constructing buildings for State institutions; authorized the creation of a State hospital for the tuberculous, in southern Indiana; appropriated \$2,000,000 for the counties' use in public welfare; and removed from the State's system of unemployment-compensation the requirement that an applicant must have earned \$10 later than March 31 in order to qualify him for payments. The last-mentioned act was expected to admit 35,000 or more persons to receipt of payments.

Political and Other Events. The State Supreme Court rendered (January 11) a decision depriving non-residents' hasty marriages, performed in the State, of their supposed legality. Upholding a lower court's injunction that prohibited a county clerk's issuing marriage licenses to persons from outside the State, the decision held that this practice violated a law of 1852 requiring that a license be obtained in the county in which the bride resided. Indiana had served the purpose of a Gretna Green for residents of Illinois and other adjoining States. In consequence of the decision, not only did the business in quick marriages decline, but courts in Illinois began to grant annulments to parties seeking them on the ground

of their marriage in Indiana while residents of Illinois.

Indiana became involved in a conflict of interests, with Michigan and also with Ohio, in February, over interstate traffic in beer. The other two, on the ground that Indiana required a license fee of \$1500 for the importation of beer from another State, retaliated against Indiana beer; Michigan by excluding it and Ohio by subjecting it to a \$1500 fee for importation, without privilege for the importer to sell to other distributors. Indiana, in turn, shut out all imports of alcoholic drinks from Michigan.

Elections. Frederick Van Nuys (Dem.) was re-elected U.S. Senator on November 8, by a small plurality of about 7000 over Raymond E. Willis (Rep.). Republicans were elected to 7 seats in the U.S. House of Representatives, making a net gain of 6 seats; Democrats won the other five. The lower chamber of the State Legislature fell into Republican control; the upper continued prevalingly Democratic. There was no election for Governor.

The campaign of Van Nuys to retain his seat in the Senate held Nationwide interest, which centered above all on his capture of the Democratic renomination. He had been one of the group of anti-Administration Democrats that balked the passage of legislation sought by the President in 1937, and particularly of the bill to change the Supreme Court. It was reported in the press that Governor Townsend, after a conference with the President, announced from the steps of the White House that Van Nuys would not be returned to the Senate. Van Nuys started a campaign as an independent candidate and sent out (February 16) 100,000 letters which brought him thousands of signed pledges of support. Samuel D. Jackson of Fort Wayne, launched with the approval of the Democratic organization in the State as the Democratic candidate for the nomination, threw himself into contrast with Van Nuys by laudation of the President. Senators Wheeler of Montana, Burke of Nebraska, and others, by report about 20 anti-Administration Democrats in all, expressed willingness to help Van Nuys's campaign. Van Nuys attacked the State Democratic organization (March 24), promising to prove in later statements that one of its leaders had reported to the Government earnings of \$140,000 for 1937, and adding, "I'm going to tell Governor Townsend what's going on in Indiana, let the chips fall where they may." About the same time (March 22) he gave what purported to be damaging particulars about officials of a city in Indiana, which he said he "could name." On June 14 he promised to tell "in September" about some public servants' profits through political manipulations. The State Democratic ban on Van Nuys was revoked; Governor Townsend telegraphed him (July 4) an invitation to become a candidate for renomination by the Democratic State convention on the 12th. The convention unanimously renominated Van Nuys.

Officers. The chief officers of Indiana, serving in 1938, were: Governor, M. Clifford Townsend (Dem.); Lieutenant-Governor, Henry F. Schricker; Secretary of State, August G. Mueller; Auditor, Lawrence F. Sullivan; Treasurer, Peter F. Hein; Attorney-General, Omer Stokes Jackson; Superintendent of Public Instruction, Floyd I. McMurray.

Judiciary. Supreme Court: Chief Justice, George L. Tremain; Judges, Michael L. Fansler, Curtis W. Roll, James P. Hughes, Curtis G. Shake.

INDIANA UNIVERSITY. A coeducational State institution of higher learning in Bloomington, Ind., founded in 1820. For the first semester of the academic year 1938-39 the registration aggregated 6156 students (4036 men and 2120 women). The registration for the summer session totaled 2094 (1052 men and 1042 women). The faculty had 436 members, an increase of 19 over 1937-38. The endowment funds amounted to \$2,432,179, and the total income for the year, from State and private sources, was \$5,461,061. This year marked the beginning of construction on a \$3,500,000 building program, which will add to the physical plant the following buildings: Auditorium, Business Administration Building, Physical Science Building, two dormitories for men, two dormitories for women, and the Extension Center Building at East Chicago for the Calumet District. The main library contained 312,526 volumes. President, Herman B Wells, B.S., A.M., inducted Dec. 1, 1938.

INDIANS. The policy on Indian affairs as outlined by the Commissioner of Indian Affairs in his annual report for the fiscal year ending June 30, 1938, was to use productively the moneys appropriated by Congress for Indians, so as to enable them on good, adequate lands of their own, to earn decent livelihoods and lead self-respecting, organized lives in harmony with their own aims and ideals, as an integral part of American life. By the close of the fiscal year 1938, the area of the lands held in trust for the Indians by the Government had been increased to approximately 51,540,307 acres—about 67 per cent tribally owned, and 33 per cent in allotments held in trust for the benefit of individuals.

Under authority of the Indian Reorganization Act, Congress appropriated \$500,000 for the acquisition of land during the fiscal year 1938, and there was acquired for the Indians 64,354 acres. There was restored to tribal ownership and reservation status 38,279 acres. From 1935 through 1938, 30 purchase projects have been conducted by the Commissioner of Indian Affairs in co-operation with the Government agencies now merged in the Farm Security Administration. Consolidation of Indian lands is an important corollary of land acquisition. Negotiations are underway in South Dakota, Florida, and other States to exchange scattered Indian tracks for State and county lands, so that the holdings of the Indians may be blocked into usable units.

Of the lands remaining to the Indians, some 46,000,000 acres are in forest and range. As guide and supervisor in the field of forest and range management, the Indian Office has responsibility over a territory larger than the entire State of North Dakota. The income from timber sales and the money value of timber used on the reservations, the income from grazing leases and permits, and the money value of free grass consumed by Indian livestock, constitute together one of the Indians' major sources of revenue. Approximately 426,000,000 ft. b.m. of timber were cut during the fiscal year 1938, bringing to the Indians a gross income of about \$1,175,000. During the year, new contracts were completed covering the sale and future cutting of 270,290,000 ft. b.m. of timber on seven units located in four reservations.

With most of the Indian reservations in the arid or semi-arid region, irrigation is vital to Indian life. The construction and water-development program was maintained in 1938 at nearly the same level as previous years. Of the major projects undertaken, that on the Colorado River Reservation

in Arizona is the largest. This contemplates the construction of an irrigation system to supply water from the Colorado River to 110,000 acres. Irrigation works will include a large diversion dam across the river, together with appurtenances and a complete canal system. Work on other large projects consisted of the completion of the storage dam on the Owyhee River, Western Shoshone Reservation, Nev.; the completion of a storage reservoir and the commencement of a large pumping plant on the Flathead project, Mont.; continuation of work on the Fort Peck, Mont., pumping plant; and preliminary work on the construction of a large storage dam on the Crow Reservation, Mont. Miscellaneous, but extensive construction activities continued on the Navajo and Pueblo Reservations in Arizona and New Mexico.

Final judgments in favor of the Klamath Tribe of Oregon and the Shoshone Tribe of the Wind River Reservation, Wyo., in the amount of \$5,313,347.32 and \$4,408,444.23 respectively, were rendered by the Court of Claims. In affirming the decisions of the Court of Claims in these two cases, the Supreme Court rendered decisions of great importance to the Indians. These two cases settled the question as to the scope of the title of an Indian tribe to the reservation set apart for it by treaty. In the Shoshone case, the Supreme Court held that the tribe's right of occupancy was as sacred and as securely safeguarded as in fee-simple absolute title, notwithstanding the fact that the United States retained the fee. Following this theory, it was held that the tribe's right of occupancy in perpetuity included ownership of the land, mineral deposits, and standing timber on the reservation, and an award was made accordingly.

The actual adjustment of Indians to white civilization varies greatly in different areas. Nowhere is it complete. Thousands of Indians, for example, do not speak English. Among the Navajo, for instance, it is estimated that more than 90 per cent neither speak nor understand English. Until faced with the ravages of soil erosion, due largely to overgrazing, the Navajos were self-supporting and self-sufficient. They perpetuated their ancient culture with a minimum of adjustment to neighboring whites. Today, education is a powerful force in helping these people bring back their land to its former productivity. In areas such as Minnesota, Washington, and California, where assimilation of Indians is proceeding rapidly, Indian children are taken care of in public schools. In recognition of the exemption of Indian lands from taxation, the Federal Government pays the school districts for such services. During 1938 approximately \$1,045,000 was spent for Indian education in district schools and \$378,000 was paid to the States.

During the past eight years, the number of Indians on current census rolls at Federal agencies has increased at the rate of approximately 1.2 per cent per year. This compares with an average annual increase for the population at large, as estimated by the Bureau of Census, of only 0.7 per cent over the past seven years. The total Indian population under the jurisdiction of the Office of Indian Affairs, as of Jan. 1, 1938, was 342,497. As of Jan. 1, 1937, the number was 337,366, denoting an increase of 5131. In addition to this Indian population, the Indian Office had under its jurisdiction the education and medical relief of about 30,000 natives of Alaska—a total responsibility, therefore, for the welfare of more than a third of a million Indians and Eskimo citizens.

INDO-CHINA. The southeastern peninsula of Asia consisting of BURMA, FEDERATED MALAY STATES, FRENCH INDO-CHINA, SIAM, STRAITS SETTLEMENTS, and the UNFEDERATED MALAY STATES. See articles on each State.

INDUSTRIAL EARNINGS. See BUSINESS REVIEW.

INDUSTRIAL RELATIONS IN GREAT BRITAIN AND SWEDEN. See LABOR.

ININI, TERRITORY OF. See FRENCH GUIANA AND ININI.

INNER MONGOLIA. See CHINA; MONGOLIA.

INORGANIC COMPOUNDS. See CHEMISTRY.

INSECTS AND INSECTICIDES. See CHEMISTRY, INDUSTRIAL; ENTOMOLOGY, ECONOMIC; ZOOLOGY.

INSULL, SAMUEL. An American public utility executive, died in Paris, France, July 16, 1938. Born in London, Nov. 11, 1859, he received a primary school education, and at the age of 14 became an office boy. He studied bookkeeping and stenography at night, and subsequently became secretary to Col. E. H. Johnson, London representative of Thomas A. Edison, who was engaged in forming the Edison Telephone Co. of London. Coming to the attention of Edison, Insull was invited to join him as his private secretary in 1881, and in this capacity he had full charge of Edison's business affairs for many years, and represented him in the organization and management of the Electric Tube Co., the first manufacturers of underground electricity conductors; the Edison Machine Works, and Edison Lamp Co.

Insull built and operated the Edison Machine Works in Schenectady, N. Y., and served as general manager, and in 1889 when the various Edison manufacturing concerns and the Edison Electric Light Co. were consolidated into the Edison General Electric Co., he was made 2d vice-president in charge of the manufacturing and selling departments. When this organization merged with the Thomson-Houston Co. in 1892 to form the General Electric Co., he became 2d vice-president of that company.

He did not hold that office long, however, but in the same year resigned to join the Chicago Edison Co., as its president. When the Commonwealth Electric Co. was founded in 1898 he became its president too, and when the two companies were consolidated in 1907 as the Commonwealth Edison Co., he was elected president. On Feb. 24, 1930, he became chairman of the board. Insull was a director in 85 companies, chairman of 65, and president of 11, which last included the Peoples' Gas, Light, & Coke Co., a monument to his efforts, and the Midland Utilities Co., formed in 1912, a holding company of subsidiaries serving 200 communities in Ohio and Indiana. Also, he effected the consolidation of Chicago's five electric railways into the Chicago Rapid Transit Co., and acquired the Chicago South Shore & South Bend Electric R.R.

At the peak of his career, in the middle 1920's, he headed a \$4,000,000,000 utilities empire, and was known as the ruler of the greatest industrial empire in the world. The Commonwealth Edison Co., the largest single producers of electricity in the world, produced practically all the electric light and power consumed in Chicago. Insull's success, although aided by the technical knowledge gained during his association with Mr. Edison, was due mostly to his personal ability as a financier and an

organizer. Overexpansion in 1931, when the bottom had dropped out of the securities market, caused the collapse of this empire, and Insull's inability to borrow the huge sums of money necessary to meet his notes caused three of his largest companies—the Middle West Utilities, the Insull Utilities Investments, Inc., and the Corporation Securities Co.—to go into the hands of a receiver in April, 1932. In June Insull resigned his offices in all these holdings.

In October, 1932, the Cook County Grand Jury found indictments against Samuel Insull and his brother, Martin, who had left the country and were made the objects of extradition proceedings. Martin went to Canada and Samuel to Greece, where the U.S. Government made several efforts to have him extradited, but each time the Greek Court of Appeals decided in his favor. However, the Greek Government, under pressure from Washington, announced that he would have to leave by Jan. 1, 1934. Illness intervened and he was granted a stay until March 15. On the eve of that day he fled in disguise on the Greek tramp steamer *Maiotis*. Subsequently he landed at Istanbul, and was arrested, taken off the ship, and jailed on Apr. 1, 1934. He and his brother were both brought back to the United States, and, with Samuel's son and 15 other defendants, went on trial on Oct. 1, 1934, in the U.S. District Court on charges of using the mails to defraud investors of some \$143,000,000. They were acquitted on October 24. The older Insull still faced the State charge of embezzlement and the other Federal charge of bankruptcy law violation. He was acquitted of the former on Mar. 11, 1935, and of the latter on June 14.

In August, 1935, he was granted a yearly pension of about \$20,000 by the Commonwealth Edison, the Public Service Co. of Illinois, and the Peoples' Gas, Light & Coke Co. He made one last effort to re-enter the business world in 1936 when he organized the Affiliated Broadcasting Co. Control was wrested from him, however, in September of that year, and he retired.

A citizen of the United States by naturalization in 1896, Insull was chairman of the Illinois State Council of Defense from May 3, 1917, to 1919. He served as president of the Chicago Music Foundation and of the Chicago Civic Opera Co., and was instrumental in securing the \$20,000,000 Civic Opera House. He delivered the Cyrus Fogg Brackett engineering lecture at Princeton University in 1921, and in 1926 the National Electric Light Association bestowed upon him the Charles A. Coffin Medal. Mr. Insull received honorary degrees from several colleges and universities, was a member of both the American and British Institutes of Electrical Engineers, and in 1930 was made a Chevalier of the French Legion of Honor. In 1931 he donated a wing to the National Temperance Hospital, London.

INSURANCE. Numerous important changes, enacted or proposed, in the insurance laws of various states, together with an investigation by a Congressional committee into the investment policies of life offices particularly, called for a large share of attention from underwriters during 1938.

Of especial interest were the changes recommended for the governing code of New York, the adoption of which would markedly affect the conduct of the insurance business, not alone in the Empire State, but elsewhere throughout the country.

The effort of bar associations in different sections of the land to restrict the adjustment of

claims against both fire and casualty companies, to the legal fraternity, which began in 1937, continued through last year, with varying results, the courts in some jurisdictions sustaining the plea of the attorneys, while in others they refused support.

The most outstanding litigation of general application, though, was that growing out of the counter-signature law of several states; that is, the requirement that where licensed representatives are requested by their companies to countersign policies covering upon business written within their respective jurisdictions, they must receive not less than 50 per cent of the commission upon the business, though the risks may be controlled by non-resident agents or brokers. Local agents are determinedly opposed to permitting salaried representatives of companies countersigning contracts, maintaining that through such practice the agents are deprived of legitimate revenue.

Challenge of the constitutionality of the counter-signature law was made in Georgia, Florida, Montana, and Virginia, managing underwriters holding the issue to be vital for them, and indicating their purpose to carry it to the Supreme Court of the United States, if need be, to secure final determination.

In an effort to reach a common understanding, representatives of the National Association of Insurance Agents and of the Association of Casualty and Surety Executives have been conferring upon a proposed model resident agency law which, if agreed upon, would be offered for adoption in all states of the Union, eliminating thereby trouble which has been growingly irritating for months past. See AUTOMOBILES; UNEMPLOYMENT.

Fire Insurance. Though the volume of business written by the fire companies in the past 12 months will exceed that had in 1937, the net premiums thereon will aggregate less by approximately 5 per cent, it is estimated; the reduction in income being accounted for by the reduction in rates upon many classifications of risks that have been applied in the majority of states, and, again, by the broadening liability assumed without additional charge being imposed.

A further cause for the reduced income was the sharp curtailment in the volume of automobile business written, the number of new cars sold by the automobile manufacturers in 1938 being considerably below the record of the preceding year. While premiums in both the straight fire and the automobile lines fell off sharply for the reasons above noted, gains were achieved in inland marine writings, a division of the business the great majority of companies have been seeking to develop in recent years, and with notable success.

After experiencing a favorable loss record for the preceding five years, the trend changed last July, since which time the country's fire loss increased each succeeding month, bringing the total for 1938 more than \$10,000,000 beyond the 1937 figures, thus giving point to the contention of managing underwriters that the era of low losses was at an end, and from now on it may be expected to steadily advance.

Apart from the losses suffered under their straight fire policies, companies paid out millions of dollars in consequence of the hurricane that swept the New England and a section of the New York and New Jersey coasts last September 21, approximately 23,000 loss claims having been filed. While liability for flood damage is expressly excluded from fire policies, contracts, under the extended coverage form, do cover for

destruction wrought by windstorms, and this provision called for an aggregate payment by all companies of at least \$12,000,000. What the marine writing companies paid to settle claims due to the same disaster, is unknown, figures not being reported to a central body by the marine offices, as is true of the fire companies. That the marine underwriting loss was well up in the millions, however, there is no question. A lively demand for hull and cargo coverage was made upon marine writing companies during the days that threatened a general European war, all offices being importuned by vessel owners and cargo shippers to grant desired indemnity, regardless of the war rates that were imposed. Fortunately the anticipated struggle did not materialize, and once assurance of accord having been reached between the concerned governments, the marine offices reduced their rates to normal figures. The added premiums had during the period of uncertainty, however, came in handy to help meet the exceptional claims resulting from the hurricane a few weeks later.

How to properly regulate the writing of automobile finance business has been a perplexing problem for years, despite the numerous attempts made to find a proper solution. Within the past two months, a small committee of fire company officials appointed by the Insurance Commissioner of Illinois worked out a reform program, which was not only endorsed by that official, but proved acceptable to the fraternity generally, thereby disposing of a question that had long been provocative of ill feeling between a number of companies, and also between companies generally and local agents.

Appreciating the desire of manufacturers and merchants to secure indemnity against loss resulting from striking employees, whether within or without the plants, the fire companies amended their policies, to indemnify for malicious mischief damage, requiring, properly, a slightly higher premium for the broadened protection.

Casualty Insurance. In the field of casualty insurance the outstanding event of the year was the issuance by member companies of the National Bureau of Casualty and Surety Underwriters, of a revised method for writing automobile bodily injury and property damage insurance; issuance of the plan following an intensive study of the general subject by underwriters and actuaries for months. Termed the "Safe Driver Reward Plan," a 15 per cent refund is guaranteed under its terms to all insured motorists whose record for the preceding year proves accident free; that is, they were not involved in an accident for which the company on the risk was required to pay or reserve for payment, in excess of \$10. Though disallowed in several states, the plan met the approval of the great majority of the others and, in the main, of the local agents. New York was among the few states that declined to endorse the program, and to meet the views of its insurance department another method was worked out, which became operative in the state December 1, when all carriers licensed in New York must conform to its terms. The plan in question differs from that used elsewhere in that, while the latter provides for a rate refund at the close of the policy year, the New York method predicates rates upon the assumption that at least 80 per cent of the motorists are careful drivers, and should not be penalized to make good the losses caused by the remaining 20 per cent; hence it contemplates imposing graduated penalties upon the loss producers.

Both plans, as well as those formulated by several

individual companies not bound by Bureau obligations throughout the country generally, though forced to observe the New York state method, evidence the desire of underwriters to differentiate between careful drivers and those of the accident-producing type, and to hold out financial inducements for safe driving.

In the miscellaneous casualty, surety, and fidelity lines the volume of business written through the year was approximately that had in 1937, and with substantially the same loss ratios for each. Surety forms were broadened and the same applies to fidelity coverages, the rating authorities tuning their rates in keeping with the more favorable loss experience shown. With the lessening of public work construction by the Federal Government came a resultant decrease in the demand for completion bonds, a condition, however, offset in degree by the growing call for road construction and kindred forms of indemnity, and by a substantial increase in fidelity bond writings. Of broad concern to insurance companies of all classes was and is the question of examinations by state departments, a process highly expensive to the offices investigated, and, often, needlessly so.

No company worthy of confidence objects to proper supervision, and the law of New York, and maybe of other states, requires all companies licensed within their jurisdictions to submit to an examination every three years, the departments having authority to make interim investigations should they deem such procedure desirable. What managing officials oppose is needless examinations and particularly by representatives of states poorly equipped to undertake the work. To properly examine a company of substantial size calls for expert talent, and consumes anywhere from three to twelve months. The customary charge for such service is \$25 per day, for each examiner, plus an expense allowance of \$8 per day, plus again the cost of transportation from the home department to that of the domicile of the company examined. The cost of such examinations—which must be passed along in the final analysis to policyholders, either through the medium of increased rates, or, of participating companies, by way of reduced dividends—is severe, and the opposition of companies generally to the practice is wholly justified.

The question was prominently upon the agenda of the convention of the National Association of Insurance Commissioners at Des Moines last December, and promises to be a lively subject for discussion for some time to come.

Life Insurance. New York's passage of a law reducing policy loan interest to 5 per cent on contracts issued after Jan. 1, 1939, was probably the most important life insurance event of the year, particularly when taken in connection with the modifications in income under optional modes of settlement which most of the companies affected by the New York statute made in their policies when putting in the new policy loan interest rate. There is a close connection between the policy loan rate and the income under options, for it is obvious that if the income on policy loans is cut one-sixth, the ability of companies to pay interest on their funds is definitely affected.

Where there are several hundred life companies, the 19 having their home offices in New York, plus the 38 companies of other states and Canada, which are licensed in New York, account for more than 75 per cent of the total life insurance in force in the United States and Canada. Consequently, any law of New York, such as that limiting to 5 per

cent the interest on policy loans, concerns a very large share of the life business on the North American continent. The law is not retroactive but only applies to policies issued after the first day of 1939.

Changes in optional settlements under life contracts have a two-fold aim: first, to take account of the downward trend in interest rates, and to this end the guarantees as to what the companies would pay on policy proceeds left them at interest, were cut from the former 3 per cent basis to $2\frac{1}{2}$ per cent, though the companies could still pay any excess interest that might be earned. The second purpose was to modify the annuity option in policies in order to take account of the increased longevity among recipients of annuities. On the type of option where the proceeds are paid out at a fixed rate for a definite number of years, some companies retained the 3 per cent basis, since one of the main reasons for changing to $2\frac{1}{2}$ per cent was a disinclination to guarantee a higher figure for an indefinite future period.

A development being watched with considerable interest is the savings bank life insurance movement. The New York legislature at its latest session enacted a law permitting mutual savings banks to write life insurance, the aim being to provide low-cost protection to persons of small income, the limit to which indemnity could be issued to any individual being \$3000. Massachusetts has had a similar plan in operation for over 30 years. When the New York measure was under consideration the life companies opposed it, on the ground it granted savings banks privileges denied regular life institutions.

Attempts to unionize agents in the industrial or weekly premium phase of the business, which began in 1936, continued through the past year, chiefly in the New York City area. In an election held by agents under the auspices of the State Labor Relations Board, agents of the Metropolitan Life in the city and five contiguous counties won their claims for collective bargaining. Appeal from the ruling of the Labor Relations Board was taken by the Company, and the case is now before the court for adjudication.

Early in the year the Treasury Department decided that agents, compensated upon a commission basis solely, are not employees of the companies, but, instead, are independent contractors, and hence not amenable to the social security laws. This decision meant a saving to life companies and their policyholders, not only as to the social security and unemployment contributions that otherwise would have to be paid, but of the heavy expense to which companies would be subjected in maintaining the additional records of accounting.

Most companies transacting annuity business revised their rates upward on such contracts, in keeping with the downward trend of interest earnings. Surveys of the 1937 experience revealed to companies their annuity business on the whole was a losing venture at the then prevailing rates, the aggregate loss on the class by companies licensed in New York being in excess of \$14,000,000 in 1937 alone.

Another source of heavy loss to life companies was that type of disability policies under which a holder receives a monthly income in the event of his total and, presumably, permanent disability. Most companies have ceased writing this business because of the unfortunate experience therewith. Losses from 1927 to 1937 inclusive, aggregated for the companies \$443,035,850, the contribution of 1937 to the total being over \$31,000,000.

The life business was brought under the scope of the Federal Temporary Economic Committee's survey, commissioned to investigate monopolistic practices in the national economic picture. Inclusion of the life companies was mainly with a desire to learn to what extent, if any, the companies' assets of approximately \$26,000,000,000 were used to foster monopolistic tendencies among corporations in the securities of which the companies invested. Since life company investments are predominantly in bonds and mortgages, rather than in stocks, life underwriters failed to see wherein they could exercise any considerable control over corporations, even were they disposed to do so. Nevertheless, they gave the fullest co-operation to the Federal investigation, the life insurance division of which was handled by members of the Securities and Exchange Commission staff.

Although sales of life insurance were considerably lower in 1938 than in 1937, there was a decided lessening of the downward trend toward the close of the year, due in some measure to the desire of the public to buy policies having the existing favorable settlement option features.

INTERNAL COMBUSTION ENGINES.

See ENGINES, INTERNAL COMBUSTION.

INTERNATIONAL BANKING AND FINANCE. Developments in international finance during 1938 were dominated by the acute political crisis which developed in Europe during September as a result of Germany's demands for Czechoslovak territory. Not only did the war scare in that month cause enormous shifts of funds from Europe, particularly London, to the United States, bringing imports of \$520,000,000 of gold into the United States in September alone, but the changed political situation in Europe following the Munich agreement caused many European capitalists to continue to transfer funds to the United States even though the immediate war scare had passed. Furthermore, the prospect of increasing taxation in Europe to finance ever larger armament programs and the heavier imports of commodities made necessary by war preparations also encouraged the transfer of funds abroad, and had a marked depressing effect upon the quotations of the pound sterling and other European currencies.

Great Britain reported net imports of gold amounting to \$420,000,000 during 1937. For 1938, the direction of the gold flow was reversed, and Great Britain lost a considerable amount of the yellow metal on balance because of enormous shipments to the United States beginning with August. Also, South Africa reduced her shipments to London, and a good deal of gold was hoarded directly within that country, as a result of liberalization of regulations governing such hoarding by the authorities in South Africa. The British Equalization Account, which officially disclosed its gold holdings on Mar. 31, 1938, at \$1,489,000,000, had only \$759,000,000 left at the end of September. Shortly after the end of the year, the Bank of England turned over £200,000,000 of gold, at the old parity, to the Equalization Account to replenish the latter's gold holdings, which had been cut down further in the final quarter of 1938. This increased the gold holdings of the Account by some \$1,700,000,000. The Bank of England had to expand its fiduciary note issue, which is backed by Government securities instead of gold, by a corresponding amount, as its gold holdings were cut to £127,000,000, at the old parity, by this transfer.

Apart from the outflow of capital, the chief

financial problem facing Great Britain at the end of the year was the amount of prospective armament expenditures and the method that was to be adopted in financing them. British armament expenditures have been running at the rate of about \$1,500,000,000 a year, and any sharp increase in these outlays would naturally result either in a budget deficit or heavier taxation. Either of these two developments would encourage the flight of capital from the country, while the increased imports necessary to carry on armaments would depress the pound by making the trade balance even more unfavorable. However, during December the pound sterling rallied because of the large short interest that had been built up earlier and because of the passing of the season of heavy imports. The British authorities were reported not averse to seeing the pound sag to a lower level because of the moderately downward trend in business conditions in that country.

France suffered another major financial crisis, which led to a third devaluation of the franc within two years, in May. The fall of the second Blum Government in April resulted in the establishment of a more moderate regime headed by Daladier, who received broad powers to govern by decree. Instead of providing a range of fluctuation of the franc, as had been done before, the Daladier Government established a fixed lower limit for the franc at 179 francs to the pound sterling on May 5, and a heavy return flow of capital followed. Also, the Government sought to stimulate productive activity within the country through liberalizing the social legislation enacted since 1936, particularly the 40-hour work week. During the European war crisis, the franc was supported with relation to the pound at its minimum level, but the need for enlarged national defense appropriations thereafter and the conviction that France's economic weakness spelled serious danger for the country's political future brought about the adoption of a more aggressive economic rehabilitation program. Paul Reynaud, who had advocated the devaluation of the franc long before this was done in October, 1936, was made Minister of Finance in October, and he secured the adoption of a program involving more drastic modification of the 40-hour week, reduction of Government expenditures, and increases in taxes, that was designed to effect a fundamental solution of the country's difficulties. Organized labor sought to check this program through a general strike called for November 30, but this move proved a failure as a result of energetic preventive measures taken by the Government, and thereafter the financial outlook in France improved considerably. A heavy return flow of capital developed, and the French Stabilization Fund was reported to have gained considerable amounts of gold during the closing months of the year. Through revaluation of the gold holdings of the Bank of France, the latter's gold stock was marked up by almost 32,000,000,000 francs in November to 87,264,000,000 francs.

The authoritarian countries, particularly Germany and Italy, did not affect world financial conditions directly because of their thoroughly controlled economies. They continued to make aggressive efforts to expand their economic relations with nations in southeastern Europe and Latin America through barter arrangements, but these have given rise to considerable dissatisfaction in many instances. The ability of countries that sell raw materials to Germany to obtain only a very limited selection of manufactured goods in exchange has

resulted in the building up of blocked balances within Germany that are of very limited usefulness to their owners.

The war in China proved a heavy drain upon Japan's financial resources. That country shipped to the United States almost \$200,000,000 of gold, thus further weakening her reserve position. The gold reserves of the Bank of Japan had fallen to the lowest level in a number of years by the end

sought to make long-term credits more freely available to Latin American countries wishing to purchase capital goods in the United States, but Mexico's expropriation of American oil properties had a discouraging effect upon new direct investments in these countries by American concerns.

The movement of foreign exchange rates during 1938 was as follows:

FOREIGN EXCHANGE RATES, 1938

[Average of noon buying rates for cable transfers in New York. In cents per unit of foreign currency]

	United Kingdom (pound)	France (franc)	Germany (reichsmark)	Norway (krone)	Sweden (krona)	Denmark (krone)	Belgium (belga)
January	499.98	3.3352	40.281	25.120	25.770	22.317	16.926
February	501.80	3.2814	40.424	25.212	25.861	22.399	16.975
March	498.45	3.1224	40.241	25.045	25.674	22.251	16.880
April	498.12	3.1020	40.200	25.028	25.670	22.236	16.854
May	496.73	2.8148	40.160	24.957	25.604	22.174	16.835
June	495.80	2.7824	40.266	24.911	25.561	22.132	16.956
July	492.91	2.7663	40.188	24.767	25.412	22.004	16.919
August	488.08	2.7331	40.090	24.523	25.162	21.785	16.869
September	480.38	2.6924	39.966	24.136	24.765	21.441	16.877
October	476.85	2.6662	40.047	23.957	24.563	21.283	16.904
November	470.75	2.6343	40.042	23.652	24.251	21.011	16.908
December	467.03	2.6323	40.080	23.463	24.051	20.844	16.843
	Netherlands (guilder)	Italy (lira)	Spain (peseta)	Czecho-Slovakia (koruna)	Poland (zloty)	Switzerland (franc)	Argentina (peso)
January	55.711	5.2608	6.137	3.5104	18.974	23.125	33.334
February	55.958	5.2607	6.085	3.5149	18.974	23.231	33.451
March	55.556	5.2605	5.814	3.5017	18.909	23.045	33.233
April	55.564	5.2605	5.766	3.4833	18.852	22.990	33.208
May	55.351	5.2604	5.846	3.4792	18.845	22.840	33.118
June	55.343	5.2604	5.766	3.4754	18.835	22.887	33.053
July	55.040	5.2604	5.666	3.4580	18.839	22.885	32.862
August	54.602	5.2604	5.747	3.4518	18.832	22.885	32.541
September	53.940	5.2604	5.228	3.4476	18.815	22.603	32.032
October	54.390	5.2603	5.092	3.4401	18.794	22.719	31.793
November	54.334	5.2603	5.054	3.4264	18.798	22.653	31.382
December	54.356	5.2603	4.996	3.4221	18.865	22.612	31.135
	Brazil (milreis) free market	Chile* (peso) official	Japan (yen)	China (yuan)	Hong Kong (dollar)	Mexico (peso)	Australia (pound)
January	5.803	5.1680	29.052	29.489	31.231	27.750	398.35
February	5.803	5.1680	29.035	29.602	31.339	27.750	399.81
March	5.8744	5.1680	28.864	28.219	30.987	25.597	397.14
April	5.8680	5.1683	29.013	26.905	30.828	23.109	396.85
May	5.8566	5.1683	28.938	23.804	30.849	22.275	395.77
June	5.8564	5.1682	28.884	18.835	30.856	20.914	395.02
July	5.8528	5.1694	28.722	18.205	30.755	20.104	392.77
August	5.8460	5.1744	28.444	16.618	30.479	19.732	388.90
September	5.8563	5.1765	27.996	17.167	29.989	19.462	382.74
October	5.8488	5.1771	27.787	16.029	29.668	19.659	379.89
November	5.8595	5.1777	27.430	15.796	29.325	19.971	375.05
December	5.8646	5.1758	27.213	16.110	29.174	19.931	372.06

* Export peso quoted at 4 0000 throughout year.

of 1938. This additional loss of gold occurred despite the application of rigid foreign exchange restrictions and efforts to limit the import of all goods not regarded as necessities of war.

Soviet Russia shipped in excess of \$100,000,000 of gold to London during the year. This is regarded as part of that country's policy of keeping a portion of its reserves in the form of foreign exchange, because of the desire to be able to purchase materials and supplies abroad readily, in the event of a war or other crisis, even though gold exports should not be possible.

Financial conditions in Latin America were little changed during 1938. Lower commodity prices brought about a decline in exports in most cases, but imports also were lower. The improvement in business conditions in the United States during the last half of the year was a helpful development, and in a few cases negotiations were undertaken to reach a settlement on dollar bonds in default. Cuba resumed service on her defaulted public works debt on a reduced basis, and at the end of the year Colombia was negotiating actively for a settlement of her debt. The American Export-Import Bank

Central Banking Policies. Central banks in all countries sought to keep interest rates low and credit freely available for financing domestic business and government deficits, despite the highly disturbed state of the foreign exchange markets during the latter part of the year. With the trend of business conditions in most countries downward, the desire to prevent inflationary developments manifested in several countries during 1937 was no longer in evidence, and instead consideration was given to ways and means of encouraging and stabilizing industrial activity. In Great Britain the fiduciary issue of the Bank of England, consisting of notes backed only by Government bonds, was increased by £30,000,000 in December to permit an expansion of currency circulation without gold backing. This occurred before a large additional fiduciary issue was made necessary by the transfer of £200,000,000 of gold to the Equalization Account in the following month. In Sweden, where the banking authorities are committed to a program of stabilization of business activity, capital expenditures of Government-owned enterprises were expanded to offset reduced activity elsewhere.

While interest rates remained at a relatively very low level in all leading countries, the only significant change during the year was in France. The discount rate of the Bank of France, which was 3 per cent at the beginning of the year, was lowered to $2\frac{1}{2}$ per cent during November. Belgium, whose discount rate was raised to 4 per cent in May, 1938, reduced it back to $2\frac{1}{2}$ per cent later in the year.

Fluctuations in the gold reserves of central banks and governments during 1938 were as follows:

GOLD RESERVES OF CENTRAL BANKS AND GOVERNMENTS
[In millions of dollars]

End of month	Total ^a (52 countries)	United States	United Kingdom Bank of England	Exchange Account	France	Bel- gium	Nether- lands	Switzer- land	Japan
1937—December	25,359	12,760	2,689	1,395	2,564	597	930	648	261
1938—January	25,431	12,756	2,689	1,395	2,564	599	957	687	261
February	25,339	12,776	2,689	1,395	2,428	593	977	699	261
March	25,417	12,795	2,689	1,489	2,428	531	998	698	261
April	25,254	12,869	2,689	1,489	2,428	529	1,007	697	261
May	25,236	12,919	2,690	1,489	2,428	456	1,008	686	261
June	25,304	12,963	2,690	1,489	2,428	481	1,008	679	261
July	25,292	13,017	2,690	1,489	2,428	501	1,008	674	164
August	25,455	13,136	2,690	1,489	2,428	517	1,008	686	164
September	25,407	13,760	2,690	759	2,428	539	1,008	690	164
October	25,756	14,065	2,690	759	2,428	562	1,008	695	164
November	26,046 ^b	14,312	2,690	759	2,435	584	1,008	699	164
December	26,244 ^b	14,512	2,690	759	2,435	581	995	699	164

^a Table is incomplete since certain central banks and governments, and certain stabilization funds such as those of France, Netherlands, and Switzerland, hold gold that is not reported. U.S. Stabilization Fund gold included in table to extent of \$1,800,000,000. ^b Preliminary.

INTERNATIONAL CHAMBER OF COMMERCE. An international federation of business organizations and business men, established in 1920 as a successor to the more loosely organized International Congress of Chambers of Commerce, which had met at intervals of two years for a considerable period before the World War. It has a membership of industrial, trade, financial, and insurance associations, chambers of commerce, shipping and transportation organizations, as well as an associate membership of individual business companies and business men, in 48 countries.

Through 1938 the organization has held nine general congresses—London, Rome, Brussels, Stockholm, Amsterdam, Washington, Vienna, Paris, and Berlin—the Berlin Congress in June, 1937, being attended by more than 1600 delegates. The congresses declared the policies relating to the numerous problems of trade barriers, and the urgent need of sound commercial policies and adequate facilities for carrying on international business in the postwar period. The present program deals primarily with the complicated array of restrictions on trade that grew up during the worldwide economic depression of the past few years, and the advocacy of international monetary stabilization, on which the Chamber and the Carnegie Endowment in 1936 and 1937 collaborated in a comprehensive series of studies by experts. The general theme announced for the 10th general congress at Copenhagen, 1939, is "The Need for Economic Order."

The International Chamber has committees on the organization of production, international trade expansion, monetary policy and credit, fiscal questions, banking studies, futures trading on commodity exchanges, commercial documentary credits, merchandise distribution and marketing, advertising, rail transport, highway transport, transport use, sea transport, inland navigation, air transport, international telegraph and telephone communications, international postal service, air mail, pro-

tection of industrial property, customs technique, trade terms, bankruptcy, automobile insurance, legal status of foreign establishments, legalization of documents, and international commercial arbitration.

The officers in 1938 were: Thomas J. Watson of New York, industrialist, President; Pierre Vasseur, Secretary General. Headquarters were at 38 Cours Albert. Premier, Paris, France. Eliot Wadsworth of Boston was Chairman of the American National Committee; Silas H. Strawn of Chicago

was American Vice-President. The office of the American Section was at 1615 H Street, Washington, D. C. Chauncey D. Snow, Manager.

INTERNATIONAL GEOLOGICAL CONGRESS. See GEOLOGY.

INTERNATIONALISM. There are now 1103 International Relations Clubs fostered by the Carnegie Endowment for International Peace located in all parts of the world. This means that in 838 colleges and universities and in 265 high schools groups of students are meeting for a unique purpose. Convinced that the terrible problem of war and peace cannot be solved by sensational strikes and emotional protests, the members of the International Relations Clubs have set themselves the much more difficult task of quiet, objective study of the conditions which bring about war and of their possible remedy. There are 950 Clubs in the United States, in addition to seven in the Philippines and one each in Hawaii, the Canal Zone, Alaska, and Puerto Rico, making a total of 961. Of these, 265 are in high schools, the remainder in colleges and universities.

The College Clubs in the United States and Canada meet in 12 regional conferences once a year. The conferences are called primarily to bring the Clubs in contact with a representative of the Endowment, so that the work may be co-ordinated. About this nucleus is arranged a significant program for the discussion of international affairs. Student participation and administration are stressed and the round table discussions are a living evidence of the ability of the International Relations Clubs members and of the progress they are making in developing the international mind. In addition, distinguished guests designated as Carnegie speakers, are sent by the Endowment to add their expert counsel and advice to the discussions of the students.

The International Committee of the World Alliance for International Friendship through the Churches, at its meeting in Larvik, Norway, on August 23-29, elected Dr. William P. Merrill as

its president. Dr. Merrill is president of the Church Peace Union, and also served as president of the American Council of the World Alliance from the time of its organization in August, 1914, until 1936.

The Good Will Congress and twenty-third Annual Meeting of the World Alliance for International Friendship was held in San Francisco, November 7-11, in co-operation with the Church Peace Union and the San Francisco Peace Council. The opening session of the Congress was a United Ministers Meeting, at which representatives of three faiths spoke. This co-operation among the various religious groups featured the whole Congress, and was a practical example of the type of co-operation needed on a world scale. Youth was given a special place on the program and a large meeting of young people was held as one of the regular Congress meetings. The meeting was arranged by a committee of young people. Bishop Oldham was unanimously re-elected President of the American Council.

The World Federation of Education Associations issued during the year a new publication entirely at variance with its previous publications, though the title, "World Education," remains the same. The new magazine is devoted to summaries of articles and official publications from a variety of foreign countries, not necessarily limited to the 26 countries represented in the Federation. This magazine of condensed information, drawn from all of the educational periodicals of the world, is issued in six bi-monthly numbers and goes with the good will memberships in the Federation. The Federation is making arrangements for its next biennial conference in Rio de Janeiro, Aug. 6 to 11, 1939. All of the Federation's activities are based on the idea that the best way to promote international understanding and good will is through the personal acquaintance of teachers of various countries and their knowledge of the aims and procedures of education in other countries.

The University of Chicago was presented in 1923 with a trust fund for "the promotion of a better understanding on the part of American citizens of the other peoples of the world, thus establishing a basis for improved international relations and a more enlightened world-order." This fund, known as the Norman Wait Harris Memorial Foundation, is administered by a Faculty Committee with Quincy Wright, Professor of International Law, Chairman. This Foundation makes it possible for the University to offer exceptional opportunities for the study of international relations, including an annual institute on some international problem. The fourteenth institute, which extended from August 1 to 20, 1938, dealt with the subject "The Crisis of Democracy." The public lectures were given by William E. Rappard, Doctor of Law, professor at the University of Geneva; director of the Graduate Institute of International Studies at Geneva; member of the Permanent Mandates Commission of the League of Nations; author of *International Relations as Viewed from Geneva* (1925), *Uniting Europe* (1930), *The Geneva Experiment* (1931), *The Government of Switzerland* (1936), and numerous articles in Swiss, French, German, English, and American.

INTERNATIONAL LABOR ORGANIZATION. A permanent diplomatic and administrative association, having in its membership 60 nations of the world, including the United States, which became a member by Presidential proclamation Aug. 20, 1934, under authorization of a resolution of Congress June 19, 1934. The objectives of

the Organization are the improvement of labor conditions within the member countries. The machinery of the Organization consists of an annual *Conference* of representatives of the member nations, and an *International Labor Office* controlled by a *Governing Body*, the latter consisting of 32 persons, 16 of whom represent the governments, 8 the employers, and 8 the workers, meeting quarterly.

The annual Conferences are composed of 4 representatives of each of the member countries: 2 representing the government, 1 the employers, and 1 the workers. These conferences discuss an agenda prepared by the Governing Body and draw up *draft conventions* and *recommendations* affecting industrial conditions which are presented to the competent authorities in each member nation for ratification or adoption. The Constitution of the Organization imposes an obligation to present the draft treaties for consideration by the appropriate and competent authority in each country. When a convention has been ratified by two or more members it becomes an international treaty between the members so ratifying. All standards adopted are minimum. Up to the present time, the Conference has adopted 63 draft conventions. While 5 of these conventions have not yet come into force, the remaining 58 have received 819 ratifications.

The International Labor Office, which is situated at Geneva, Switzerland, acts as a secretariat for the annual conference, preparing material for the use of the conference and following up the work of the conference. It also acts as a bureau for the collection and dissemination of information bearing on the problems of labor and industry. It edits and publishes several periodicals and numerous reports and studies dealing with problems of industry of international interest. Director of Washington office, L. Magnusson, 734 Jackson Place, Washington, D. C.

INTERNATIONAL LAW. See also ARBITRATION, INTERNATIONAL; LAW; LEAGUE OF NATIONS; WORLD COURT.

GENERAL

"What is the Trouble with International Law?" asks P. S. Wild in *Am. Pol. Sc. Rev.*, XXXII, 478; and Chairman Pittman, of the U.S. Senate Foreign Relations Committee, suggests that its indefiniteness be remedied by substituting bilateral treaties between the leading nations. "The Soviet Union has developed a new form of international law . . . and is not merely using (the) bourgeois' form of it, claims J. N. Hazard in *Am. J. of Int. Law*, XXXII, 250-1. So "the National Socialist theory of international law" is basically distinguishable from theories held by the historical or sociological schools. (*Ib.* 704; V. L. Gott.)

International Conferences, Congresses, etc. Of the many held during 1938 may be mentioned:

February 1. Telecommunications Conference opened at Cairo, delegates from 62 countries (*Ib.* 562).

April 28-30. 32d annual meeting, American Society of International Law, Washington (*Ib.* 348).

May 23. Aerial legal experts met in Paris and agreed upon three draft conventions and a protocol.

June 2-8, 24th session, International Labor Office at Geneva (*Ib.* 801).

June 14-24. Whaling Conference in London, protocol and final act signed by delegates from nine countries.

July (first week). Representatives of 15 northern European seaport cities met at Antwerp to discuss plans for a union modeled upon the medieval Hanseatic League; unification of sea transport law was one of the objectives (see *Christian Science Monitor*, July 26).

July 17-25. International Conference of Red Cross in London.

September 19. Opening of 4th International Conference on Private Air Law at Brussels.
 December 9. Opening of 8th Pan-American Conference (q.v.) at Lima, on anniversary of Ayacucho.

PUBLIC

Aliens. History of the doctrine of "Denial of Justice" to aliens is traced in *Am. J. Int. Law*, XXXII, 63 (H. W. Spiegel); the fraudulent (Robinson) passport case (*ib.* 320); protection against Spanish insurgents (*ib.* 324). Nonresident workers may now become Soviet nationals upon approval by the Supreme Parliament. A comprehensive "Law of Aliens, Extradition, and Naturalization" (*ib.* 163 Off. Docs.) was promulgated by President Enriquez of Ecuador on February 16. "The Legal Status of Aliens in Pacific Countries" (ed. by Norman MacKenzie, 1937, rev. *ib.* 651) is an unusually timely report of the Institute of Pacific Relations in view of the present abnormal conditions in those countries. Brazil's (reserved) adhesion to the Montevideo declaration in regard to Nationality was announced on January 10.

Sea and Air Law. "The Admiralty Law of Salvage" is treated in *Cornell L. Quar.*, XXXIII, 229 (G. H. Robinson) and, for comparison, we have "Salvage in Aviation," *Air L. Rev.*, VIII, 200. Under the head of "Air Law," *Current Legal Thought Index* (1937-38) lists nearly three columns of titles of recent articles. A "Selected Bibliography" of the subject appears in *Jnl. of Air Law*, VIII, 675. Check lists of pending legislation in aeronautics and radiography are found in *Air L. Rev.*, VIII, 340, IX, 196, 370. Air law in various countries is discussed in *Jnl. of Air Law*, IX, 201 (Canada, B. V. Richardson), *ib.* 129 (Germany, C. G. Grossman); *ib.* 283 (Venezuela, J. L. Brown). The U.S. Civil Aeronautics Authority (Act of 1938), consisting of five members, assumed control of civil aviation on August 22. One of its first acts was the installation of a private flying unit devoted to the interests of airplane operators outside the scheduled companies. The proposed Uniform State Code is considered in *Air L. Rev.*, VIII, 283, 334, 589; Los Angeles Bar Assn. *Bull.*, XIII, 78. See AERONAUTICS; UNITED STATES under Administration.

Air law in treaties is discussed in *Air L. Rev.*, VIII, 343 (Pan-American and Paris Conventions); *ib.* IX, 281 (Warsaw and Rome Convention). "Treaty Regulation of Radio and Short Wave Broadcasting" is discussed in *Am. J. Int. L.*, XXXII, 719 (H. S. Leroy). Ratifications were exchanged in London, June 19, of the Budapest Air Transit Convention between Great Britain and Hungary. On July 28 an agreement was effected by exchange of notes between the United States and Canada, regarding air navigation and reciprocal certificates of airworthiness and pilotage.

Sovereignty. "The Immunities of Foreign States Engaged in Private Transactions" are treated in *Jnl. of Comp. Leg. & Int. L.*, XX, 1 (S. H. Brookfield); "The Jurisdiction of British Courts over Foreign Sovereigns," in *Jurid. Rev. L.*, 179 (A. B. Keith). A sovereign government may intervene in the courts of another, but it must offer proof of its claims—mere suggestion is insufficient (*Compania Española etc. v. The Nave-mar*, 303 U. S. 68). Nor is the foreign sovereignty, like the local one, exempt from the operation of prescriptive laws (statutes of limitation) (*Guaranty Trust Co. v. U. S.*, 304 U. S. 126, reviewed in *Cal. L. Rev.*, XXVI, 713; *Yale L. J.*, XLVII, 132).

Territory. "International Transfers of Territory in Europe," State Dept. Pubs., No. 1003 (So-

phia Saucerman), relates mostly to the changes resulting from the World War and is now largely ancient history, for many of these "transfers" were themselves changed, or prepared for change, by or in 1938. On March 12 German forces invaded Austria (q.v.) effecting a bloodless conquest of some 32,369 sq. mi. of territory and about 6¾ millions of population. Resulting fiscal obligations, which Germany seeks to evade, are discussed in *Am. J. Int. Law*, XXXII, 421,766 (J. W. Garner). Also see CZECHO-SLOVAKIA.

Boundaries. "Boundaries, Possessions and Conflicts in South America" (Cambridge, 1938), by Gordon Ireland, is criticised (*Am. J. Int. L.*, XXXII, 388) for its pessimism and wholesale imputation of improper motives to others. *Dominican Republic-Haiti*: On March 26, exchanged ratifications of a treaty covering boundary and other questions; two days later the former paid the initial indemnity of \$250,000 for slaughter of Haitians. *Guatemala-Salvador*: On April 27, the congresses of both countries ratified the boundary treaty. *Bolivia-Paraguay*: Following the arbitral treaty of July 21 an award by Presidents of six American republics, including the United States, announced at Buenos Aires on October 10, ended this century-old controversy involving years of fierce warfare. See CHACO DISPUTE. *Ecuador-Peru* (1937 YEAR BOOK, 345): After two years of fruitless negotiation in Washington, Peru closed its office there and an *impasse* appeared to have been reached. But immediately following the Chaco award, President Borrero of Ecuador addressed the heads of five other American States asking their intervention because of Peru's alleged unwillingness to arbitrate. *Iran-Iraq*: The treaty (1937 YEAR BOOK, 345), ratified by the latter's Chamber of Deputies (81 to 10) on March 6, while "protesting students fought police outside," gave the former one-half the Shatt al Arab district and common rights in the Basra seaport. *Britain-United States*: A provisional arrangement was effected on August 10 for joint use, for aviation and communication purposes, of the two coral isles of Canton and Enderbury (qq.v.), which the latter had occupied notwithstanding the former's adverse claim.

Waters. In the World Court case involving diversion of waters from the Meuse (*ib.* 345) the Court rejected both the Netherlands claim and the Belgian counter-claim (*Am. J. Int. L.*, XXXII, 1). "Diversion of Waters Affecting the United States and Canada" is discussed by James Simsarian (*ib.* 488).

Extraterritoriality, of armed forces, is the subject of an article in *Revista di Diritto Internazionale*, XVI, 186 (R. Borin). "Equity Decree Determining Interests in Extraterritorial Land" is discussed in *Yale L. J.*, XLVII, 1400. *Contemporary Manchuria* (II, 8) contains an article on "The Abolition of Extraterritoriality and the Transfer of Administrative Rights in the South Manchurian Railway Zone." Members of a foreign commercial delegation are not entitled to the immunity of diplomatic agents but are subject to the ordinary operation of the laws. *De Fallois v. Piatakoff* (*cour de Cassation*) *Nouvelle Rev. de Droit International Privé*, IV (2), 324.

Treaties. In General. Up to April 1, 67 treaties and conventions had been signed at international conferences of the American States during the present century. A valuable table showing their status appears in *Am. J. Int. L.*, XXXII, 103. Additional volumes of treaty collections continue to appear, e.g. "Treaties and Other International Acts

of the United States," vol. v; "International Legislation," vol. vi, edited by Hunter Miller, who became editor of treaties in place of Historical Adviser to the State Department according to its announcement of August 1. "Treaty-Making Procedure in the British Dominions" is discussed in *Am. J. Int. L.*, XXXII, 467, 473, 486 (Australia); *Canadian Bar Rev.* XVI, 159 (Canada); "Denunciation of Treaty Violators," *Am. J. Int. L.*, XXXII, 526.

Commercial Pacts. On January 2, abrogation of the trade pact of 1932 between Canada and Southern Rhodesia became effective. France and Italy signed a commercial accord on April 14. The 17th treaty under the American Reciprocal Trade Act (1937 YEAR BOOK, 344) was signed by the United States and Czecho-Slovakia on March 8. Modifications due to the latter's loss of territory are expected. The 18th treaty with Ecuador was proclaimed September 23. But the most important of all these, if not of all negotiated between the nations concerned, was that which the United States on the one hand, and Britain, her colonial empire, and Canada on the other, signed in the White House on November 17. In order to effect it, the last-named signatories were obliged to modify their policy of imperial preference. Meanwhile, on June 13, the U.S. Senate ratified the 1937 commercial treaty with Siam (see *Am. J. Int. L.*, XXXII, 796), and on November 15 a commercial treaty between the United States and Greece was signed at Athens. Anglo-American treaties, affecting rights of Indians to carry commodities across the Canadian border, were reviewed in *U.S. v. Garrow*, 71 *Treas. Dec.* 421 (*ib.* 372).

Non-Aggression Pacts. Finland deposited adhesion to the Argentine Anti-War Treaty on February 17; Colombia's ratification (deposited July 12 with reservation) was the 17th to the Inter-American Arbitration Treaty of 1929; Guatemala adhered to the Inter-American Conciliation Convention on May 26. A brief, three-paragraph pact, signed at Paris by the French and German Foreign Ministers on December 6, declared recognition of the territorial *status quo* and the intention of the two nations "to remain in contact on all questions" of mutual interest and "to consult together (relative to) international difficulties."

War. See CHINA; JAPAN; SPAIN. Following are some of the more important current articles on this subject: "The Power to Punish Neutral Volunteers in Enemy Armies," *Am. J. Int. L.*, XXXII, 535 (E. M. Borchard); "Can Civil Wars Be Controlled by International Law?" (*ib.* 542, C. G. Fenwick); "Localization of the Spanish War," *Am. Pol. Sc. Rev.*, XXXII, 237 (F. O. Wilcox).

PRIVATE

Several important works appeared on this branch of the subject in 1938: *Private International Law* (2d ed.), by G. C. Cheshire (*rev. Am. J. of Int. L.*, XXXII, 635); *Private International Law* (in Greek), by Streit and Vallindas (*rev. ib.* 883); "La notion d'équivalence en droit international privé," (Witenberg, *Jnl. du Droit International*, LXIV, 736).

Conflict of Laws. The American Law Institute's "restatement" of this subject was published, with Colorado annotations, in *Rocky Mountain L. Rev.*, X, 210; with Ohio annotations, *U. of Cincinnati L. Rev.*, XII, 410; "Which Law Should Govern?" *Va. L. Rev.*, XXIV, 863 (E. S. Stimson). "*Renvoi*," a doctrine by which a question is referred to that of the forum where laws conflict,

is exhaustively treated in *Harv. L. Rev.*, LI, 1165. (Griswold). Compare *Univ. of Pa. Law Rev.*, LXXXVII, 34.

Contracts. "Intention of the Parties," *Ill. L. Rev.*, XXXII, 899 (W. W. Cook); "The Proper Law of the Contract," *St. John's L. Rev.*, XII, 242; "Choice of Law by Parties," *Jurid. Rev.*, XLIX, 110 (M. Wolff).

Divorce. *Revue de Droit International et de Legislation Comparée*, XIX, 5 (H. C. Gutteridge); *Canadian Bar Rev.*, XVI, 57; *Notre Dame Lawyer*, XIII, 295 (J. E. Boyle); *The Foreign Lawes of Marriage and Divorce*, H. Cohn (1937), *rev. Am. J. of Int. L.*, XXXII, 648.

Domicile. Cordier, "De la notion de domicile en Droit Comparé," *Jnl. de du Droit International*, LXIV, 969; "Domicil and Naturalization," *Canadian Bar Rev.*, XVI, 159, 312.

Property. "Choice of Law for Land Transactions," *Columbia L. Rev.*, XXXVIII, 1049; "Law Governing Title to Intangibles," *N.Y.U. L. Quar. Rev.*, XV, 536 (E. S. Stimson). "The Mexican Situation and the Protection of American Property Abroad," *A.B.A. Jnl.*, XXIV, 813 (F. R. Coudert); "Expropriation of Petroleum Companies in Mexico," *Am. J. of Int. L.*, XXXII, 519; *Tulane L. Rev.*, XII, 534 (H. P. Crawford). It was announced in November that a settlement of the controversy over lands of Americans which the Mexican Government confiscated had been reached, on the basis of \$10,000,000, to be paid in annual installments.

Claims. The Special U.S.-Mexican Claims Commission completed its three years of work on July 19, having allowed, at least in part, 1358 out of 2833 claims. See *Am. J. Int. L.*, XXXII, 457 (L. W. McKernan); "Work of General Claims Commission," *Federal Bar Assn. Jnl.*, III, 83 (B. L. Hunt); "Diplomatic Claims vs. the Soviets," *N.Y. Univ. L. Quar. Rev.*, XV, 507 (A. N. Sack).

Religion. The proposed concordat between Yugoslavia and the Vatican (1937 YEAR BOOK, 345) was abandoned in January, 1938, owing to opposition by the former's Orthodox clergy. The Austrian concordat of 1933 has been virtually repudiated by Germany.

Succession. "The Private International Law of Succession in England, America, and Germany," by Walter Breslau, "is the only work of its kind in English" (*rev. Am. J. of Int. L.*, XXXII, 634); *Donatio Mortis Causa* (gifts effective at death), *Canadian Bar Rev.*, XVI, 143. The Erie Co. (N.Y.) Surrogate's decision in Matter of Penrose, 164 Misc. 388, applying the *jus domicilii* of a pre-deceased legatee, rather than that of the original testatrix, is criticised in *Yale L. J.*, XLVII, 1216.

Torts. "Enforcement of Foreign Actions for Wrongful Death," *Columbia L. Rev.*, XXXVIII, 946.

INTERPARLIAMENTARY UNION. The Thirty-fifth Annual Meeting of the United States of America Group of the Interparliamentary Union was held in Washington, Jan. 17, 1938.

In spite of the uncertain and anxious times, the Union was able to gather together at The Hague, 350 representatives of 25 Parliaments on Aug. 22-27, 1938, to take part in what was a manifestation of peace and friendship. Such success would have been impossible had it not been for the generous hospitality which was offered to the Conference by the Inter-Parliamentary Group of the Netherlands, materially supported by the Queen's Government and by the town councils of the large cities of the Netherlands. The 25 Groups represented at the

Conference were: United States of America, Belgium, Bulgaria, Czecho-Slovakia, Denmark, Dutch East Indies, Egypt, Estonia, Finland, France, Great Britain, Hungary, Ireland, Italy, Japan, Luxembourg, Netherlands, Norway, Poland, Rumania, Spain, Sweden, Switzerland, Turkey, and Yugoslavia. Only a few overseas Groups were not represented, such as Canada, Costa Rica, Iran, and the Philippines. M. Carton de Wiart, speaking on behalf of the Interparliamentary Council, proposed as President of the Conference M. Bongacerts, President of the Inter-Parliamentary Group of the Netherlands.

The General Debate on the Report of the Secretary General took up the two meetings on Monday, August 22. It was remarkable for the large number of suggestions which were made from the platform. The first speaker, M. Makowski (Poland), stressed the danger of ideological conflicts in the international field as well as within the Union itself. M. Saveano (Rumania) then recalled the contribution which his country had made to the policy of peace, of which the Salonika Agreement is one of the most fortunate results. M. Kenez (Hungary) made a definite suggestion to place the problem of minorities on the agenda of the Conference. In the afternoon, M. Necib Ali Kucuka (Turkey) recalled the general lines of the peaceful policy to which the Turkish people remain closely attached. M. Clerigo (Spain) declared his faith and that of his colleagues in the principles for which Republican Spain was fighting. M. Stodola (Czecho-Slovakia) explained the problem with which his country has to deal in the matter of minorities, the peaceful settlement of which should be desired by all, the more so as in 1942 the Inter-Parliamentary Union was invited to hold its conference in Prague. M. Mamdouh (Egypt) then dealt in masterly fashion with the labyrinth of the Palestine question and pointed out the consequences of Jewish Immigration. Mr. Fahy (Ireland) spoke of the situation in Eire after the Anglo-Irish Agreement and expressed the desire that soon the whole of Ireland should be united under one banner. M. Albarda (Netherlands), after having recalled the principles which are the foundations of the Union, formally proposed that the Conference should pronounce upon the resolutions which were adopted in Nice by the Council in regard to the right of nations to self-determination and of the protection of national minorities. M. Makino (Japan) emphasized the love of peace which animated the Japanese people and invited the Union to hold its XXXVth Conference in Tokio in 1940.

A debate in participation in the development of Colonial resources was, to a certain degree, the continuation of the very full discussion which had taken place the previous year in Paris on access to raw materials.

One of the economic questions which gave rise to lively discussion after the World War was the "most-favored-nation" clause. Whereas the United States of America and several overseas countries have adopted it as the very basis of their commercial policy since approximately 1920, most of the countries of the Old Continent are being compelled to provide, if not for exceptions, at least for attenuations, with a view to facilitating the conclusion of regional economic agreements.

International Unification of Legislation on Copyright was a somewhat technical question. However, the prospect of the Inter-Governmental Diplomatic Conference, which is to be held next year in Brussels, with a view to unifying the systems used in

the protection of copyright, lent the problem current interest. Initiative for, and Framing of, Laws gave rise to a debate which remained throughout on a high level. The speeches made were worthy of the Union and of the fundamental principles which are the basis of the parliamentary system. The competent committees, it will be recalled, had drawn up in Nice a "Basis of Discussion" and not a draft resolution. This unusual procedure had been prompted by a desire to present to the Conference an accurate text which would contain a definite and carefully thought-out opinion.

As previously mentioned, M. Albarda (Netherlands) asked the Conference to adopt the resolutions passed in Nice on the protection of national minorities and on the right of nations to self-determination. In accordance with the Statutes, this proposal was referred to the Council, which decided to submit to the Conference the resolution on the right of nations to self-determination. It was understood, however, that no debate could take place on it for lack of time. Thus at the end of Saturday afternoon, just before the closing of the Conference, the assembly adopted this resolution by a large majority, the Italian delegation abstaining from voting.

INTOXICATION. See MEDICAL JURISPRUDENCE.

IOWA. Area and Population. Area, 56,147 square miles; included (1930) water, 561 square miles. Population: Apr. 1, 1930 (census), 2,470,939; July 1, 1937 (Federal estimate), 2,552,000; 1920 (census), 2,404,021. Des Moines, the capital, had (1930), 142,559 inhabitants.

Agriculture. Acreage, production, and value of the chief crops of Iowa, for 1938 and 1937, appear in the accompanying table.

Crop	Year	Acreage	Prod. Bu.	Value
Corn	1938	10,306,000	468,923,000	\$220,394,000
	1937	11,082,000	498,690,000	224,410,000
Oats	1938	5,913,000	198,086,000	33,675,000
	1937	5,913,000	271,998,000	68,000,000
Hay (tame)	1938	3,083,000	4,997,000 ^a	28,483,000
	1937	2,723,000	4,021,000 ^a	32,168,000
Wheat ...	1938	584,000	9,586,000	5,560,000
	1937	817,000	14,649,000	14,942,000
Barley	1938	447,000	12,963,000	4,537,000
	1937	389,000	12,448,000	6,224,000
Potatoes ..	1938	58,000	5,684,000	3,695,000
	1937	60,000	4,920,000	3,641,000
Soy beans .	1938	294,000	5,733,000	4,300,000
	1937	229,000	4,236,000	3,474,000
Rye	1938	101,000	1,566,000	517,000
	1937	207,000	4,036,000	2,744,000

^a Tons.

Mineral Production. Coal exceeded a third of the State's latest-reported yearly output (1936) of native minerals. The coal produced, about 3,690,000 net tons for 1937, approximated the total of 3,960,700 (value \$9,940,000) for 1936. Cement, the next product in value, was shipped to the quantities of 4,598,453 bbl. in 1937 and 4,407,624 in 1936; by value, \$7,046,021 (1937) and \$6,908,225 (1936). Clay products attained, in value, \$2,731,810 for 1936, the latest year for which this total was published. Ranking third among the States of the Union in the output of gypsum, Iowa produced 387,255 short tons in 1937, as against 344,221 tons (value \$3,261,288 as processed) in 1936.

Education. Inhabitants of school age were reckoned, for the academic year 1937-38, at 681,169. Enrollments of pupils in all public schools totaled 519,150. This comprised 380,817 in the elementary group, 136,564 in high schools, and 1769 in ungraded classes. The year's expenditure for public-school education totaled \$44,737,416. Teachers

numbered 25,225; their salaries for the year averaged \$826.

Allotments of State and Federal money were made in Iowa for the construction of additional buildings at the State educational institutions. The Department of Public Instruction carried on a program of improving instruction in speech and in matters of safety.

Charities and Corrections. The 15 State institutions maintaining persons in their care or custody were governed, through individual superintendents, by the Board of Control of State Institutions. They were: The Men's Reformatory (1060 inmates) at Anamosa; State Penitentiary (1461), Fort Madison; Training School for Boys (574), Eldora; Training School for Girls (192), Mitchellville; Women's Reformatory (75), Rockwell City; State Hospitals for mental cases, at Cherokee (1708), Clarinda (1671), Independence (1738), Mount Pleasant (1505); Hospital for Epileptics and School for the Feeble-minded (1434), at Woodward; Institution for Feeble-minded Children (1809), Glenwood; State Sanatorium (391), Oakdale; State Juvenile Home (307), Toledo; Iowa Soldiers' Home (441), Marshalltown; Iowa Soldiers' Orphans' Home (555), Davenport.

Functions of the State in the support of needy classes were performed by the Department of Social Welfare.

Iowa's Board of Social Welfare, established under a statute of 1937, was the State's chief administrative authority as to most of the distributions of public money for the support of needy individuals; it governed old-age assistance, aid to the needy blind, and support, as well as other services, for children lacking adequate family support. Grants under the system of unemployment compensation were administered by a separate board.

Political and Other Events. A strike that started on May 9 in the works of the Maytag Washing Machine Co., at Newton, brought Governor Nels Kraschel into conflict with the N.L.R.B. in July. The occasion of the strike was a reduction in the wages of the employees, who numbered about 1400. Kraschel, acting under a State law, named an arbitration board of three men, who went to Newton (July 11) and sought to settle the difficulty. Men organized by the C.I.O. had previously seized the manufacturing premises and refused to give them up unless the company should agree to arbitrate; an injunction had been issued, forbidding the strikers to trespass on the property. The N.L.R.B. instituted hearings in the case and carried them on without reference to Kraschel's efforts. The Governor ordered troops to the scene (July 19) and kept them there in spite of the company's protest. The troops kept the works closed awaiting the result of arbitration. This action was protested before the N.L.R.B., which sought to have the troops removed. The Governor invoked martial law to order the hearings of the Board in Iowa closed (July 30). On August 3 the strikers' organization voted to accept the cut in wages and return to work under certain stipulations. The rule of martial law ended about 10 days later. The issue as to rival powers, between the Governor and the Federal Board, was not at the time carried to a test in the courts.

The farmers of the State again raised an ample crop of corn, somewhat less than one-fifth of the total for the Nation. The adverse effect of current prices for corn, about 10 cents a bushel below those of the autumn before, was offset by the Federal offer to lend to farmers above the market

price on corn grown in cases that met with the requirements of the Federal agricultural regulations. An effort was made by Governor Philip F. LaFollette of Wisconsin in the spring to establish his newly organized National Progressive party in Iowa, but no widespread results of this effort were reported.

Elections. U.S. Senator Guy M. Gillette (Dem.) was re-elected (November 8) by a narrow margin, defeating L. J. Dickinson (Rep.); the vote (unofficial count) was 412,791 to 410,674. Gillette's election occurred in the face of a Republican sweep. Republicans were elected to seven of the State's nine seats in the House of Representatives; Democrats retained two seats and lost three to Republicans. George A. Wilson (Rep.) was elected Governor, defeating Governor Nels G. Kraschel. Republicans won a heavy majority in what had been an evenly divided lower house of the Legislature; they also elected a substantial majority in the State Senate.

Gillette's re-election was noteworthy not only as occurring in spite of the general Republican victory in the State but also and more particularly because he survived designation by the New Deal for political extinction at the State primary. The suggestion to drop Gillette came in the form of a statement (May 24) from Harry L. Hopkins, head of the WPA, advising Iowan Democrats to nominate, for Senator, Representative Otha D. Wearin, who had presented himself as a rival candidate. Gillette hastened from Washington (May 27) and promptly started in Iowa a campaign, till then apparently unnecessary, for renomination. He proclaimed (June 5) his refusal "to support, as a blindfolded legislator, every piece of legislation presented to the Congress by the bureaus and departments . . . for furthering their bureaucratic interest." He cited his support of a number of New Deal measures, along with a list of others that he had opposed. Governor Kraschel took Gillette's part, denouncing (May 25) Hopkins as having "violated his declared policy of keeping the WPA out of politics." The primary (June 6) resulted in a substantial plurality for Gillette.

Officers. The chief officers of the State, serving in 1938, were: Governor, N. G. Kraschel; Lieutenant-Governor, John K. Valentine; Secretary of State, Robert E. O'Brian; Auditor, C. W. Storms; Treasurer, Leo J. Wegman; Secretary of Agriculture, Thomas L. Curran; Attorney-General, John H. Mitchell.

Judiciary. Supreme Court: Justices, E. G. Albert, John W. Anderson, Maurice F. Donegan, W. H. Hamilton, John W. Kintzinger, Richard F. Mitchell, James M. Parsons, Leon W. Powers, Paul W. Richards.

IOWA, THE STATE UNIVERSITY OF. A coeducational State institution of higher learning in Iowa City, founded in 1847. The enrollment for 1937-38 was 10,249. For the autumn of 1938 the enrollment was 8167, including 1808 correspondence students not also registered in residence. The 1938 summer session registration totaled 4350, including 1561 correspondence students not also registered in residence. There were approximately 464 members on the faculty. The income for 1937-38 was \$5,129,256. The libraries contained 591,584 volumes. President, Eugene Allen Gilmore, A.B., LL.D.

IOWA STATE COLLEGE OF AGRICULTURE AND MECHANIC ARTS. A State institution for the higher education of men and women in Ames, Iowa, founded in 1868. The enrollment for the fall quarter of 1938 was 6029.

The registration for the first half of the 1938 summer session was 1506, and for the second half, 623. The faculty numbered 519 members. The endowment funds amounted to \$824,270 and the income for the year was \$4,280,200. The library contained approximately 268,000 volumes. President, Charles Edwin Friley, LL.D.

IRAN (PERSIA). A kingdom of southwestern Asia. Capital, Tehran (Teheran); sovereign in 1938, Shah Riza Khan Pahlevi, who was crowned Apr. 25, 1926.

Area and Population. With an area of about 628,000 square miles, Iran had a population estimated on Jan. 1, 1936, at 15,000,000. No census has been taken in modern times and the estimate is largely conjectural. Besides the dominant Iranians, there are large minority groups of Turks, Arabs, Kurds, Leks, Baluchis, and Gipsies. About 3,000,000 inhabitants are nomads. Estimated populations of the chief cities are: Tehran and district, 360,000; Tabriz, 219,000; Meshed, 139,000; Shiraz, 119,000; Isfahan, 100,000; Hamadan, 99,000; Resht, 89,000; Kermanshah, 70,000; Kazvin, 60,000; Kerman, 59,000; and Sultanabad, 55,000. The people are mainly Moslems of the Shiite sect.

Education. The number of Iranian schools increased from 612 with 55,000 pupils in 1921 to 4939 with 273,680 pupils in 1937. The bulk of the population, however, remains illiterate. A few foreign schools also were maintained by American and British Protestant groups, French Roman Catholics, Jews, and the Soviet Government. The Iranian Government forbade Iranian children to attend the foreign primary grades. About 900 Iranian youths were studying abroad in 1937, most of them on government scholarships.

Production. Agriculture and livestock raising support the bulk of the population although the oil fields are a leading source of government revenue. Production of the chief crops in 1934-35 was estimated as follows (in metric tons): Wheat, 1,930,700; barley, 761,100; rice, 526,600; tobacco, 22,800; dates, 126,452; raisins, 61,478. The 1936-37 cotton crop was 37,200 metric tons. Gum tragacanth and many fruits are produced. Livestock statistics for 1935 were: Sheep, 16,018,615; cows, 1,039,324; oxen, 1,257,433; goats, 6,821,457; horses, 189,030; mares, 165,498; donkeys, 1,134,548. Wool production in 1936 was estimated at 22,200 metric tons. The output of petroleum by the Iranian properties of the Anglo-Iranian Oil Company rose from 8,330,000 metric tons in 1936 to 10,449,000 in 1937 (see *History*).

Rug making by hand, formerly the chief manufacturing industry, has declined in recent years. Tabriz, Hamadan, Sultanabad, and Kerman are the principal rug-making centers. New industries are being developed, largely under government ownership or subsidization. Cotton textiles, beet sugar, cement, jute products, woollen yarn and cloth, matches and tobacco products are made in the larger cities. Petroleum refining is an important industry; in 1937 the Abadan refinery of the Anglo-Iranian Oil Company treated nearly 9,500,000 tons. Since 1935 the Soviet Union export agency has constructed for the Iranian Government a large food combine near Tehran, a flour mill, macaroni factory, numerous grain elevators, and several rice-cleaning and wool-washing establishments. There are fairly extensive deposits of iron, coal, copper, lead, manganese, nickel, borax, cobalt, iron oxide, and rock salt but they remain largely unexploited.

Foreign Trade. State-owned corporations handle the major share of both imports and exports.

For the economic year ended June 21, 1937, general imports were valued at 47,300,000 old U.S. gold dollars (\$36,500,000 in 1935-36) and general exports at \$95,000,000 (\$79,100,000 in 1935-36). Merchandise imports in the calendar year 1937 totaled 1,258,800,000 rials (1,508,760,000 in 1938) and exports 2,582,040,000 rials (2,460,000,000 in 1938). Petroleum accounted for nearly three-fourths of the value of all exports; next in value were carpets and rugs, and fruits. Cotton piece goods, machinery and tools, sugar, vehicles, and tea are the principal imports. Trade is mainly with the Soviet Union, the United Kingdom, United States, British India, Germany, and Japan.

Finance. Budget estimates for the fiscal years ending March 21, excluding royalties from the Anglo-Iranian Oil Company, are shown in the accompanying table. Closed accounts of the government were not published.

IRANIAN BUDGETS

Year	Ordinary budget		Supplementary expenditures
	Receipts (1,000 rials)	Expenditures (1,000 rials)	
1934-35	621,413	621,308	130,000
1935-36	751,123	750,828	178,835
1936-37	1,000,017	1,000,008	396,400
1937-38	1,250,010	1,248,032	320,000
1938-39	1,528,893	1,527,018	330,000

Royalties and taxes paid by the Anglo-Iranian Oil Co. totaled £2,580,206 in 1936 and increased by nearly £1,000,000 in 1937. The funded foreign debt on May 8, 1937, was £1,009,342. The unfunded foreign debt on Dec. 31, 1935, was about £2,000,000 and the internal floating debt was 6,661,428 rials. The government assumed control of foreign exchange transactions Mar. 1, 1936, fixing the buying rate at 80 rials to the pound sterling and the selling rate at 80.50 rials.

Transportation. The Trans-Iranian Railway from Bandar Shapur on the Persian Gulf to Bandar Shah on the Caspian Sea was completed on Aug. 26, 1938, the northern and southern sections meeting at Safid Cheshmeh, about 20 miles south of Tehran. The line has a length of 866 miles and cost about £30,000,000. This addition brought the total railway mileage to 981 miles. Construction of a 70-mile branch of the Trans-Iranian Railway from Semnan to Garmsar (Quishlaq) was begun Mar. 15, 1938, to transport iron ore from Semnan to a blast furnace under construction near Tehran. It was announced that the government was planning three important additional branch lines, connecting Tehran with Tabriz, Meshed, and Yezd. A contract for the improvement of the port works at Bandar Shahpur was let to a German firm late in 1937.

The mileage of Iranian roads and highways in 1937 was 12,278 and the number of automobiles 9585. On May 17, 1938, the Shah opened the Kandawan tunnel on the motor road from Tehran to the Caspian port of Now-Shahr. The 6177-foot tunnel was cut through the Elbruz Mountains at an altitude of 8858 feet in three years and cost about \$1,515,000. The number of vessels cleared from Iranian ports in 1935-36 was 6572.

Government. Executive power is exercised by the Shah, acting through a cabinet appointed by and responsible to him. There is a parliament (Medjliss) of 136 members, elected for two years, which gives legislative sanction to measures proposed by the Shah and his cabinet. Premier in 1938, Mahmoud Djam, appointed Dec. 4, 1935.

History. The Shah pushed ahead with his program of westernization in 1938. In addition to the

completion of the Trans-Iranian Railway and important highway projects (see *Transportation*), the government made further progress in the development of new industries. An order for a complete iron-smelting plant to cost 30,000,000 reichsmarks was placed in Germany. The plant, to be erected near Tehran, was to consist of two blast furnaces, each having a daily production capacity of 130 metric tons of pig iron, a coking plant, and open hearth steel plant, a rolling mill, power plants, and a foundry. The leading role played by German companies in the Iranian industrialization and public-works program and arrangements made by the Deutsche Lufthansa to open an air service from Baghdad to Kabul via Tehran were reported to have aroused Soviet anxiety. A contract for university buildings in Tehran and docks in the Shatt al Arab was granted in October to a subsidiary of the Co-operative Federation of Stockholm. The projects, costing about \$1,500,000, were to be paid for in Iranian produce which the Co-operative Federation was to market in Sweden and adjacent countries.

Lord Cadman, chairman of the Anglo-Iranian Oil Co., reported to the stockholders on June 20, 1938, that the new Gach Qaraghuli (Gach Saran) oil field had been brought into large production and promised to exceed in richness the two fields previously developed. Petroleum was also discovered in White Oil Springs (Naft-i-Safid) structure and its potentialities were being tested in 1938. It was estimated that these new discoveries would approximately double the oil reserves available to British defense forces and industries.

The 1937 boundary treaty with Iraq was ratified in 1938 by the Iraqi Parliament. See *IRAQ* under *History*. The Iranian Government again broke off diplomatic relations with France on Dec. 30, 1938, because newspaper references to the annual Paris cat show were considered as slurs against the Shah. The pronunciation of the words "shah" and "cat" is the same in French. The French Government immediately took steps to assure the Shah that no reference to him was intended (see 1937 *YEAR BOOK*, p. 349 for a similar incident in 1937).

IRAQ (IRAK). An Arab kingdom occupying the basin of the Tigris and Euphrates Rivers in Mesopotamia. Capital, Baghdad. Ruler in 1938, King Ghazi I, who succeeded to the throne Sept. 8, 1933.

Area and Population. With an area of 116,600 square miles, Iraq had a population estimated on Jan. 1, 1937, at 3,600,000 (3,561,000 at the census of October, 1934). Estimates for 1932 showed 2,642,366 Moslems (1,029,833 Sunnis and 1,612,533 Shias), 110,885 Christians, and 72,783 Jews. The chief cities, with their estimated populations, are: Baghdad, 300,000; Mosul, 90,000; Basra, the chief seaport, 50,000. The latest available educational statistics show 11 kindergartens, with 888 pupils, 616 State primary schools, with 73,832 pupils; 79 private primary schools, with 20,728 pupils; 34 intermediate schools, with 6613 pupils; 8 secondary schools, with 1141 students; various special schools and colleges of medicine, law, and military and teachers' training.

Production. Agriculture, stock raising, and petroleum mining are the chief occupations and dates, wool, and petroleum are the principal exports. Dates exported in the fiscal year 1935-36 totaled 160,572 tons, valued at 930,086 dinars (1 dinar equals 1 pound sterling). Petroleum production rose from 1,031,000 metric tons in 1934, when the pipeline from the Kirkuk oil fields to the Medi-

terranean at Haifa, Palestine, and Tripoli, Syria, was opened, to 4,258,000 metric tons in 1937 and about 4,372,000 tons in 1938. The 1936 wool clip was about 7200 metric tons. Yields of other crops in 1937 were (in metric tons): Wheat, 580,000; barley, 570,000; rice, 150,000; tobacco (1936), 5500; cotton-seed, 10,600; cotton, 4500.

Foreign Trade. Merchandise imports in the calendar year 1937 were valued at 9,565,970 dinars (7,177,110 in 1936) and merchandise exports, excluding petroleum, at 5,568,734 dinars (3,483,649 in 1936). Crude oil exported via the Kirkuk-Haifa-Tripoli pipelines in 1937 totaled about 4,100,000 metric tons (3,961,579 in 1936). The 1937 imports from the United Kingdom were valued at 2,825,787 dinars and exports to the United Kingdom at 1,547,508 dinars. The budget for 1938-39 estimated ordinary receipts at 5,665,490 dinars and expenditures at 5,469,813 dinars.

Finance. Budget operations for the fiscal year ended Mar. 31, 1938, showed a deficit of 310,379 dinars. Receipts totaled 6,854,461 dinars (excluding petroleum royalties but including loan receipts of 730,731 dinars) and expenditures were 7,164,843 dinars (including capital works of 2,123,389 dinars). The deficit in the state treasury on Mar. 31, 1938, was 167,050 dinars. There was no public debt other than the £1,000,000 public-works loan floated in London on July 28, 1937.

Transportation. On Mar. 31, 1937, Iraq had 752 miles of railway lines, excluding 176 miles of sidings. The government line from Baiji, Iraq, to Tel Kotchek, Syria, which was nearly completed during 1938, gave the Iraqi railway network direct connections with Europe via Syria and Turkey. Highways extended 3411 miles in 1937 and the number of automobiles was 4771. The British, French, and Netherland airlines between Europe and the Far East all pass through Iraq. On Mar. 25, 1938, the new airport at Basra, considered the best between London and Singapore, was officially opened by King Ghazi. At that time 18 airliners were calling at Basra weekly in the regular services of the three major air systems. Work proceeded during the year on two steel bridges across the Tigris River at Baghdad.

Government. Iraq was established as a semi-independent kingdom by the treaty of Oct. 10, 1922, with Great Britain, which at the same time assumed a mandate for Iraq on behalf of the League of Nations. On June 30, 1930, a treaty of alliance was concluded with Great Britain, under the terms of which the mandate was abolished and Iraq obtained full independence. On Oct. 3, 1932, it was admitted to membership in the League of Nations. The Constitution of Mar. 21, 1924, provided for a limited monarchy, with the King exercising executive powers through a cabinet responsible to Parliament. Parliament consists of a Lower House of 108 elected deputies and a Senate of 20 members, nominated by the King.

History. The non-party government established by Senator Jamil Midfai on Aug. 17, 1937, following the assassination of the dictator, Gen. Al Fariq Bakr Sidky Pasha (see 1937 *YEAR BOOK*, p. 350), ruled without arousing serious opposition on internal issues during 1938. Work was pushed on the existing public-works program and a new capital works plan involving the expenditure of £8,000,000 during the ensuing five years was drawn up by the Minister of Finance. Legislation was passed establishing government regulation of both foreign and local banks for the first time. A further increase in petroleum output was insured with the

start of production in the Khanaqin region. Further exploration work was continued by the British Oil Development Co. on the west bank of the Tigris.

The Basrah Petroleum Company, representing British, French, and American interests, obtained an oil concession on December 1. On December 25 a new Cabinet was formed by Gen. Nuri es-Said. One of its first acts was to authorize the return of various persons exiled by the preceding ministries.

The Iraqi boundary treaty with Iran, signed in Tehran in 1937, was ratified by the Iraqi Chamber of Deputies, 81 to 10, on Mar. 6, 1938, despite strikes and violent protest demonstrations in Baghdad by student nationalists. Seventeen Deputies abstained from voting. The treaty made Basra a joint harbor for Iran and Iraq and fixed the frontier in the center of the channel of the Shatt al Arab, the river formed by the junction of the Tigris and Euphrates.

Despite the disturbing influence upon the Iraqi Moslems of the Arab-Jewish civil war in Palestine (q.v.), relations between the Iraq and British Governments remained cordial. Prime Minister Chamberlain in his speech of Mar. 24, 1938, before the House of Commons, reaffirmed the British pledge to defend Iraq in the event of aggression by a third power. While continuing its diplomatic and moral support of the Arab cause in Palestine, the Iraq Government showed increasing concern lest the Palestine conflict spread to neighboring countries. On July 23 it advanced a new proposal for settlement of the Palestine controversy on behalf of itself and the Governments of Saudi Arabia and Yemen. Iraq officials in both Baghdad and London continued negotiations on the Palestine issue with British representatives during the remainder of the year (see PALESTINE under *History*). Meanwhile, Moslem religious leaders in Baghdad had on August 9 proclaimed a Jihad, or holy war, on behalf of the Palestine Arabs. The call was reported to have led thousands of Iraqi youths to enlist for armed service in Palestine.

An unconditional most-favored-nation treaty of friendship, commerce, and navigation between Iraq and the United States was signed at Baghdad, Dec. 3, 1938.

IRELAND (EIRE). A self-governing unit of the British Commonwealth of Nations comprising 26 counties of southern Ireland. Capital, Dublin. Under the Anglo-Irish treaty of Dec. 6, 1921, the country was officially designated the Irish Free State. By virtue of the new Irish Constitution of 1937, the name was officially changed to "Ireland" in the English language and to "Eire" in the Irish language, effective Dec. 29, 1937. As used in the official sense in this article, Ireland excludes the six counties comprising Northern Ireland (q.v.).

Area and Population. The area is 26,601 square miles and the population was estimated at 2,937,000 on June 30, 1938, as compared with 2,965,854 at the 1936 census. The decline in population was attributed mainly to emigration to the United Kingdom. Living births in 1937 numbered 56,564 (19.2 per 1000); deaths, 45,115 (15.3 per 1000); marriages, 14,896 (5.1 per 1000). Overseas emigration declined from 20,802 in 1929 to 1228 in 1937. In 1936, 1523 returned to Ireland from overseas. Populations of the chief cities in 1936 were: Dublin (Baile Atha Cliath) with suburbs, 467,691; Cork, 80,713; Limerick, 41,395; Waterford, 27,962.

Religion and Education. School attendance is compulsory and there is practically no illiteracy. School attendance in 1936-37 was: Elementary,

481,599; secondary (1937-38), 36,092; university, 5185. The institutions of higher education are Trinity College at Dublin and the University of Ireland, with constituent colleges at Dublin, Cork, and Galway. According to the 1926 religious census, there were 2,751,269 Roman Catholics, 164,215 Episcopalians, 32,425 Presbyterians, 10,663 Methodists, and 13,416 others.

Production. Agriculture, stock raising, manufacturing, and fishing are the principal occupations. There were 3,679,000 acres of crops in 1937, 7,950,000 acres of grass and grazing, and 252,000 acres of forests. The value of agricultural production in 1936-37 was £47,318,000. Yields of the chief crops in 1937 were: Wheat, 6,879,000 bu.; rye, 54,000 bu.; barley, 5,403,000 bu.; oats, 39,494,000 bu.; potatoes, 99,440,000 bu.; turnips, 2,736,000 long tons; sugar beets, 583,000 long tons; beet sugar (1937-38), 90,000 long tons; mangels, 1,661,000 long tons; hay, 4,777,000 long tons; flax, 1,859,000 lb. In 1937 there were 3,955,000 cattle, 2,999,000 sheep, 934,000 swine, 429,000 horses, 160,000 mules and asses. The sea fisheries yielded 19,724,208 lb. of fish, valued at £124,372,000 in 1937; value of shellfish, £24,469,000. The net value of industrial products in 1936 was £33,790,776. Production of electric power in the year ending Mar. 31, 1937, was 218,758,000 kilowatt-hours; malt liquor, 1,724,000 bbl.; distilled spirits, 1,267,000 proof gal.

Foreign Trade. General merchandise imports in 1937 were valued at \$218,161,000 (\$198,402,000 in 1936) and exports of Irish products were valued at \$109,961,000 (\$109,207,000 in 1936). The leading 1937 imports in order of value were wheat, coal, iron and steel, corn, tea, lumber and timber, and paper and cardboard. The principal 1937 exports were: Cattle, £37,077,000; porter, beer, and ale, £15,603,000; bacon and ham, \$8,424,000; butter, \$7,858,000; horses, \$7,113,000. In 1937 the United Kingdom supplied 48.7 per cent of the general imports (51.9 in 1936); the United States, 6.6 per cent; Germany, 3.2 per cent. Of the exports, the United Kingdom took 81.2 per cent in 1937 (81.4 in 1936); Northern Ireland, 9.4 per cent; Germany, 3.7 per cent.

Finance. For the fiscal year ending Mar. 31, 1938, actual revenues were £31,623,519 and expenditures £33,346,411, leaving £1,722,892 to be raised by borrowing. Budget estimates for 1938-39 balanced at £37,525,000; the receipts included the sum of £5,550,000 "to be found by borrowing or otherwise." The funded and unfunded public debt was placed at £37,184,996 on Mar. 31, 1938. The Irish pound is convertible into the pound sterling. The average exchange value was \$4.9440 in 1937 and \$4.8894 in 1938.

Transportation. The Irish railway system, including extensions into Northern Ireland, had 2880 miles of line and siding in 1937. During that year it carried 21,168,466 passengers and 3,532,840 tons of freight. Motor highways extended 5199 miles on Dec. 31, 1937. Airlines linked Dublin with the Isle of Man, Bristol, Liverpool, and London. A newly developed airport at Foynes on the River Shannon was to become the eastern base of a transatlantic air-service scheduled for 1939. Navigable rivers and canals extended 560 miles. During 1937, 12,481 vessels of 9,547,000 net registered tons entered Ireland's ports in the foreign trade.

Government. The Constitution proclaimed Dec. 29, 1937, changed the name of the Irish Free State to Ireland (Eire in Gaelic) and declared Ireland a sovereign, independent, democratic state. It provided for a Parliament (Oireachtas) composed of

a President elected for seven years by direct suffrage, a House of Representatives (Dail Eireann) of 138 members elected by adult suffrage, and a Senate (Seanad Eireann) of 60 members of whom 11 are appointed by the Prime Minister, 6 elected by the universities, and the remainder elected from five panels of candidates chosen to represent the following vocational groups: (1) National language and culture, literature, art, education, etc., (2) agriculture and allied interests and fisheries, (3) labor, organized and unorganized, (4) industry and commerce, and (5) public administration and social services.

Executive power is vested in the government (cabinet) responsible to the Dail Eireann and headed by a Prime Minister appointed by the President on nomination of the Dail Eireann. The President also appoints the other members of the cabinet on nomination of the Prime Minister and with the previous approval of the Dail. He summons and dissolves the Dail Eireann on the advice of the Prime Minister, signs and promulgates laws, appoints judges, and exercises supreme command of the defense forces in accordance with law. The President is empowered to refer certain bills to the Supreme Court to determine their constitutionality or, on petition of a proportion of the members of Parliament, submit the bills to popular referendum.

The Constitution guarantees free primary education, free speech and assembly, the right to form associations and unions, and freedom of conscience and religion subject to public order and morality. It recognizes the special position of the Roman Catholic Church, but guarantees other religions against discriminatory disability, forbids divorce, and authorizes the state to censor the press and other organs of public opinion. For text of Constitution, see *International Conciliation*, October, 1938. For constitutional developments in 1938, see *History*.

HISTORY

The Anglo-Irish Accord. The negotiations for a settlement of long-standing Anglo-Irish issues, which were inaugurated in 1937 by a series of discussions between Prime Minister Eamon de Valera and the British Secretary of State for Dominions, Malcolm MacDonald (see 1937 YEAR BOOK, p. 353), were brought to a successful conclusion in 1938 on all except one issue—that of partition. Accompanied by several cabinet ministers, de Valera arrived in London on Jan. 15, 1938, for the opening of formal negotiations. He returned to Dublin on January 19 after four days of discussion, leaving the negotiations to be carried on by technical experts, but visited the British capital with his colleagues for further discussions late in February and again in March and April.

These interchanges paved the way for the signing on April 25 of three agreements that put an entirely new face upon Anglo-Irish relations. The first of these provided for the transfer to the Government of Ireland of British Admiralty property and rights at Berehaven, Ireland, and the harbor defenses at Berehaven, Cobh, and Lough Swilly. The agreement replaced provisions of the treaty of 1921 under which the Irish Free State Government gave the British Navy harbor and other facilities for the naval defense of Ireland.

Under the second agreement the Irish Government agreed to pay Britain £10,000,000 in final settlement of British claims for land annuities with a capitalized value of more than £100,000,000, upon which the de Valera Government had suspended

payment in 1932. The duties on Irish products imposed by Great Britain in retaliation for the withholding of the land annuities and the counter-duties subsequently imposed by the Irish Government on imports from Britain were abolished.

The third treaty was a comprehensive trade agreement under which Britain agreed to admit Irish goods free of customs duties other than revenue duties, with the exception of agricultural products, on which quantitative limits were fixed. The Government of Ireland in its turn bound on its free list United Kingdom goods then entering free of duty, agreed to remove or reduce customs duties on a list of other products, and undertook to secure a review by the Prices Commission of Irish protective tariffs with a view to their reduction to permit British producers and manufacturers opportunity for reasonable competition in the Irish market. Ireland agreed to preserve the existing preferences allowed British goods and to maintain the preference in any adjustment of tariff rates. It undertook to abolish license control of coal imports, to permit the continued entrance of British coal free of duty, and to impose a duty of not less than three shillings a ton on foreign coal. A provision designed to promote the orderly marketing of Irish agricultural and fishery products in the United Kingdom was included in the accord.

These agreements were ratified by the Dail Eireann on April 29 with but one dissenting vote. The British House of Commons endorsed them on May 5 and a bill carrying out their provisions received the King's assent on May 17. At midnight on May 18 the British and Irish retaliatory duties imposed in 1932 were removed, bringing to an end the long trade war resulting from the land annuities controversy. The £10,000,000 due to Britain under the annuities settlement was raised by the Irish Government on June 25 by means of a 20-year 3½ per cent loan issued at par. It was paid in final settlement of all financial claims between the two governments, except for the annual payment of £250,000 annually by Ireland as compensation for damage to British property under the 1925 agreement. In accordance with arrangements made on May 29, the fortifications at Spike Island guarding Cobh (Queenstown) harbor were turned over to Irish troops by the British garrison on July 11 in a ceremony marked by cordiality on both sides. The Union Jack was hauled down for the first time since the British occupied the island in 1790. Within the next few months the British garrisons were withdrawn from Berehaven and Lough Swilly.

In the debate on the agreements in the British House of Commons on May 5, Prime Minister Chamberlain said that he had made large concessions "in order to gain Ireland's friendship." The British withdrawal from Ireland's key harbor defenses was carried out after Prime Minister de Valera had given his pledge that no foreign power would be permitted to use Irish soil as a base of attack upon Great Britain and that Ireland would assume the full burden of her self defense. The British were also eager to insure Ireland's friendship in order that they might obtain food supplies from Ireland if cut off from overseas sources of supply by a European war.

In accordance with de Valera's military engagements, Ireland during the European military crisis of September over Czecho-Slovakia strengthened the harbor defenses at Cork with huge guns brought from England and installed with the aid of British engineers and artillerymen. Anti-aircraft guns were

placed to protect the transatlantic air base at Foynes and the principal electric plants throughout the country. At the same time a drive for new army recruits was started.

The Partition Issue. With the entry into force of the Anglo-Irish agreements, the partition issue remained the only serious source of dissension between the two governments. Since assuming power in 1931, Prime Minister de Valera had made the eventual subordination of Northern Ireland to the Dublin Government an essential condition of Anglo-Irish reconciliation. He brought forward the issue during his negotiations in London with Prime Minister Chamberlain and other British officials, but the latter took the position that no settlement of the partition question was possible except with the consent of both Ireland and Northern Ireland.

On January 24, de Valera publicly proposed a settlement along the lines suggested by David Lloyd George in 1921, leaving to the Belfast Parliament "its present area of jurisdiction and present powers as a local parliament, giving to all Ireland a parliament (at Dublin) constituted on the basis of proportional representation, the reserved powers as at present retained by the British Imperial Parliament." But this and all other proposals for Irish unity at the expense of Ulster's independence and unity with Britain were rejected by the Unionist majority in Northern Ireland, where the Craigavon Government's stand was reinforced by new parliamentary elections. See IRELAND, NORTHERN, under *History*.

Britain's intervention in the Czecho-Slovak crisis in September afforded de Valera an opportunity to demand of the British Government that a plebiscite be held in the various counties of Northern Ireland to determine whether they wished to remain separated from the South. The Prime Minister's adherents in both Northern and Southern Ireland contended that such a plebiscite would bring four out of the six counties of Northern Ireland under Dublin's control.

Agitation over this issue developed in intensity toward the close of the year. On November 23, de Valera declared before a Fianna Fail (government party) convention at Dublin that Britain was interfering in the affairs of Ireland by keeping the North and South apart and that if Britain "kept out" natural laws would promote Irish unity. The Prime Minister disclaimed any desire to settle the issue by force, but toward the end of November a series of terroristic attacks took place upon British customs huts along the Northern Ireland border. Many of them were blown up at night. Evidence connecting these outrages with the long quiescent Irish Republican Army was produced when two members of that organization were killed by a blast of explosives secreted in a Donegal County cottage.

Internal Politics. Meanwhile, the settlements reached with Britain on other issues had served to consolidate Prime Minister de Valera's political power in Ireland. In the July, 1937, elections to the Dail Eireann, the Prime Minister's Fianna Fail party captured 68 seats, former President William T. Cosgrave's United Ireland party 48, the Labor party 13, and other groups 8 seats out of the 138 in the Dail. The Labor party thus held the balance of power between the government and the opposition. Taking advantage of his newly won popularity, de Valera called a new general election for June 17 following a minor defeat in the Dail. The final returns gave him an unexpectedly large majority of 77 seats as against 45 for the United Ire-

land party, 9 for Labor, and 7 for Independent candidates. The new Dail Eireann convened on June 30 and re-elected de Valera Prime Minister by a vote of 75 to 45, with Labor members abstaining.

Elections to the vocational Senate under the new Constitution were held on March 29. Although the Prime Minister had invited the respective vocational groups to submit candidates, most of these nominees were badly defeated by candidates of the regular political parties. The result was that of the 49 Senators elected, 26 were affiliated with the Fianna Fail party and 23 with the United Ireland (opposition) party. Prime Minister de Valera completed the formation of the upper chamber on August 22 by nominating 11 additional Senators from among his adherents, thus giving him a substantial majority in the Senate as well as in the Dail.

Preparations for the election of the first President of Ireland under the new Constitution were ended when all parties agreed to the nomination of Dr. Douglas Hyde, a 78-year-old Protestant, who for many years had led the movement for revival of the Gaelic tongue as Ireland's national language. Dr. Hyde was declared elected on May 4 at a brief ceremony. On June 1 he made his constitutional declaration of office before members of the Dail Eireann, the Senate, and the judiciary, a ceremony marked by the extension of amnesty to the only remaining political prisoners in Ireland—six Irish Republicans. Following de Valera's election as Prime Minister by the Dail on June 30, the Dail was adjourned for one hour while the Prime Minister went to the presidential residence in Phoenix Park to have his election constitutionally confirmed by Dr. Hyde.

IRELAND, NORTHERN. A constituent part of the United Kingdom, comprising six counties and two parliamentary boroughs in northern Ireland. Capital, Belfast.

Area and Population. The area is 5237 square miles and the population at the census of Feb. 28, 1937, was 1,279,753 (1,285,000 estimated in June, 1938). Living births in 1937 numbered 25,416 (19.8 per 1000); deaths, 19,284 (15.1 per 1000); marriages, 8501 (6.6 per 1000). The 1937 census population of Belfast was 438,112; of Londonderry, 47,804. The 1926 religious census showed 420,428 Roman Catholics, 393,374 Presbyterians, 338,724 Protestant Episcopalians, 49,554 Methodists, and 54,481 professing other faiths. Public elementary schools numbered 1727 with 194,347 pupils on Dec. 31, 1937; preparatory, intermediate, and secondary schools, 73, with 13,683 pupils in 1937-38; centers of technical instruction, 125, with 22,368 students in 1936-37. Queen's University at Belfast had 1592 students in 1937-38.

Production. Agriculture and manufacturing are the chief occupations. Production of the chief crops in 1937 was (in tons): Oats, 242,758; potatoes, 867,979; turnips, 482,307; flax, 4187; hay, 833,396. Livestock in 1937 included 730,109 cattle, 570,058 swine, 828,851 sheep, 35,522 goats, 80,951 horses, 7444 asses, and 10,182,267 poultry. Herring fishing is an important summer industry. Mines and quarries employ about 2000 persons. Belfast is a leading manufacturing center. In 1938 there were about 875,000 linen spindles and approximately 70,000 persons were employed in the industry. The Belfast shipyards can build more than 200,000 tons of shipping a year; they employ about 15,000 persons. Ropes, twine, tobacco products, biscuits, hosiery, underwear, soap, distillery products, pre-

serves, embroidery, canned goods, textile machinery, and furniture are other leading manufactures. Trade statistics are included under those of Great Britain (q.v.).

Finance. Budget estimates for the fiscal year ended Mar. 31, 1939, placed revenues at £15,922,000 and expenditures at £14,662,000, leaving a provisional surplus of £1,260,000, of which £1,000,000 was to be allocated to the British Government as a contribution toward the cost of Imperial services. Actual revenue for 1937-38 was £16,082,000 (£14,222,000 in 1936-37) and expenditure was £15,933,000 (£14,167,000 in 1936-37).

Transportation. In 1937 there were 754 miles of railway line, 12,996 miles of roads, 180 miles of canals besides various navigable rivers and lakes, and air and shipping lines linking Belfast and Londonderry with the principal cities of Great Britain. Belfast, Londonderry, Newry, Larne, and Coleraine are the principal seaports.

Government. Although an integral part of the United Kingdom and represented by 13 members in the British House of Commons, Northern Ireland exercises local autonomy by means of a Parliament and a responsible cabinet. Parliament consists of a Senate of 24 elected and 2 ex officio members and a House of Commons of 52 elected members. Governor in 1938, the Duke of Abercorn, reappointed for a third six-year term in July, 1934. Prime Minister, Viscount Craigavon of Stormont, who had held office continuously since the Northern Ireland Parliament met for the first time in June, 1921.

History. The determination of the Protestant Unionist majority in Northern Ireland to resist demands for the union of Ulster with southern Ireland under the jurisdiction of the Parliament at Dublin was strengthened by developments in 1938. The demands for termination of the partition of Ireland came from both the Catholic Nationalist minority in Northern Ireland and from the de Valera Government in the south (see 1937 YEAR BOOK, p. 354).

When Prime Minister de Valera raised the partition question in his negotiations with the British Government early in 1938 (see IRELAND under *History*), Prime Minister Craigavon on January 13 dissolved the Northern Ireland Parliament and called a general election for February 9 "to allow the people to pronounce upon the (partition) issue for themselves." By making de Valera's "impudent challenge" the major issue, Craigavon and his party overwhelmed both the dissident Protestant parties (Independent Unionists and Labor), who fought the election on social and economic issues such as unemployment, old-age pensions, and financial relations with Great Britain, and the Nationalists. Sporadic disorders marked the campaign. The final returns gave the Unionists 39 seats in Parliament as against 13 held by all opposition groups. The standing of the parties in the new Parliament, with the previous standing in parentheses, was: Unionists, 39 (37); Nationalists, 8 (9); Independent Unionists, 2 (2); Labor, 1 (2); other parties, 2 (2).

Lord Craigavon declared that the election settled "definitely and finally" that Northern Ireland would not exchange its unity with Great Britain for unity with the rest of Ireland. Prime Minister de Valera replied that "union will be the first item on the agenda in every conference between Eire (Ireland) and Great Britain until that item has been wiped off by the restoration of Ireland's national unity."

During the course of the Anglo-Irish negotia-

tions, Lord Craigavon conferred with Prime Minister Chamberlain in London in the middle of March and secured economic and financial concessions for Northern Ireland, which he announced on April 26. These concessions included a larger share of the British rearmament program to relieve Northern Ireland unemployment, consideration for Ulster's manufactures in tariff readjustments between Britain and Ireland, permission to buy British coal at the same price offered Ireland, non-discrimination between British and Northern Ireland farmers in agricultural subsidies, and an equitable division of the costs of social services in Northern Ireland between the Ulster and British governments. On the other hand the removal of British duties on exports from Southern Ireland adversely affected Ulster cattle raisers and exporters.

The agitation against partition was intensified after the Anglo-Irish settlement of other outstanding issues. The anniversary of the Battle of the Boyne brought the usual Catholic-Protestant clashes in Ulster. There were repeated terroristic bombings of Ulster customs huts and other buildings. On July 25 a woman was sentenced to a year's imprisonment in Belfast for possessing "Irish Republican Army documents" showing the strength and disposition of Belfast police units and arms storage places. The European crisis of September over Czechoslovakia, which led the Northern Ireland Government hurriedly to order 500,000 gas masks in Britain, was followed by Nationalist demands for self-determination for the Catholic minority in Ulster. This demand, repeated on October 13 in the Northern Ireland Parliament by a Nationalist member, was bluntly rejected by Lord Craigavon.

In an interview published in a London newspaper October 23, the Ulster Prime Minister asserted that any attempt to carry into effect de Valera's proposal for an all-Ireland Parliament under which Ulster would enjoy autonomy in local affairs would lead to civil war. He declared that Ulster placed no faith whatever in de Valera's promises and guarantees and that under no circumstances would it consider union with the rest of Ireland. The British Government gave assurances during the year that it would stand upon its previous position that any settlement of the partition issue must be reached only through the voluntary consent of the parties involved.

IRISH FREE STATE. See IRELAND (EIRE).

IRON AND STEEL. The world production of steel ingots and castings in 1938, according to the annual review of the publication *Steel*, was 107,523,000 gross tons, against 133,616,000 in 1937, a decrease of 19.5 per cent. For pig iron and ferroalloys, the estimated output for 1938 was 80,802,000 gross tons, compared with 102,046,000 in 1937, a decrease of 20.8 per cent. Production of both steel and pig iron was lower than in 1936, but higher than in any intervening year between 1936 and 1929. The decline in American production in relation to that of any other country is the largest of all. For steel it amounts to 43.5 per cent in comparison with the 1937 output; for pig iron 47.5 per cent. As a result, the share of the United States in world steel production which was 38.6 per cent in 1937, dropped in 1938 to 27.1; as regards pig iron, the United States produced 24.2 per cent of the world's total, against 35.4 in 1937. In the output of pig iron by countries, United States is still first, followed by Germany, Russia, Great Britain, France, Belgium, and Japan. The world production of pig iron, ingots, and castings, in

thousands of gross tons as reported in the annual review of *Iron Age*, is shown in the accompanying table.

WORLD IRON AND STEEL PRODUCTION
[Thousands of gross tons]

	Pig-iron *		Ingots & castings	
	1938	1937	1938	1937
United States	19,341	37,127	27,996	50,569
Germany ^b	18,200	16,026	22,600	20,161
U.S.S.R. (Russia) ..	14,845	14,231	18,405	17,497
United Kingdom ...	6,700	8,497	10,420	12,964
France ^c	5,650	7,792	5,780	7,779
Belgium	2,330	3,782	2,210	3,808
Japan ^d	3,100	2,900	5,860	5,719
Luxemburg	1,415	2,473	1,400	2,471
Czechoslovakia	1,200	1,649	1,750	2,281
World total ^f	79,344	101,188	105,596	133,298

* Highest yearly production. ^b Includes Saar district and Austria. ^c Includes Alsace-Lorraine. ^d Includes Korea and Manchuria. ^e Includes charcoal iron and ferroalloys. ^f Includes all countries.

Iron and steel exports, exclusive of scrap, in 1938 declined sharply from the 1937 figures according to *Iron Age*. Exports of pig iron and steel (ingots, semi-finished and finished) in 1938 are estimated at 2,175,000 gross tons, a drop of 38 per cent from 1937, which amounted to 3,475,257. Exports of scrap to Japan last year were about 1,258,000 tons, and in 1937, 1,904,768. The second largest buyer of American scrap was the United Kingdom of approximately 469,712 tons compared to 845,216 in 1937. Pig iron imports fell to 35,000 tons from 95,908 in 1937.

The total number of Bessemer, open hearth, electric furnace, and crucible units in the United States, operated by 74 different companies is 1186, and the total annual capacity as reported by the American Iron and Steel Institute on July 1, 1938, was 73,047,892 tons of steel ingots and steel for castings. The production of steel ingots in January, 1938, was only 29.15 per cent of capacity, but rose in March to 33.85, then declined in June to 28.46, and from this rose to 62.05 for November, followed in December to a decline of about 50.

Reflecting the relative stability of demand for steel from industries producing consumers' goods, light steel products (sheets, strip, wire, tin plate, etc.) accounted in 1938 for approximately 45 per cent of the total output, as against 43 in 1937. Output of steel products used chiefly in construction, such as structural shapes, plates, concrete reinforcing bars, nails, etc. for a nine-month period amounted to 21 per cent of the 1938 total, as compared to 19 for 1937. Purchases of steel by railroads in 1938 as indicated by the output of rails and fastenings, car wheels, and axles was relatively lower, being 4.5 per cent for 1938, and 6 per cent for 1937. Although the tonnage of steel consumed by both the farming and canning industries in the first nine months of 1938 was under 1937, both industries consumed a larger share of total output in 1938. Production of barbed wire, fencing, bale ties, and fence posts in the first nine months of 1938 accounted for a larger share of total production, and represented 2 per cent of total output as against 1 per cent in the same period of 1937. See BUSINESS REVIEW.

While the above paragraphs give statistics on the production of iron and steel in 1938, attention is called to the fact that during this year iron and steel products have been employed in an ever-increasing number of articles not only for household purposes, but also in the manufacturing of machinery and the building of engineering structures. Gray iron castings as now commonly made have

improved properties over those that a few years ago were made with difficulty by only a few foundries. Stainless steels have been further employed for both ornamental and utilitarian purposes, while new low-alloy steels are found to be particularly desirable for railway passenger and freight cars, also for trucks where strength and lightness are wanted.

The increased variety of uses for iron and steel may be traced to the modern foundries and mills capable of producing better products, that have been built by many corporations. In 1938, there were completed 11 open-hearth furnaces with annual capacity of 931,300 tons, 2 blast furnaces with annual capacity of 690,000 tons, 255 by-product ovens with an estimated annual coking capacity of 1,538,300 tons, and 50 rolling mills. Perhaps the outstanding plant put in operation was the Irvin Works, near Pittsburgh, of the Carnegie-Illinois Steel Co. This plant consists of three divisions, viz., an 80-inch continuous hot mill for sheet and strip, a cold reduced sheet and strip mill, and a cold reduced tin plate mill. It covers 653 acres; the group of mill buildings is 4275 ft. long by 1229 ft. wide.

IRON ORE. The output of iron ore in the United States in 1938 is estimated by the Bureau of Mines, Department of the Interior, at 28,286,000 gross tons, a decrease of 61 per cent from the quantity mined in 1937. The ore shipped from mines in 1938 is estimated at 26,271,000 gross tons valued at \$73,196,000, a decrease of 64 per cent in quantity and 65 per cent in total value compared with 1937. The above figures do not include ore that contained 5 per cent or more of manganese.

Exports of iron ore, as reported by the Bureau of Foreign and Domestic Commerce, for 1938, were 591,524 tons valued at \$1,954,287, compared with 1,264,102 tons valued at \$4,039,248 for 1937. The imports of iron ore for 1938, were 2,122,516 tons valued at \$5,288,366, compared with 2,442,069 tons valued at \$5,841,637 for 1937. Most of the 1938 exports went to Canada, while about three-fourths of the imports came from Chile.

IRRIGATION. See SOILS.

IRWIN, MAY (née ADA CAMPBELL). An American comedienne, best known in farce comedy, died in New York, Oct. 22, 1938. Born in Whitby, Ont., Canada, June 27, 1862, she attended Whitby High School, and made her stage debut at the Adelphi Theatre, Buffalo, N. Y., in February, 1876, with her sister Flora. They appeared later in Rochester, and in 1877 joined Tony Pastor's Company in New York.

May Irwin remained with Pastor until 1883 and appeared at the Metropolitan Theater and at Pastor's Fourteenth Street Theater, and was seen in *The Pie Rats of Penn Yawn* (1881) and as Lady Angela in *Patience* (1883). Discovered there by Augustin Daly in 1883, she joined his Company and appeared with many famous stars and portrayed roles in *The Recruiting Officer*, *A Night Off*, *Nancy & Co.*, *A Woman's Won't*, *The Magistrate*, and *After Business Hours*. While with Daly she made her London debut at Toole's Theatre, Aug. 1, 1884, in *Dollars and Sense*.

During 1887-88 she appeared in vaudeville and then joined Charles Frohman's management, appearing in *A Straight Tip* (1892-93) with John T. Powers, *His Wedding Day* (1893), and *The Poet and the Puppets* (1893). Under her own management from 1894 to 1908, she starred in *The Widow Jones* (1895); *Courted in Court* (1896); *The Swell Miss Fitzwill* (1897); *Kate Kip, Buyer* (1898); *Sister Mary* (1899); *Madge*

Smith, Attorney (1900); Mrs. Black Is Back (1904); Mrs. Wilson (1906); Mrs. Peckham's Carouse (1907), and *The Mollusc* (1908).

Subsequently, Miss Irwin appeared in *Mrs. Jim* in Detroit (1910), which was brought to New York in the same year, but retitled *Getting a Polish*. She toured in *She Knows Better Now* (1911), and in 1913 opened in *A Widow by Proxy*. Returning to vaudeville, she toured in *She Just Wouldn't* (1914), and in 1915 appeared in *No. 33 Washington Square*, which she took on tour in 1916-17. In 1915 she was invited by President Wilson to give a performance of this play in Washington and after an interview with the President he jokingly suggested that she be given the portfolio of "Secretary of Laughter" in his unofficial cabinet.

In 1919-20 she toured in *On the Hiring Line*, and in 1922 appeared in New York in *The '49ers*. Thereafter she retired from the stage, but in 1925 appeared in vaudeville at the Palace Theater, New York.

Whether she sang popular songs in Negro dialect in pantomime, or played a straight character part, she was able to arouse her audience to laughter, and her manner of "putting over" a song brought success to such numbers as "Mr. Johnson, Turn Me Loose," "I Ain't Gonna Work No More," "When You Ain't Got No Money You Needn't Come Around," the "Frog Song," "The Bully" from *Widow Jones*, and "After the Ball." In 1896 the kiss scene from the *Widow Jones* was filmed by Thomas A. Edison—the first celluloid close-up of a kiss.

ISLE OF MAN. See GREAT BRITAIN.

ISLE OF PINES. See NEW CALEDONIA.

ISOTOPES. See CHEMISTRY.

ITALIAN EAST AFRICA. An Italian colony in East Africa established by the decree of June 1, 1936, which merged the colonies of Eritrea and Italian Somaliland with the newly conquered territory of Ethiopia into a single administrative unit (see 1936 YEAR BOOK under ERITREA, ETHIOPIA, and SOMALILAND, ITALIAN). Capital, Addis Ababa.

Area and Population. Italian estimates of the area of Italian East Africa by provinces (governments) and the population on Jan. 1, 1937, are shown in the accompanying table.

ITALIAN EAST AFRICA: AREA AND POPULATION

Province (Capital)	Sq. miles	Population
Eritrea ^a (Asmara)	85,300	1,000,000
Somaliland ^a (Mogadiscio)	271,000	1,300,000
Harar (Harar)	78,000	1,400,000
Shoa ^b (Addis Ababa)	224,960	3,900,000
Total	659,260	7,600,000

^a Eritrea and Somaliland are not co-terminous with the former colonies; they include parts of Ethiopia (see map in 1936 YEAR BOOK, p. 240, for the former provincial boundaries).

^b By a decree of Sept. 1, 1938, the Italian Government merged the provinces (governments) of Amhara, and of Galla and Sidamo with the administrative district of Addis Ababa to form the new Government of Shoa. For the areas and populations of the merged provinces, see 1937 YEAR BOOK.

Estimated populations of the chief cities in 1937 were: Addis Ababa, 150,000; Harar, 50,000; Dire Dawa, 30,000; Asmara, 23,000; Massaua, 15,000; Mogadiscio, 21,000; Gondar, 6000; Dessye, 5000. The number of Italians in Italian East Africa in 1938 was reported at 335,000, of whom about 2500 were farmers and the remainder road workers, troops, and officials. The native population includes some 2,000,000 Amharas, the former rulers of Ethiopia, who are Coptic Christians of Hamitic origin;

more than 3,000,000 Gallas, who are part Christian, part Mohammedan, and part pagan; and the Danakil, Somalis, and numerous other tribes, mostly Mohammedan or pagan.

Education and Religion. Italian, Amharic, Arabic, and Tigrenish are official languages. Education is entrusted to the Italian Fascist party, which has established schools in the principal occupied cities. Some mission schools are permitted to operate. There are for Italians classical high schools at Addis Ababa and Harar and technical schools at Addis Ababa and Dire Dawa as well as various primary schools. There is an institute for young native Christians and another for Moslems. Construction of a Moslem college at Harar was authorized.

The Italian authorities in 1938 were reported to be lending active encouragement to the activities of both Roman Catholics and Moslems while placing obstacles in the way of Protestant missionaries and seeking in every way to break the former extensive power of the Coptic clergy over the native Christian population. The age-old tie between the Ethiopian and Egyptian Coptic churches was broken on Dec. 1, 1937, when the Viceroy declared the Ethiopian church autocephalous and appointed the Abuna (patriarch) for all of Italian East Africa.

Production. Stock raising and primitive agriculture remain the chief occupations. Coffee (both cultivated and wild), cotton (grown on foreign-owned plantations), sugar, bananas, dates, grapes, cereals, tobacco, fruits, and vegetables are grown on a small scale. In 1937-38 exports of coffee via French Somaliland and into the Anglo-Egyptian Sudan, representing the bulk of the exports, totaled 14,000 metric tons. The wheat crop is placed at less than 2,000,000 bu. About three-fourths of the coffee, flax, cotton, and banana production of Eritrea and Somaliland are grown on foreign-owned plantations operated with native labor. There were believed to be about 16,000,000 cattle in Ethiopia in 1937 besides numerous sheep, goats, horses, mules, and donkeys. Gold and platinum were the only minerals produced in commercial quantities in 1937; gold output was valued at about \$540,000 and platinum totaled about 418 lb.

Foreign Trade. Trade figures for Italian East Africa as a whole were unavailable. In 1937 imports through Eritrea and Italian Somaliland were equivalent to 50,900,000 old U.S. gold dollars; exports, \$8,400,000. The bulk of Ethiopia's former trade through the port of Djibouti in French Somaliland (q.v.) was diverted to Eritrea and Italian Somaliland with the completion of trunk highways linking the ports of these provinces with Addis Ababa and other Ethiopian cities. There was additional trade by caravan routes with the Anglo-Egyptian Sudan and other neighboring territories. All foreign trade in 1938 was under strict governmental control, which served to hamper operations. Coffee, hides and skins, wax, civit, and native butter are normally the chief exports and cotton piece goods, building supplies, petroleum products, sugar, glass, and salt the main imports.

Finance. The budget for the fiscal year ended June 30, 1939, balanced revenues and expenditures at 1,591,128,542 lire (1,125,916,799 lire in 1937-38). Ordinary revenues for 1938-39 were estimated at 402,000,000 lire, the contribution from the Italian treasury was fixed at 1,000,000,000 lire annually for six years, and special revenues were placed at 179,128,000 lire. The ordinary and extraordinary military expenditures amounted to 632,967,000 lire (664,015,000 lire in 1937-38).

An Italian decree of Jan. 25, 1938, confirmed an extraordinary expenditure of 12,000,000,000 lire for public works and equipment in Italian East Africa in addition to the 1,000,000,000 lire annual contribution to the ordinary budget. Of the 12,000,000,000 lire, the sum of 2,000,000,000 was charged to the 1936-37 budget. The official currency is the Italian lira, but the natives in 1938 were reported to be reluctant to accept it and the old Maria Theresa silver thalers, the prevailing currency for about 130 years, were still in wide use. An Italian decree of May 16, 1938, authorized the Bank of Italy to issue a special series of notes of 1000, 500, 100, and 50 lire to serve as legal tender only in Italian East Africa.

Transportation, etc. Previous to the Italian conquest, the roads in Ethiopia were mere caravan tracks. By June 30, 1938, the Italians had completed 2125 miles of motor highways of which 642 miles were macadam and 1805 miles asphalt. The principal highways were: Massaua-Asmara-Addis Ababa, Nefasit-Decamere, Assab-Dessye, Asmara-Sabderat, Asmara-Gondar, Addis Ababa-Jimma, Addis Ababa-Lekemti, Dessye-Magdala. Another road from Asmara to Tessenei near Cassala on the Sudanese frontier (217 miles) was completed early in 1938. Air lines linked Addis Ababa with Mogadiscio, Jimma, Gondar, Asmara, Cairo, and Rome, and Assab with Djibouti and Dire Dawa. The narrow-gauge French-controlled railway from Djibouti to Addis Ababa (486 miles) had lost much of its traffic by 1938 to competing motor highways. Improvements and extensions were under way in 1938 on all of the chief ports—Massaua and Assab on the Red Sea and Mogadiscio, Merca, and Chis-maio on the Indian Ocean.

Government. Italy invaded Ethiopia early in October, 1935, and captured the capital, Addis Ababa, on May 4, 1936. On May 9, 1936, it was formally annexed by Italy and on June 1, 1936, an Italian decree united Ethiopia with Eritrea and Italian Somaliland in the single colony of Italian East Africa under direct Italian rule. All the former officials of Ethiopia were automatically replaced by Italians. In a few Mohammedan districts the feudal chiefs were permitted to continue their rule under Italian direction. The five governments (later four) into which Italian East Africa was divided were subdivided into commissariats and these in turn were divided into smaller units called residencies and vice residencies. The provincial governors were responsible to the Viceroy at Addis Ababa in all matters except local affairs. The Viceroy was assisted at Addis Ababa by a Vice Governor General and a Chief of Staff and by a consultative Council of Government composed of high government officials. A Board of Consultants consisting of representatives of white colonists and native chieftains also was established. Governor-General and Viceroy in 1938, the Duke of Aosta (appointed Nov. 20, 1937).

History. Although the backbone of Ethiopian armed resistance to the Italian invaders was broken with the defeat and execution of Ras Desta Deltu, son-in-law of the deposed Emperor Haile Selassie, in 1937 (see 1937 YEAR BOOK, p. 356), guerrilla warfare was continued by warrior bands known as *shifitas*, operating mainly in the Amhara districts of central Ethiopia and particularly from the Cencer Mountains. Early in 1938 there were authenticated reports of fighting between Italian or Italian-led native troops and rebel bands within 40 miles of Addis Ababa, near Lake Tana and in the extreme northwestern section of Ethiopia. The rebels were

also harried by tribes friendly to the Italian administration, who received an annual subsidy and the right to bear arms in recognition of this aid. Italian control was gradually extended by the construction of roads, the erection of small forts protecting communication centers, effective use of the air force, and the creation of native military and police organizations to support the Italian troops. On March 12 the Italian authorities ordered the release of 900 native political offenders in Italian East Africa; the amnesty applied to only part of the Ethiopians arrested since October, 1935. On May 30 the Viceroy, declaring that the country was completely pacified, renewed his former offer of pardon for rebels who surrendered.

The refusal of the natives to work on Italian-directed projects proved an even greater obstacle to Italian exploitation of the new conquest. The Ethiopians declined to accept Italian paper money in payment for their goods and refused to work or produce when deprived of markets for their produce. A group of 105 heads of families left Brindisi on January 17 to settle on farms in the government of Harar, thus formally inaugurating the Italian colonization drive. But rebel raids, the scarcity of native labor, the exceptionally high cost of living, and the necessity of importing both food and equipment kept the influx of colonists to an unexpectedly small number. Economic activities of both natives and Italian settlers were hindered by governmental restrictions of various kinds and by the refusal of the Italian Government to import products from Italian East Africa unless a stated proportion of the colony's exports were disposed of in foreign markets. Friction between the Italian troops and the newly arrived Italian colonists was also reported.

Meanwhile, Italy attained greater success in leveling the legal barriers raised by the League of Nations to the recognition of Ethiopia's status as a part of the Italian empire. At the beginning of 1938, 10 governments had formally recognized Italy's sovereignty over Ethiopia and during the year this list was greatly extended, notably by the addition of Great Britain and France. In return for British recognition of the Ethiopian conquest, in the Anglo-Italian pact of Apr. 16, 1938, Italy agreed to respect British interests in the Lake Tana region, not to raise troops in Ethiopia for service outside that territory provided France would do likewise in her colonies, and to permit English and other foreign missionaries to continue their religious work in Ethiopia. See FRANCE, GREAT BRITAIN, and ITALY under *History*.

In accordance with a pledge made in connection with the Anglo-Italian accord, the British Foreign Minister attempted at the 101st meeting of the League Council beginning May 9 to put through a resolution repudiating the previous agreement of League members not to recognize the Italian conquest of Ethiopia. This move was opposed by ex-Emperor Haile Selassie in person and his representative, Ato Tazaz, as well as by the delegates of New Zealand, Bolivia, China, and the Soviet Union. In view of this opposition, a compromise was reached whereby the Latvian President of the Council, Vilhelms Munters, announced that "the great majority of members feel, despite regrets, that it is for individual members to decide as they choose." This left League members free to disregard their solemn obligation and by the end of 1938 most of them had done so. See ITALY under *History*; LEAGUE OF NATIONS.

ITALIAN LITERATURE. Within the past two years Italy lost two of its major writers, Luigi Pirandello and Gabriele D'Annunzio (q.v.), both international figures. D'Annunzio's heyday fitted more around the turn of the century, while Pirandello's star sparkled in the past decade. Gabriele D'Annunzio, it may be recalled, dominated the field of European literature in poetry, the theater, and novel. An artist of varied and stormy activities, D'Annunzio may be called a synthetic product. All his creations at one time or another fell under cross currents of European masters. Whatever may be said of D'Annunzio's literary fickleness, of his lack of profound convictions, he was a strong enough personality to emerge as an international figure. A personalist of first order, he could never be accused of lacking inspirational fire. Any creation of his will inevitably have pages of intense beauty and impassioned feelings. An incorrigible egotist, he was, none the less, great enough to draw Italian literature from its regional lethargy and project it on the European panorama.

Fiction. *Il mulino del Po* (*The Mill on the Po*; Fratelli Treves, Milan), a novel on large canvas and broad strokes, was contributed by Riccardo Bacchelli. The author himself has labeled it an historical novel (*romanzo storico*), covering the period of 1812-40. The introductory chapter is projected on Russian soil, of Napoleon's disastrous campaign. It deals with the emperor's Italian corps of 30,000 men, the crossing of the Vop, and the ultimate survival of but 2000 of these Italians. It was in this melancholy and frigid scene that the protagonist of the novel, Lazzaro Scacerni, saved his life by wading the icy waters of the Vop, and after innumerable vicissitudes made his way back to Italy, to his native Ferrara. Nor were his tribulations over once back on the Po. The struggle for existence was accentuated by turbulent and violent episodes. He was, as a matter of personal decorum, a moral and upright man, and, if he erred, under dire and inevitable circumstances, sympathy is with him. The novel may never survive as one of historical utility; rather it draws its chief merits from its literary constituents. Riccardo Bacchelli tells a powerful story and in Lazzaro Scacerni, he has delineated a powerful characterization. Riccardo Bacchelli cannot be accused, as have often been his Italian *confrères*, of not knowing how to tell a story. This novel, composed of 580 pages never loses *tempo*, and can be said to have powerful architectonic structure. If any adverse criticism is to be advanced it would be in the nature of objection to the over intensity at the expense of repose and serenity. It is certainly regrettable that the book was not more widely acclaimed and read.

Noemi Carelli made use of an exclusive Russian motif in her novel, *Borea* (Fratelli Treves, Milan). The subtitle, *Gente italiana a Pietroburgo*, is misleading because one may expect an historical novel of the role of Italians in the Russian empire. As a matter of fact, however, the novel deals only with the family of an Italian singing teacher at Saint Petersburg, in that uneasy period of Russian Czarism upward of 1890. The novel actually is one with a thesis: It dwells on the futility of tyranny, radicalism, or the revolutionary spirit. The author, if her novel is to be defined, shows distaste for wanton despotism and disapproval of the communistic trend arising from the late Czarist rule. The novel's artistic and esthetic values, on the other hand, may be termed negligible. One quality, however, not devoid of poetic and artistic moments, stands out: The sympathetic treatment of the young

revolutionary students (Lenin numbered among them). As for other materials that make up the formula of a good novel, it can be said without reserve that they fall short of their goal. The novel does not possess elements of universal appeal. Nor are its characters in high relief. The hero, Valerio Landi, for all his intelligence and idealistic aspirations, never emerges from being other than a sympathetic student. As has been stated, the necessary ingredients for a strong novel are discountable; consequently, *Borea* as a novel is destined for quick oblivion.

Ain Zara Magno, another woman writer, also chose a foreign background for her novel, *Pasioni* (Fratelli Treves, Milan). South America this time is the locale of a politico-sociological novel in which are brought to play opposing forces of communism and nationalism. This pair of women writers must be credited with the courage of tackling our present-day, almost unsolvable problem of governments—a problem which more and more poignantly is drawing a sharp line of contention between liberalism as against nationalism. Laudable and serious as may be these preoccupations, neither woman possesses the genius necessary to create great political conceptions in a sociological novel. In *L'uomo è forte* (Bompiani), the Calabrese author, Corrado Alvaro, put out a novel much discussed and reviewed in Italy and elsewhere. A serious writer, Alvaro, never loses sight of a sense of morality which should motivate the actions of man. He is intensely preoccupied in defining and orienting human sentiment with its attendant psychological aspects. The keen critic, Attilio Momigliano, has recently called Alvaro's prose transcendental and his treatment of reality approaches something akin to "an ecstatic vision, musical and feverish. His veracity is great, his psychology brief and profound." Corrado Alvaro's production may not be one of quantity, but it is a pleasure to note that his prose continues the good tradition established by his poetry (*Poesie grigiorde*, 1917). Virgilio Brocchi, who must be classified among writers in the popular vein, completed his cycle (*Figliuol d'uomo*) in *Il Tramonto delle stelle* (Mondadori, Milan) which constitutes the fourth volume in the series. One travels far in the present volume, from Italy to Spain, from New York to Buenos Aires. Virgilio Brocchi knows what public he has and capitalizes. He always spins a good story. Attesting to the popularity of this writer, it can be stated that the four volumes that compose this cycle have sold from 45 to 100 thousand each. In point of fact, *Tramonto delle stelle* was the most widely read novel of the past season. At this moment could be recorded various works, first among them, the literary prize novel (Premio Biella), by Gian Paolo Callegari, a newcomer in the contemporary field. Despite the fact that this is a prize novel, *La Terra e il Sangue* (Liciano Capelli) must be labeled as of the pseudo-literary variety, meant principally to delight the public with an extravagant assortment of "love affairs, victories and defeats, heroism and sacrifice." Michele Saponaro wrote a romanticized life and biography in *Vita amorosa ed eroica di Ugo Foscolo* (Mondadori, Milan). It may readily be styled a novel, the historical and research motives are carefully integrated in the story. Widely read again were the *Novelle per un anno* of Luigi Pirandello, republished in a de luxe edition by A. Mondadori (Collezione Omnibus). This volume, comprising 1354 pages, was edited, in the main, by the distinguished Sicilian, shortly before his death.

While the discussion has turned to the short story, Lorenzo Ruggi's collection could be taken up, *La madonna del gatto nero* (Sonzogna, Milan). Told by a man who enjoys the reputation of having become a good author, "by instinct rather than by dint of elaborate method," the stories have exquisite taste, a wealth of Bolognese local color, and are couched in superb style.

Poetry. The output for the past season may be called enormous. There has always been a tradition and a public for poetry in Italy, and even if this public is small, it is, none the less, eclectic. First in order could be taken up Angelo Josia's book of verses, *In cammino* ("La Prora," Milan), which is divided in two parts, *Poesie d'oggi* (1934-37) and *Poesie d'allora* (1924-30). His poetry is characterized by a dominant note of optimism and faith in life. For poetry in more solemn mood one can turn to Salvatore Quasimodo's *Poesie* (Edizioni Primi Piani, Milan). This poetry is reminiscent of Jacopone and Rimbaud in the exposition of the "drama of human solitude," which finds solace in the "world of imagery," in humanity, and in nature. The Goethe Prize went to Villaroel for his volume *Stelle sugli abissi* (Mondadori, Milan). These poems, too, re-echo Baudelaire and D'Annunzio, and evoke an atmosphere of "morbid beauty, burning melancholy, and deluded dreams." Mario Réfalo falls under the spell of two of today's senior poets, Ugo Betti and Giuseppe Ungaretti. *Nostalgia mi porta* (Poeti d'oggi, Asti), if inspired by the afore-mentioned poets, reveal Réfalo's individuality and inspiration, qualities which will indubitably manifest themselves more concisely in subsequent compositions. Another young poet making himself felt is Vincenzo Filippone. His volume, *Vigilie* (Chiaruzzi), bears the same sort of approach to the art of poetry and problems of life as Réfalo's, except that Filippone abandons himself almost fanatically in his poetic message. His verse is difficult to follow, needing a slow and incisive interpretation. Giuseppe Gerini forms the third member of this trio of poets. Older than his colleagues, his poetry bears the imprint of mellow and benevolent undertones. His could be called the poetry of the hearth, of the family, and of the soil. Following no particular school of thought, his contributions are intimate and sensitive, detached from influence, theories, and formulae. It has been stated in Italy that this trio of poets seems destined to formulate a new order of contribution, inasmuch as their older *confrères* have already crystallized their ideas and perhaps their aspirations.

Theater. The season in the theater is not comparable in quantity and quality to that of prose and poetry. The so-called crisis of the theater continued, and by now, it may be called perennial. The loss of Luigi Pirandello, chief figure in the Italian Theater, has only accentuated and slackened the pace in theatrical production. Unless another genius arises on the horizon to replace the indefatigable Sicilian, the Italian Theater, alas! will continue in apathy. The world over feels that varying fortunes and vicissitudes are crippling this genre—a fact which may console the Italian Theater but not help it. Ettore Bignone completed the translation of the trilogy of Sophocles in *Le tragedie di Sofocle*, vol. ii; *Edipo Re e Antigone* (Sansoni, Florence); *Edipo a Colono* was translated by the same author in 1936. A specialized Hellenist, the author has accompanied the volumes with critical essays, exhaustive and informative. Among the few plays produced in Italy last season, one stood

out: Valentino Bonpiani's *Delirio del personaggio*, played at the Teatro delle Arti in Rome. The play pits two personalities against each other. A mother and daughter, similar in maternal instincts and feelings, fall diametrically opposite in psychological perspectives. One may call the play a study in dialectic estrangement, calling to mind the Pirandellian paradox of personality. Silvio D'Amico continued his lucid and discriminating study of the theater in *Invito al teatro* (Morcelliana, Brescia). It is a "well-informed work, learned, which, examining the past, studying the present, will usher in the future." Discarding the "ephemeral values" of a play, the author tries to orient it from the aspect of its durability, its national and cultural import. Another theatrical critic, Renato Simone, assembled reminiscences of yesterday in his book, *Teatro di ieri* (Fratelli Treves, Milan). These recollections may well be called essays on the great actors of yesteryear, Duse, Alessandro Moissi, Angelo Musco, Petrolini, among many others. Incidentally, there is much critical evaluation on the theater in this volume, comprising three decades of activities. The book, in excellent format, is especially featured with numerous photographs.*

ITALIAN SOMALILAND. A former Italian colony in East Africa, incorporated with Ethiopia and Eritrea into a single colony known as Italian East Africa, by the decree law of June 1, 1936. See ITALIAN EAST AFRICA.

ITALY. A kingdom of southern Europe, upon which a Fascist dictatorship is superimposed. Capital, Rome. Sovereign in 1938, King Victor Emmanuel III, who ascended the throne July 29, 1900.

Area and Population. Excluding Libya (q.v.), which became part of Italian national territory in 1938, Italy has an area of 119,714 square miles and a population estimated at 44,056,000 on Dec. 31, 1938 (42,444,588 at the 1936 census, which did not include 528,542 workers and soldiers in Africa). The 1936 census showed 31,735,027 urban and 11,258,575 rural residents. Of the population 10 years old or over, 47.7 per cent was agricultural. Living births in 1938 numbered 1,031,193 (23.6 per 1000); deaths, 606,799; natural increase, 424,394. Emigrants in 1936 numbered 41,710; in 1935 39,470 emigrants returned to Italy. Foreigners in Italy at the 1936 census numbered 108,597 as compared with an estimated 9,600,000 Italians living in other countries.

Estimated populations of the chief cities in February, 1938, were: Rome (Roma), 1,250,704; Milan (Milano), 1,181,170; Naples (Napoli), 907,528; Turin (Torino), 675,246; Genoa (Genova), 646,544; Palermo, 425,400; Florence (Firenze), 344,173; Bologna, 307,775; Venice (Venezia), 280,277; Trieste, 255,079; Catania, 247,925; Bari, 207,219; Messina, 200,373.

Education and Religion. According to the 1931 census 79 per cent of persons six years of age and over were able to read. The school enrollment in 1935-36 was: Elementary, 5,117,579; secondary, 577,122; higher education, 63,344. The 1931 census showed 41,014,096 Roman Catholics (99.6 per cent of the population), 83,618 Protestants, 47,825 Jews.

Production. About 46.3 per cent of the working population is engaged in agriculture and fishing, 30.4 per cent in mining, quarrying and industry, 8.3 per cent in commerce, and 4.6 per cent in transportation. Yields of the chief cereals in 1938 were (in metric tons): Wheat, 8,091,800; barley, 247,800; rye, 138,800; oats, 629,100; corn, 3,000,000.

* Acknowledgment is hereby made to the "Meridiano di Roma" for notes and bibliographical information.

The production of other leading crops in 1937 was: Rice, 36,264,000 bu.; potatoes, 105,517,000 bu.; sugar beets, 3,314,000 metric tons; beet sugar (1937-38), 358,000 metric tons; olive oil (1937-38), 78,720,000 gal.; wine, 898,238,000 gal.; citrus fruits, 675,000 metric tons; tobacco, 90,389,000 lb.; tomatoes, 2,341,506,000 lb.; coconuts, 70,444,000 lb. The 1937 livestock statistics showed 7,286,000 cattle, 9,095,000 sheep, 2,814,000 swine, 1,804,000 goats, 796,000 horses, and 1,225,000 mules and asses.

Mineral production in 1937 was valued at 775,-184,000 lire (542,886,000 in 1936); quarry output, 394,380,000 lire (358,030,000 in 1936). Mineral and metallurgical production in 1937 was (in metric tons): Iron ore, 997,805; lead ore, 58,598; zinc ore, 181,968; iron pyrites, 914,524; lignite, 1,059,231; sulphur (crude), 343,526; asphaltic and bituminous rock, 365,978; marble, 484,151; marine salt, 950,777; bauxite, 386,495; metallic mercury, 2208; aluminum, 22,947; lead, 46,308; pig iron, 801,181 (1938: 864,000); ferro-alloys, 73,124; steel ingots and castings, 2,098,729 (2,328,000 in 1938); metallurgical coke, 1,703,199; cement, 4,359,112. The capitalization of Italian manufacturing industries on Dec. 31, 1937, was 47,695,000,000 lire. The output of raw silk in 1937 was 6,306,000 lb.; rayon and other artificial fibers, 274,226,000 lb.; cotton yarn, 412,880,000 lb.; cotton cloth, 952,966,000 yd. The hydro-electric plant capacity in January, 1938, was 3,929,000 kilowatts; the output in 1937 was 14,-391,000,000 kilowatt-hour. Woolen textiles, chemicals, sulphuric acid, superphosphate, copper sulphate, cheese, and macaroni are other important manufactures.

Foreign Trade. Total imports in 1938 were valued at 11,123,882,000 lire (13,992,130,000 in 1937) and exports at 10,379,075,000 lire (10,443,-583,000 in 1937). These figures included imports from Italian colonies of 205,699,000 lire (399,945,-000 in 1937) and exports to the colonies of 2,419,-528,000 lire (2,590,497,000 in 1937). In current U.S. dollars, the 1937 imports for consumption were valued at \$727,941,000 (\$440,357,000 in 1936) and exports at \$538,638,000 (\$404,472,000 in 1936). Leading 1937 imports were: Coal, coke and briquets, \$90,922,000; wheat, \$73,281,000; raw cotton, \$55,241,000; iron and steel, \$44,365,-000; wool, \$31,502,000; oil-seeds, \$29,289,000. The principal exports were: Cotton fabrics, \$43,522,-000; automobiles, \$32,455,000; rayon and other artificial fibers, \$21,869,000; wool fabrics, \$19,-472,000; chemicals, medicines, and paints, \$16,060,-000; lemons, \$16,563,000; fabrics of rayon and other artificial fibers, \$15,913,000. Of the 1937 imports, Germany supplied 18.6 per cent (26.8 per cent in 1936); United States, 10.9 (14.8); Argentina, 7.6 (3.0); United Kingdom, 3.9 (0.9); Italian Africa, 2.4 (2.4). The 1937 exports were distributed mainly as follows, by value: Italian Africa, 24 per cent (35.3 in 1936); Germany, 14.4 (19.6); United States, 7.5 (9.9); United Kingdom, 6.1 (2.8); Switzerland, 4.9 (6.2); France, 4.2 (3.5). United States statistics for 1938 showed exports to Italy of \$58,266,327 (\$76,829,855 in 1937) and imports from Italy of \$41,201,698 (\$48,-169,610).

Finance. Actual budget returns for the fiscal year ended June 30, 1937, and the estimates for 1937-38, 1938-39, and 1939-40 are shown in the accompanying table.

No statement of the public debt has been published since that of Aug. 31, 1935, showed a total debt of 107,185,000,000 lire (funded, 93,827,000,-

ITALIAN BUDGET OPERATIONS

[In millions of lire]

	1936-37	1937-38 ^a	1938-39 ^a	1939-40 ^a
Revenue	24,702	20,597	25,072	24,561
Ordinary expenditure	23,413	23,770	25,035	29,316
Surplus (+) or deficit (-)	+1,289	-3,173	+37	-4,755
Extraordinary expenditure	17,519	9,000 ^b	.....	.....
Net deficit ...	16,230	12,173	.....	.....

^a Estimates. ^b Estimate made by Minister of Finance on May 18, 1938.

000; floating, 13,358,000,000). The Minister of Finance stated on Apr. 30, 1937, that the internal debt, exclusive of the floating debt, was 101,241,-000,000 lire. The average exchange value of the lira was \$0.0526 in both 1937 and 1938.

Transportation. At the beginning of 1938, Italy had 14,230 miles of railway line (state, 10,-540; private, 3690); 2460 miles of state line and 1087 miles of private line were electrified. For the year ended June 30, 1937, the government lines carried 90,727,000 passengers and 45,297,000 metric tons of freight, the gross receipts totaling 3,707,-000,000 lire. The mileage of roads and highways in 1937 was 151,392; number of automobiles on Jan. 1, 1938, 439,994. Statistics of civil aviation for 1937 were: Miles flown, 6,481,000; passengers, 113,743; mail, 913,000 lb.; newspapers, 323,000 lb.; baggage, 3,700,000 lb.; merchandise, 1,084,000 lb. A new air service between Genoa and Tunis in French North Africa, with stops at Alghero and Cagliari on the island of Sardinia, was inaugurated Mar. 28, 1938. The Italian merchant marine on June 30, 1938, comprised 1293 vessels of 3,290,484 gross tons. During 1937, 12,281 vessels of 21,159,-000 net register tons entered Italian ports in the foreign trade. Italian ships landed 9,109,000 metric tons of cargo; foreign vessels, 8,034,000 metric tons.

Government. The Fascist regime has been superimposed upon the constitutional monarchy established by the Constitution of Mar. 4, 1848. Under the law of Dec. 9, 1928, the Fascist Grand Council, consisting of (1) life, (2) ex-officio, and (3) extraordinary members appointed by the head of the government, acts as "the supreme organ coordinating and uniting all the activities of the regime." There is an appointive Senate of some 374 members and a Chamber of Deputies of 400 members nominated by the Fascist Grand Council and elected by restricted suffrage. The Cabinet, as constituted at the commencement of 1937, was as follows: Premier, Chief of the Government, and Minister of Interior, of War, of the Navy, of the Air, and of Italian Africa, Benito Mussolini; Foreign Affairs, Count Galeazzo Ciano di Cortellazzo; Corporations, Feruccio Lantini; National Education, Giuseppe Bottai; Agriculture and Forests, Edmondo Rossini; Finance, Count Paolo Thaon di Revel; Justice, Arrigo Solmi; Communications, Antonio Stefano Benni; Popular Enlightenment, Dino Alfieri; Public Works, Giuseppe Cobolli-Gigli; Trade and International Payments, Felice Guarneri; Minister-Secretary of the Fascist Party, Achille Starace.

HISTORY

Internal Affairs. Internal developments within Italy during 1938 were intimately connected with Mussolini's policy of national aggrandizement abroad at the expense of France, Britain, and smaller nations in his path. To secure German backing

for this policy, Il Duce became first an equal and then a subordinate partner in the Rome-Berlin axis, which subjected Italian politics and economics to the powerful influence of dynamic German National Socialism. This influence was reflected during 1938 in the speeding up of the revolutionary activities of Italian fascism, and the rise to dominant positions within the Fascist Party of vociferous anti-Semitic, anti-clerical, anti-capitalist, and anti-bourgeois groups. While Mussolini's personal power remained supreme, he gave increasingly free rein to the extremists among his followers.

Racist Measures. This extremist attitude found concrete expression in a series of measures adopted during the year to curb the economic, political, and cultural activities of Jews in Italy—they numbered 57,425 in August, 1938, according to a special census—and to exclude them progressively from the national life (see Jews under *Italy* for details). These measures were climaxed by the so-called racial laws of October 7 prohibiting marriages between (1) "Italians" and persons of Semitic or other "non-Aryan" races, (2) Italian men in State or public service and foreign women, and (3) Italians and foreigners in general, except with the consent of the Ministry of Internal Affairs. On November 10 the Cabinet promulgated organic laws adding to those classified as Jews persons having a Jewish mother and an unknown father, and excluding all Jews from the civil and military administrations of the State, the Party, and their affiliated organizations.

There was much speculation in Italy and abroad as to the reasons for Mussolini's approval of these measures. It was suggested that he wished to strengthen his self-appointed position as "protector" of the Moslem peoples, aroused by the Arab-Jewish struggle in Palestine; that he wished to compete with the Reich for the favor of the large anti-Jewish elements in Hungary, Rumania, Yugoslavia, and other Danubian countries and thus bring those countries into the Fascist orbit; and that he had been angered by anti-Fascist conspiracies among Italian and foreign Jews. On October 16 the government announced that there had been widespread arrests of Jews in northern Italy for alleged anti-Fascist plottings. The explanation for the anti-Semitic laws most widely accepted outside official circles in Italy, however, was that Mussolini had been forced to adopt them in order to placate Hitler and retain his support.

There was widespread opposition to the racial laws among the masses of the Italian people and even within the Fascist Grand Council. To overcome this attitude, the Fascist press on November 26 launched a campaign to stimulate "racial consciousness" among the Italian people. "Racism" was eulogized as "an expression of strength and of spiritual maturity which heralds greater power to come," while any show of compassion toward the Jews was declared not only disloyal but an evidence of "bourgeois mentality."

Conflict with the Vatican. The anti-Semitic measures and particularly the decrees restricting marriage on a racial and national basis inaugurated a new conflict between the Italian State and the Roman Catholic Church (q.v.). On November 14 *Osservatore Romano*, Vatican City newspaper, announced that Pope Pius XI had appealed to both Mussolini and King Victor Emmanuel not to permit the violation of the concordat of Feb. 11, 1929, that he declared was implicit in the racial and marriage laws. The King on November 15 assured the Pope that efforts would be made to meet his objections.

But no positive action to modify the laws was forthcoming. On December 24 Pius XI told the Sacred College of Cardinals that these laws were a breach of the concordat and accused the Fascist Government of harrying and repressing Catholic Action groups throughout Italy. He declared there had been clashes the previous day in Venice, Turin, and Bergamo and that Cardinal Schuster, Archbishop of Milan, had provoked active Fascist hostility by preaching against the racial laws. Thus the Church-State struggle seemed to be developing in intensity as the year ended.

Chamber of Deputies Abolished. One of the last vestiges of the former democratic regime was eradicated on December 14 when the Chamber of Deputies voted itself out of existence, 90 years after the establishment of parliamentary government. In accordance with the draft law promulgated October 7, the Chamber was to be replaced on Mar. 23, 1939, by a Chamber of Fasci and Corporations, to be composed of approximately 800 appointive members of the National Council of the Fascist Party and of the National Council of Corporations. The new Chamber and the Senate were authorized to vote by a show of hands or by acclamation, instead of the former secret ballot, on measures presented to them by the head of the government or on measures the discussion of which had been previously authorized by him. Both houses were expected to "collaborate" with the government instead of limiting its power.

Both Mussolini and King Victor Emmanuel in April were vested with a newly created rank in the military hierarchy, that of "Marshal of the Empire." Il Duce continued during the year to prepare his son-in-law and Foreign Minister, Count Galeazzo Ciano as his successor in the role of dictator. The increasingly bold and hazardous foreign policy of the Premier was attributed by observers to the influence of Count Ciano and his ambitious wife, both of whom were understood to favor aggressive expansion of Italy's foreign interests on the military basis afforded by the Rome-Berlin axis.

Other Extremist Tendencies. There were various other developments indicating the growing momentum attained by revolutionary and ultranationalist tendencies. The campaign for economic self-sufficiency (see 1937 YEAR BOOK, p. 360) was intensified. The new town of Carbonia, constructed within a year to house 12,000 persons for the exploitation of previously undeveloped coal deposits in southern Sardinia, was dedicated by Premier Mussolini on December 18. An elaborate minerals fair held in Rome in November called attention to the progress made in developing domestic sources of mineral supply.

The colony of Libya (q.v.) on the opposite shore of the Mediterranean was decreed an integral part of Italy on October 26 and steps were taken to bind this desolate region closer to the Italian homeland by more intensive colonization. At the end of October, 18 vessels carried 1800 agricultural families to Libya to settle in farming communities previously laid out by the Italian administration in the colony. These 18,000 persons represented the vanguard of 80,000 settlers scheduled to be transferred to their new homes by the end of 1942. While sending colonists to Italian territories overseas, the government on November 17 created a commission to repatriate Italians wishing to return to Italy or her colonies from foreign countries. On December 12 the sum of 10,000,000 lire was appropriated for this purpose.



THE REGION OF THE MEDITERRANEAN

ALIGNMENT OF OPPOSING FORCES
AND CHIEF STRATEGIC POINTS IN
FRENCH-ITALIAN CRISIS OF 1935

© Capitals of Countries
Copyright, J. W. CLEMENT CO.,
Matthews-Northrup Works, Buffalo, N. Y.

THE FRENCH-ITALIAN CRISIS OF 1935

KEY

Italy and Possessions

Italian Naval Base

Italian Air Base

Italian Auxiliary Air

and Submarine Base

France and Possessions

French Naval Base

French Military Base

French Military Base

Main Lines of Communication

between France and

her Colonies

Mareth Lines

between France and

her Colonies

Mareth Lines

between France and

her Colonies

Mareth Lines

between France and

her Colonies

Mareth Lines

between France and

her Colonies

Mareth Lines

between France and

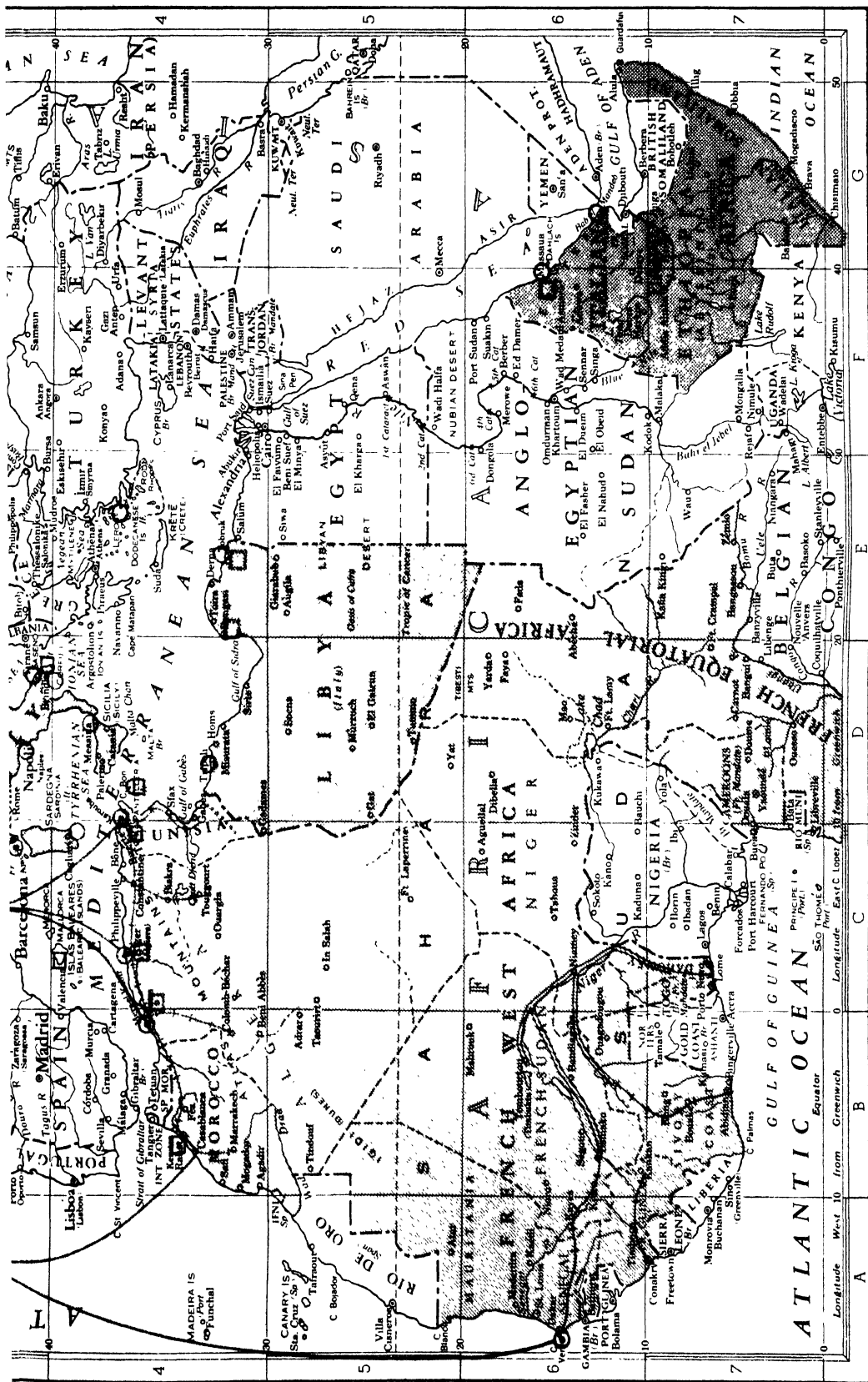
her Colonies

Mareth Lines

between France and

her Colonies

Mareth Lines



Meanwhile Italian propagandist activities abroad were increased through the provision of improved short-wave radio broadcasting facilities. On December 3 all Italian journalists were forbidden to serve as correspondents of foreign newspapers or news agencies, effective December 31; about 200 were affected. It was officially announced December 17 that a Fascist Index of books to be banned from sale in Italy on political or other grounds was being compiled. The Italian Rotary clubs were disbanded by order of the government effective December 31, because of alleged Masonic and anti-Fascist influences in the organization. Promotion was prohibited for unmarried officials and the proportion of women in public or private employment was restricted to 10 per cent of the total by decrees issued in September.

Armament Program. With its entire national economy geared to a program designed to make the country as nearly self-sufficient as possible in wartime, Italy was carrying forward a vast armament scheme, maintaining a large and costly military force in Spain, undertaking the colonization of Libya on an unprecedented scale, and attempting to consolidate her military conquest of Ethiopia. The peace-time army in Italy had been raised to a strength of over 600,000 men, the air force nearly doubled in four years, and the navy had undertaken a construction program that would make Italy almost equal to France at sea by 1941. This gigantic program had to be supported by a nation whose national income was about 120,000,000,000 lire annually, whose budgetary income did not exceed 25,000,000,000 lire, whose trade balance had been consistently adverse for many years, and whose supply of the essential raw materials was the smallest of all the great powers.

Under this financial burden, the Fascist Government had been operating on an increasingly heavy deficit since 1931 (see *Finance*). This deficit had been met by loans and borrowing from the Bank of Italy. The series of forced loans and extraordinary tax levies imposed since 1936 was climaxed by a special tax levy approved by the Cabinet Nov. 7, 1938. It provided for collection of 7½ per cent on the taxable capital of private industrial and commercial concerns, with graduated deductions to favor the smaller ones. The tax was made payable in 18 bimonthly installments beginning Mar. 10, 1939, and was expected to yield 1,200,000,000 lire. Despite this levy, the state budget announced Dec. 14, 1938, for the fiscal year 1939-40 provided for a deficit of 4,755,000,000 lire as a result of shrinking revenues and increased expenditures on armaments, declared to be "an unavoidable necessity in view of the situation." Yet the government's wide powers over industry and finance prevented the increasingly serious budgetary deficit from causing disruption of economic activities. Due to this factor and the government's huge borrowing and spending program, industrial activity remained at a relatively high level throughout 1938.

Foreign Relations. The major developments of the year in Italian foreign relations were Austro-German *Anschluss*, making Hitler's dynamic Great Germany a formidable next-door-neighbor; the progressive replacement of Italian influence and trade throughout the Danubian and Balkan regions by Germany; the collapse of the Rome bloc of powers (Italy, Austria, and Hungary) with the extinction of Austria and the transfer of Hungary from the Italian to the German orbit; the consolidation of the Rome-Berlin axis, with Mussolini

playing an increasingly subordinate role; the growing success achieved by the Italo-German intervention in support of General Franco's Insurgent cause in Spain; the conclusion of the Anglo-Italian agreement designed to settle virtually all outstanding points of difference between them; the Italian demands for greater territorial and other concessions from France and the resultant growing tension between the two countries; Anglo-French recognition of Italy's conquest of Ethiopia; growing coolness in relations between the United States and Italy.

Danubian and Balkan Events. Italy's subordination of its ties with Austria and Hungary to the Rome-Berlin axis and to rapprochement with Rumania and Yugoslavia (see 1937 YEAR BOOK, p. 363) had adverse repercussions for Italy early in 1938. At the conference of the Rome bloc held in Budapest January 10-12, Austria and Hungary rejected Mussolini's request that they join the Rome-Berlin-Tokyo anti-Communist pact and withdraw from the League of Nations. They did agree to recognize the Franco Government in Spain.

With the development of the Austro-German crisis in February and March, the Austrian Chancellor appealed to Il Duce for support against Hitler. Italy was unable for both military and diplomatic reasons to oppose Hitler's ambitions, and Mussolini turned a deaf ear to Dr. Schuschnigg's appeals (see AUSTRIA under *History*).

The appearance of German troops at the Brenner pass caused marked forebodings among the Italian people. But Mussolini accepted with reservations Hitler's pledge that the Brenner frontier would remain inviolable and announced that Italy would remain faithful to the Rome-Berlin axis. Italy's acceptance of *Anschluss*, he assured the Italian people, was dictated not by fear but by "our conscience, our sense of honor, our loyal friendship for Germany." At the same time he ordered the strengthening of fortifications along the German-Italian frontier and declared that Italy was prepared to defend it. The strength of the Rome-Berlin axis appeared to have been solidified by Hitler's visit of May 3-5 to Italy and by the invaluable aid Mussolini gave Hitler during the crisis of September over Czecho-Slovakia (q.v.). In return Mussolini demanded and received assurances of German support for his colonial demands upon France, made late in the year (see FRANCE under *History*).

But there was doubt as to whether Hitler would go to the extent of giving armed aid to Italy against the western powers. The unpopularity of the German alliance among the Italian people was enhanced by Nazi attacks upon Catholics in Austria and Germany and by the strength the axis gave to radical elements within the Fascist Government itself. Mussolini showed himself unwilling to accept complete exclusion from the Danube basin and the Balkans by his support of Polish-Hungarian efforts to establish a common frontier to block Germany's eastward and southward expansion. Yet without German aid, Italy was unable to press her demands upon France and Britain, the basic objective of which was eventual Italian domination of the Mediterranean. Mussolini also needed a further diplomatic or military triumph to offset the disillusionment felt in Italy at the paucity of the economic results flowing from Italy's expenditure of men and money in Ethiopia (see ITALIAN EAST AFRICA under *History*).

Relations with Britain and France. In an effort to wean Italy away from Germany, Prime Minister Chamberlain of Great Britain in April

agreed to pay Mussolini's price, which was recognition of Italian sovereignty over Ethiopia and acquiescence in the victory of General Franco brought about by open Italian and German intervention in Spain (see GREAT BRITAIN under *History*). The British also induced the French Government to cut off all aid to the Spanish Loyalists. The impending Franco victory promised to give Italy important diplomatic and strategic advantages in her drive to weaken the Anglo-French hold on the Mediterranean and North Africa. With the aid of a friendly Spain, granting Italian submarines and naval vessels the use of its ports, Italy hoped to be able to prevent the British and French from closing the Straits of Gibraltar in case of war and to threaten the French communications with North Africa and British shipping in the eastern Atlantic. Up to the end of 1938 the Italian intervention in Spain was estimated to have cost several billion lire, while casualties among Italian troops numbered 2657 dead and 8858 wounded up to Oct. 10, 1938, according to an official communiqué.

General Franco's action in declaring his neutrality during the European crisis of September over Czecho-Slovakia was reported to have aroused anger in Rome and doubt as to the reliability of Franco's future friendship. Shortly afterwards Mussolini for the first time accepted the British plea for withdrawal of Italian troops from Spain. On October 20 about 10,000 of some 40,000 Italian troops in Spain returned to Naples to receive a great popular welcome (see SPAIN under *History*). This action enabled Prime Minister Chamberlain to put into effect in November the Anglo-Italian treaty signed in April. The resultant improvement in Anglo-Italian relations was checked toward the end of the year by the Italian demands upon Britain's ally, France. There also remained some unsettled Anglo-Italian issues, such as the Italian demand for possession of the *Cocnaculum* in Jerusalem and Italian opposition to the growing British and French economic and political ties with Turkey (q.v.). The Turks remained deeply suspicious of Mussolini's Mediterranean aims and hostile toward Italian expansion.

Relations with United States. The United States remained the principal great power that held to its refusal to recognize the Italian conquest of Ethiopia. It was reported in January that negotiations on an Italian-American trade treaty had been interrupted by Secretary Hull's refusal to accept Mussolini's demand that the pact be made in the name of Victor Emmanuel as King of Italy and Emperor of Ethiopia. On May 13 Mr. Hull announced that the United States would adhere to its non-recognition stand and this was done in subsequent exchanges with Rome authorities. Another point of friction arose over the Italian anti-Semitic laws. The United States demanded and received assurances that American Jews in Italy would be accorded the same rights as other American citizens (see JEWS under *Italy*). The United States Ambassador to Rome, William Phillips, was called home in November to confer with President Roosevelt on Italo-American relations, but unlike the Ambassador to Germany, he was permitted to return to his post. There was increasing friction between Italian and American interests in Latin America, where Italian propaganda worked to undermine the commercial and diplomatic position of the United States.

Other Developments. Italy continued to enjoy the collaboration of the Stoyadinovitch Government in Yugoslavia (q.v.); a new commercial and pay-

ments agreement was signed by the two governments Jan. 7, 1938. Italy worked to reconcile Yugoslavia, Rumania, Hungary, and Poland in the hope of creating a counter-weight to German economic and military power in that region. By an exchange of notes with Switzerland on June 24 Italy promised to respect Swiss neutrality in return for Switzerland's repudiation of all League obligations. On July 5 a trade treaty was signed by Italy on one hand and Japan and Manchoukuo on the other. Italy had recognized Manchoukuo as an independent state in 1937.

See ALBANIA, CHINA, CZECHO-SLOVAKIA, EGYPT, FRANCE, GERMANY, GREAT BRITAIN, HUNGARY, JAPAN, POLAND, RUMANIA, SPAIN, SWITZERLAND, TURKEY, and YUGOSLAVIA under *History*; FASCISM; JEWS; LEAGUE OF NATIONS; MILITARY PROGRESS; NAVAL PROGRESS; REPARATIONS AND WAR DEBTS; ROMAN CATHOLIC CHURCH.

IVORY COAST. See FRENCH WEST AFRICA.

JAMAICA, *ja-mā'ka*. A British colony in the West Indies. Area, 4540¼ square miles; population (Jan. 1, 1938, estimate), 1,152,528 compared with 858,118 (1921 census). The dependencies are Cayman Islands (see below), Turks and Caicos Islands (see below), Morant Cays, and Pedro Cays. The principal towns are Kingston (capital), 62,707 inhabitants in 1921; Spanish Town, 8694; Port Antonio, 6272; Montego Bay, 6580; Savanna-la-Mar, 3442; Port Maria, 2481. In 1937 there were 35,352 births, 17,481 deaths, and 5305 marriages.

Production and Trade. The principal products are sugar (120,000 tons in 1938), bananas, coffee, rum, coconuts, pimento, grapefruit, logwood extracts, ginger, cocoa, oranges, tobacco, and logwood. For the 1938-39 season, Jamaica's sugar quota was fixed at 82,400 long tons. Livestock in the colony (1936-37): 102,101 cattle, 10,405 sheep, 30,726 horses, mules, and asses. In 1937 imports totaled £6,138,379 (cotton piece goods 6 per cent, flour 6.6 per cent, fish 4.8 per cent, boots and shoes 3.9 per cent, and fuel oil 4.4 per cent, were the chief items); exports (including re-exports) totaled £4,994,281 (bananas 55.3 per cent, sugar 18 per cent, and rum 5 per cent, were the main items). Great Britain supplied 33.7 per cent of the imports and took 55.8 per cent of the exports. During 1937, 1513 vessels aggregating 4,652,412 net tons cleared the ports. There were 6893 miles of roads in 1937. During the same year, a total of 65,269 tourists visited Jamaica.

Government. For the fiscal year ended Mar. 31, 1938, total revenue amounted to £2,476,136; expenditure from income, £2,271,174; public debt, £4,604,477. Budget (1938-39): Revenue, £2,449,517; expenditure, £2,535,507. The government is administered by a governor, assisted by a privy council of 8 members, and a legislative council of 30 members (consisting of the governor as president, and 5 ex-officio, 10 nominated, and 14 elected members). Captain-General and Governor-in-Chief, Sir Arthur F. Richards (appointed, June 14, 1938), who succeeded Sir Edward B. Denham (died June 2, 1938).

History. The governor, on Jan. 31, 1938, opened the Inter-Colonial Conference in Jamaica, to discuss uniform customs procedure in the British West Indies. Early in January, a sugar-cane cutters' strike broke out in the parish of St. Thomas and 40 strikers were injured. Later the dispute was settled. From April 29 to May 3, disorders took place on sugar estates in the parish of Westmoreland where strikers battled with armed police. Six persons were killed, 50 were wounded, and 90 were

arrested. The strike was broken and some of the men returned to work. A strike of stevedores and street cleaners began at Kingston on May 21, and two days later it was augmented by a sympathetic strike of industrial and agricultural workers in many parts of the island. Governor Denham was granted emergency powers by the legislative council and the cruiser *Ajax* was summoned from Bermuda. The strike was settled by mediation on May 27, but violence continued.

During July a royal commission was appointed "to investigate social and economic conditions in Barbados, British Guiana, British Honduras, Jamaica, Leeward Islands, Trinidad and Tobago, and Windward Islands, and matters connected therewith, and to make recommendations." The commission consisted of 10 members including Lord Moyne as chairman and Sir Edward Stubbs as vice-chairman. In London the chairman announced that the commissioners would work together in Jamaica, Barbados, Trinidad and Tobago, and British Guiana, but would divide into two parties in order to visit British Honduras, Leeward Islands, and Windward Islands. The commission arrived in Jamaica at the end of October.

At the end of July, the worst accident in the history of the Jamaica railways occurred when a train, which was proceeding to Montego Bay with a large number of vacationists, was derailed and more than 30 people were killed and 70 were wounded. Jamaica's celebration, on August 1, of the 100th anniversary of "Emancipation Day," was carried out in perfect order throughout the island. Agricultural laborers were excluded from the Workmen's Compensation Act which went into force in Jamaica at the beginning of August. Sir Arthur Richards, the new governor, arrived at Kingston on August 19. He promised to try to bring about a peaceful settlement of disputes between capital and labor, and to proceed with the land-settlement scheme initiated last May to relieve unemployment.

After 18 years on the island, engaged in various health projects, the Rockefeller Foundation announced its retirement in September. Headquarters were transferred to Havana, Cuba. On December 13, the Jamaican legislature voted universal suffrage, but the proposal must be approved in London before it can be made effective. Regular shipments of the new fruit named *ugli*, a cross between the tangerine and the grapefruit, were made from Jamaica to London during 1938.

Cayman Islands. A dependency of Jamaica, consisting of the islands of Grand Cayman, Little Cayman, and Cayman Brac. Area, 104 square miles; population (1937), 6800. Georgetown (capital) had 1321 inhabitants in 1934. The chief products are coconuts, green turtle, thatch rope, and turtle shell. In 1937 imports totaled £27,321; exports £10,478; revenue, £17,410; expenditure, £16,649. The government is administered by a commissioner under the direction of the Governor of Jamaica.

Turks and Caicos (ki'kōs) Islands. A dependency of Jamaica. Area, 166 square miles; population (1937), 5300. The principal products are salt (1,400,840 bu. exported in 1937), conchs, turtle shell, sponges, and sisal. In 1937 imports were valued at £25,654; exports £30,061 (including re-exports); revenue, £21,148; expenditure, £10,955. There is a cable station at Grand Turk. The government is administered by a commissioner (with headquarters on Grand Turk) aided by a legislative board of seven members (appointed by the Crown),

subject to the supervision of the Governor of Jamaica.

JAPAN. A Far Eastern empire, comprising (1) Japan proper, or the five main islands of Honshu, Kyushu, Shikoku, Hokkaido, and Ryukyu, with some 600 smaller islands; (2) Formosa (Taiwan); (3) Korea (Chosen); (4) Karafuto (southern Sakhalin); and (5) Pescadores (Bokoto) Islands. In addition Japan controlled the leased territory of Kwantung and the South Manchuria Railway Zone in Manchuria and mandated territories (Marianne, Caroline, and Marshall Islands) in the North Pacific. During 1931-33 it established a protectorate over three Chinese provinces (Liaoning, Kirin, and Heilungkiang) in Manchuria and Jehol Province in Inner Mongolia, forming them into the new state of Manchoukuo. Capital of Japan, Tokyo; Emperor in 1938, Hirohito, who ascended the throne Dec. 25, 1926. See separate articles on FORMOSA, KOREA, KARAFUTO, JAPANESE PACIFIC ISLANDS, KWANTUNG, and MANCHOUKUO.

Area and Population. The area and population of the empire at the censuses of 1930 and 1935 are shown in the accompanying table.

JAPANESE EMPIRE: AREA AND POPULATION

Island	Area, sq. miles	Population, 1930 census	Population, 1935 census
Japan proper	147,593	64,450,005	69,254,148
Korea	85,228	21,058,305	22,899,038
Formosa ^a	13,889	4,592,537	5,212,426
Karafuto	13,934	295,196	331,943
Japanese Empire	260,644	90,396,043	97,697,555
Kwantung ^b	1,438	1,328,011	1,656,726
Mandated Pacific Is.	830	69,626	102,537

^a Including Pescadores (Bokoto) Islands; area, 49 square miles. ^b Including South Manchuria Railway Zone.

The population of Japan proper was estimated at 72,222,700 on Oct. 1, 1938. The urban population increased from 24 per cent of the total in 1930 to 32.7 per cent in 1935, due partly to the expansion of metropolitan areas. Births in Japan proper in 1936 numbered 2,101,969 (29.9 per 1000); deaths, 1,230,278 (17.5 per 1000); marriages, 549,116 (7.8 per 1000). On Oct. 1, 1936, there were 997,115 Japanese residing abroad (206,802 men and 154,440 women in the Americas). The number of foreigners in Japan on Dec. 31, 1936, was 40,865 (2086 U.S. citizens). The estimated populations of the chief cities on Oct. 1, 1937, were: Tokyo, 6,274,000; Osaka, 3,213,000; Nagoya, 1,186,900; Kyoto, 1,133,900; Kobe, 964,000; Yokohama, 759,700; Hiroshima, 326,600; Fukuoka, 308,200; Kure, 248,400; Yawata, 229,600; Sendai, 229,400; Nagasaki, 214,600; Hakodate, 211,700; Shizuoka, 211,600; Sapporo, 205,900; Yokosuka, 203,800.

Education and Religion. Approximately 10 per cent of persons over 7 years of age are illiterate, but illiteracy is confined largely to people over 50 years of age. The school enrollment in 1935 was: Elementary, 11,103,920; secondary, 694,536; technical, 1,614,443; normal, 33,061; university, 71,162. There is no state religion and religious freedom prevails. Shintoism, with 13 different sects, and Buddhism, with 12 sects, are the principal religions. The Roman Catholic, Greek Catholic, and Protestant churches have a relatively small following.

Production. Manufacturing normally accounts for about 32.7 per cent of the national income, commerce for 25.4 per cent, and agriculture for about 17.7 per cent. Agriculture, however, supports nearly half the population of Japan proper, although only 14,914,000 acres (16 per cent of the total

area) were suitable for cultivation in 1936. Cultivable land included 7,885,000 acres of rice fields and 7,029,000 acres of upland farms. There were 59,271,000 acres of forests, bamboo groves, etc. The Ministry of Agriculture estimated farm income at 3,754,000,000 yen for 1938 and 3,654,000,000 yen for 1937. Production of the chief crops in 1937 was: Rice (rough), 603,012,000 bu.; wheat, 50,410,000 bu.; barley, 35,217,000 bu.; naked barley, 30,512,000 bu.; oats, 9,927,000 bu.; soybeans, 13,482,000 bu. (1936); azuki beans, 3,542,000 bu. (1936); potatoes, 61,552,000 bu. (1936); sweet potatoes, 137,733,000 bu. (1936); tea, 118,650,000 lb.; sugar cane, 1,123,000 metric tons (1936); tobacco, 142,375,000 lb.; cocoons, 712,941,000 lb. Raw silk production was 93,261,000 lb. (1936). The livestock census of 1936 showed 1,771,000 cattle, 1,432,000 horses, 1,110,000 swine, 292,000 goats, and 61,000 sheep.

The mineral and metallurgical production of Japan proper for 1936 was (in metric tons): Coal, 41,803,000; iron pyrites, 1,850,914; sulphur, 198,237; copper, 77,975; lead, 8883; zinc, 39,066; tin, 1871; pig iron (including Korea and Manchuria), 2,008,000; steel ingots (including Korea and Manchuria, 4,539,000. The 1936 output of crude petroleum was 2,458,000 bbl.; gold, 714,855 troy oz.; silver, 9,765,000 troy oz. The value of the output of leading manufactured products of Japan proper in 1936 was (in 1000 yen): Cotton fabrics, 865,002; cotton yarn, 840,274; machinery, 785,252; wool fabrics, 339,857; rayon, including silk mixtures, 207,027; silk fabrics, 301,009. The total value of industrial production in 1937 was estimated at 16,486,000,000 yen (12,257,588,000 in 1936). Of the value of the 1936 output, textiles accounted for 29.8 per cent; metals and metal products, 18 per cent; chemicals, fertilizers, etc., 17.2; machinery and vehicles, 14; foodstuffs, 10.2; clay products, 2.7; lumber and wood products, 2.3; printing and binding, 1.9 per cent. In 1937 Japan regained world leadership in the production of cotton piece goods.

Foreign Trade. General merchandise imports into Japan proper in 1937 totaled 3,783,177,000 yen (2,763,681,000 in 1936) and general exports 3,175,418,000 yen (2,692,976,000). Converted to U.S. currency at average exchange rates, imports were \$1,088,344,000 in 1937 (\$802,076,000 in 1936); exports of Japanese products, \$914,457,000 (\$781,555,000). The leading 1937 imports, in order of value, were ores and metals, ginned cotton, wool; oils, fats and waxes; and machinery. The value of leading 1937 exports was (in U.S. currency): Cotton piece goods, \$165,031,000; raw silk, \$112,242,000; rayon piece goods, \$44,597,000; heavy iron and steel, \$26,097,000. The United States supplied 33.6 per cent of the 1937 imports of Japan proper; India, 11.9; China, 10.4; Germany, 4.7; Australia, 4.4. Of the exports the United States took 20.6 per cent; China, 12.3; India, 9.4; United Kingdom, 5.3.

Imports of the Japanese Empire in 1938 totaled 2,836,000,000 yen and exports 2,897,000,000 yen, or decreases of 28.5 and 13 per cent, respectively, from 1937. About 50 per cent of the total 1938 trade was with the continent of Asia (43 per cent in 1937). United States trade figures for 1938 showed imports from Japan of \$126,820,137 (\$204,201,032 in 1937) and exports to Japan of \$239,575,201 (\$288,558,170 in 1937).

Finance. Operations of the general accounts budgets for fiscal years ending March 31 are shown in the accompanying table.

JAPANESE BUDGET OPERATIONS

[In thousands of yen]

	1936-37 (actual)	1937-38 (estimates)	1938-39 (estimates)
Revenues:			
Ordinary	1,561,650	1,833,085	2,203,762
Extraordinary *	147,985	233,798	302,698
Total revenue	1,709,635	2,066,883	2,506,460
Expenditures:			
Ordinary	1,320,141	1,528,697	1,767,447
Extraordinary	962,035	1,452,994	1,747,075
Total expenditures	2,282,176	2,981,691	3,514,522
Excess of expenditures	572,541	914,808	1,008,062
Proceeds from loans ..	609,622	827,395	1,008,062

* Excludes proceeds of loans and transfer of balance brought forward from preceding years. ^b Includes 317,165,276 yen to be transferred to the Extraordinary Military Expenditures, Special Account.

The above figures are exclusive of the special budget for extraordinary military expenditures having no fixed fiscal term. For this budget the Diets of July-August, 1937, September, 1937, and March, 1938, approved special taxes and other revenues totaling 502,533,000 yen (including 317,165,276 yen transferred from the General Accounts budget for 1938-39) and expenditures of 7,379,879,000 yen. National loans of 6,877,346,000 yen were authorized to meet the excess of expenditures authorized over tax receipts and transfers.

The Vice-Governor of the Bank of Japan estimated that all government payments during the calendar year 1938 exceeded receipts by 4,750,000,000 yen, as against an excess of 1,770,000,000 yen in 1937. The bonded indebtedness of the Japanese Government on Dec. 31, 1938, totaled 16,222,700,000 yen, an increase of 4,329,000,000 yen over Dec. 31, 1937, and rice notes outstanding Dec. 31, 1938, amounted to 428,600,000 yen. The average exchange value of the yen was \$0.2879 for 1937 and \$0.2845 for 1938.

Transportation. On Mar. 31, 1937, there were 10,826 miles of government and 4338 miles of private railway line. For the year ended Mar. 31, 1936, all railways carried 1,531,314,000 passengers and 109,169,000 tons of freight, the gross receipts totaling 635,183,000 yen. There were about 665,394 miles of roads and highways in 1937; the number of automobiles on Jan. 1, 1938, was 175,761. Regular air services connect the principal cities of Japan proper with Formosa, Korea, Manchuria, China proper, and the Japanese mandated islands in the Pacific. Regular services between Tokyo and Peiping and between Fukuoka and Nanking via Shanghai were opened Oct. 5, 1938. In 1936 Japanese air routes totaled 1887 miles. Operating statistics were: Number of flights, 10,452; passengers, 20,996; freight, 184,686 lb.; mail, 785,968 lb. Effective Dec. 1, 1938, the government merged the principal aviation companies of Japan to facilitate the rapid development of civil air services. In 1938 the Japanese merchant marine consisted of 2187 vessels (of 100 tons or over) with a gross tonnage of 5,006,712 (2564 ships of 4,475,110 tons in 1937). During 1937, 21,736 vessels of 72,886,000 net registered tons entered the ports of Japan proper in the foreign trade (excluding trade with Formosa and Korea).

Government. Executive power is vested in the emperor, who acts with the advice and aid of a ministry appointed by and responsible to him, but every law requires the approval of the Imperial Diet of two chambers. The Upper Chamber (House of Peers) consisted in 1938 of 412 members, of

whom 192 were chosen for life on the basis of rank, wealth, and other qualifications and the remainder were elected from and by special groups for seven years. The House of Representatives consisted of 466 members elected for four years. There is a Privy Council, consulted by the emperor on important national problems. Premier at the beginning of 1938, Prince Fumimaro Konoye, heading a non-party government formed June 3, 1937. For changes in 1938, see *History*.

HISTORY

Domestic Affairs. The entire energies of the Japanese people were directed throughout 1938 to the prosecution of the war upon China (see CHINA under *History* for a full description) and to preparations for the expected conflict with the Soviet Union. The national emergency imposed an increasing strain upon the national economy, reversing the striking economic progress that Japan had enjoyed in the years preceding the outbreak of the Chino-Japanese struggle in July, 1937. Under cover of the emergency, the reactionary and ultra-nationalist elements completed the rout of liberalism and representative government, begun in 1931. By the end of 1938 a military-fascist government was exercising virtually unlimited control over Japan's economic and political life. The nation's economic structure had undergone a far-reaching change resulting from mobilization of all economic resources for military purposes.

National Mobilization Law. The final victory of the military-fascist elements was achieved by means of repeated changes in the cabinet that eliminated persons opposed to absolute military control of the government and the economic system. In the Diet session of February-March, 1938, the military-fascist forces obtained the passage, against the opposition of liberal politicians and industrialists adversely affected by the rise of war industries, of the National Mobilization Bill. This far-reaching statute, drafted by the army-dominated Cabinet Planning Board, gave the government unlimited control of Japanese social and economic life, including industry, finance, trade, transportation, labor, the press, and organizations of all kinds. It provided for conscription of workers, prohibited strikes and lockouts, and authorized the government to fix wages, hours, and working conditions. Challenging the legislative powers of the Diet, it provided that matters not specifically mentioned in the bill could be regulated by Imperial Ordinance.

Opponents of the measure were subjected to intimidation and terroristic attacks. The Tokyo headquarters of the two largest political parties—Minseito and Seiyukai—were forcibly occupied by a gang of 400 hired ruffians during the course of the debate in the Diet. Before approving the bill, the party leaders demanded guarantees from the Home Minister against a repetition of these tactics. They also exacted a pledge from Premier Konoye that the bill would not be applied during the Sino-Japanese conflict but only in case of war with another power. The government also agreed to appoint a majority of Diet members to the National Mobilization Council, to be consulted regarding Imperial Ordinances issued under the measure. On March 26 laws nationalizing the electric power industry were passed, with certain amendments protecting private power interests.

Cabinet Reorganized. Most of the safeguards erected against application of the National Mobilization Act were swept away as a result of the

political crisis precipitated by the Chinese victory at Taierhchwang on April 6-7. The army demanded immediate application of the Mobilization Act. Prince Konoye resisted, but was finally forced to repudiate his pledge and to sanction the putting into effect of the main provisions of the act (May 5). On May 26 the cabinet was reorganized to facilitate prosecution of the war and enforcement of the Mobilization Act. Gen. Kazushige Ugaki became Minister of Foreign and Overseas Affairs, replacing both Koki Hirota and Sonyu Otani. Gen. Sadao Araki became Minister of Education and Seihin Ikeda Minister of Finance and of Commerce and Industry. On June 3 Gen. Seishiro Itagaki, recalled from active service in North China, replaced Gen. Gen Sugiyama as War Minister. This "Quick Victory Cabinet," as it was dubbed by the Japanese press, placed military and naval men in control of all the key positions except that of Finance.

The presence of Prince Konoye and other civilians in the government balked the army extremists of complete domination of the governmental machinery. The continuance of the struggle for power between the moderate and extremist factions was marked by the resignation of General Ugaki on September 29. His withdrawal was attributed in some quarters to his opposition to military control of the China Affairs Bureau, established to direct economic and cultural relations between Japan and the conquered portions of China. It was also charged that Ugaki had not been aggressive enough in his negotiations with Britain, France, Russia, and the United States to suit the army extremists. He was said to have opposed both the plan for an attack upon Canton and the provocative treatment of foreign interests in China. The Foreign Minister's resignation was followed by that of Naotake Sato and Hachiro Arita, the two former Foreign Ministers who had been made advisers to the Foreign Office in an effort to strengthen Ugaki's hand against the extremists. Premier Konoye himself took over the Foreign portfolio pending the appointment of Hachiro Arita on October 28.

With Ugaki out of the way, the China Affairs Bureau was reconstituted in line with the wishes of the military extremists and the successful offensive against Canton was launched on October 12. The extremists now shifted their attack to the Finance Ministry under Seihin Ikeda, which vigorously opposed the army's demands for application of the remaining provisions of the National Mobilization Law, particularly those permitting state control of corporation funds and restriction of the size of dividends. Ikeda held that these measures would adversely affect the capital market and curtail industrial activity. He was supported in this stand by Premier Konoye. But pressure of the extremists proved irresistible and on December 28 the National Mobilization Council approved six imperial ordinances empowering the government to control dividends, profits, wages and hours and to requisition factories, land, and commodities. This decision was followed by the resignation of Premier Konoye and Finance Minister Ikeda on Jan. 4, 1939, and the formation of a new government under Baron Hiranuma representing a formal victory for the military-fascist groups.

Economic Developments. The provisions of the National Mobilization Law were supplemented by other control measures designed to place Japanese political and economic forces at the command of the military machine. Among these were the Temporary Capital Adjustment Law, regu-

lating the flow of capital; the Temporary Measures Regarding Exports and Imports, restricting or prohibiting the export or import of any commodity; the restriction of currency exports; mobilization of all gold coin and bullion hoarded by banks and individuals; release of 300,000,000 yen from the Bank of Japan's gold reserve for shipment abroad to create a revolving foreign exchange credit, to be used for the purchase of raw materials for the manufacture of export articles, etc. By the end of 1938, practically every phase of business, financial and industrial activity was subjected to rigid limitations.

As a result of these measures, commodity prices advanced to the point where Japanese exports became less competitive in world markets. Foreign trade declined. Living costs increased sharply. The income from tourists and from Japanese shipping was drastically curtailed. Many small- and medium-sized industrialists not engaged in the production of war material were obliged to close down their plants or change the nature of the enterprises. On the other hand, the productive power of the nation was enlarged, particularly in armament and allied heavy industries. The output of peace-time industries declined by about 30 per cent from 1937. Unemployment virtually disappeared as a result of conscription and the demand for industrial labor. There was an increase in purchasing power and savings, which strengthened the government loan market. But despite efforts to develop local sources of supply, the government was hard pressed to find the foreign exchange necessary to pay for imports of vital raw materials and was obliged to deplete its gold reserve to a dangerously low level. In December the government ordered the gold mines in Korea to increase their production. The budget for 1939-40, presented in December, provided for the highest ordinary expenditures in the nation's history in addition to the extraordinary military bill of some five billion yen. Higher taxes were envisaged to limit the steadily mounting national debt (see *Finance*).

Not content with grandiose plans for the economic exploitation of Manchuria and China proper, the government pushed preparations for economic penetration of the Pacific islands and Indo-China. Early in 1938 the officially sponsored Taiwan Development Company announced a five-year expansion program, calling for investment of 120,000,000 yen in agricultural and industrial development in Formosa and 140,000,000 yen in similar enterprises in the South Seas. In conjunction with French investors, it established on Jan. 20, 1938, the French Indo-China Industrial Company, which commenced developments of iron, gold, zinc, manganese, and other metals in French Indo-China. The first shipment of 7500 tons of iron ore was sent to Japan on March 15. Meanwhile, the government continued to develop its program for mass colonization of Japanese youths in Northern Manchuria. About 95,000 young men were scheduled to settle there in 1939 and they were to be supplied with "picture brides" once they had established homes. To facilitate transportation to and from the mainland, the Ministry of Communications in December authorized a preliminary survey of a proposed 80-mile tunnel between Japan and Korea under the Straits of Tsushima.

State of National Morale. According to most observers, the intensely patriotic spirit of the Japanese people remained unimpaired by the hardships and sacrifices imposed by the war upon China. Yet signs of war weariness were noted. The fall of

Hankow and Canton in October, 1938, was received without the unbounded hope and enthusiasm that followed the capture of Nanking in December, 1937. The public was told by War Minister Itagaki that the conflict in China was only half over and that Japan might find herself facing a second enemy at any time. The New Year messages issued by government officials at the end of 1938 all emphasized the necessity for further sacrifices. In July the city of Tokyo cancelled the Olympic games scheduled to be held there in 1940.

Typhoons and floods inflicted further sufferings upon the Japanese people. The worst typhoon in 21 years swept Japan on September 3, killing about 200 persons and destroying 3500 houses. Crops were badly damaged. On October 21 another typhoon killed some 226 persons, injured more than 590, and left 35,000 homeless.

Foreign Relations. The resistance offered by the United States, Great Britain, and France to the Japanese efforts to exclude them from China and the resulting friction is described in detail in *CHINA under History*. The rise of German and Italian military power in Europe, with its threat to Britain and France, gave Japan a virtually free hand to oust British and French interests from China and eastern Asia. The Japanese leaders worked with dispatch, once they had overcome the opposition within Tokyo governmental circles, in order to consolidate their position in the western Pacific before the new British battle fleet, planned for completion by 1942, would be ready to operate from the Singapore naval base.

After Munich the Japanese felt free to defy Britain by launching the attack upon Canton and to prepare for the occupation of Hainan Island, dominating the sea approaches to French Indo-China. But the firm resistance offered by the United States to the Japanese "squeeze play" in China and Washington's financial aid of December to China (q.v.) revived Japan's fear of a possible Anglo-American combination against her and induced her to moderate her aggressiveness for the time being. While standing firmly by their "new order" in eastern Asia, the Japanese sought to avoid unnecessary irritation of American sentiment. A gentleman's agreement was reached in March under which Japanese fishing vessels did not renew their previous invasion of the Alaskan salmon fisheries at Bristol Bay.

Naval Building Race. However, the action of the Japanese Government in refusing on February 12 to supply information on its naval building plans, requested by Britain, France, and the United States as signatories of the London Naval Treaty of 1936, caused both Britain and the United States to enter the unlimited naval armament race already understood to have been begun by Japan. In November the yearbook of the German naval command reaffirmed previous rumors that Japan was building two new battleships of 40,000 to 45,000 tons displacement, each carrying nine 16-inch guns. British and American ships of similar tonnage and armament were hurriedly planned. The German yearbook also indicated that Japan was building fuel bases for her air force and submarines in the mandated islands in the Pacific, taken from Germany in the World War. The Japanese, who had repeatedly denied violating the demilitarization provisions of the mandate, were again to be questioned on this point at the annual session of the League mandates commission in Geneva in October-November. However, the Japanese Government on November 3 formally broke off all rela-

tions with the technical organizations of the League as a result of the League Council's action of September 30 authorizing individual application by League states of punitive measures against Japan.

Relations with Soviet Union. Japanese relations with the Soviet Union became more and more strained during 1938. The Japanese were deeply angered by Soviet aid to China and by the fact that Japan's aggression upon China had given the Chinese Communists a new foothold in the Nationalist Government and among the Chinese masses. In March Japan refused to permit the final payments due Russia on the Chinese Eastern Railway. The bad blood between the two countries, expressed in countless minor clashes between patrols along the Soviet-Manchoukuo border, came to a head in the fighting at Changkufeng near Possiet Bay in July and August (see MANCHOUKUO under *History*).

The successful Russian defense of Changkufeng and Moscow's refusal to back out under the threat of large-scale hostilities put a damper on Japanese belligerency toward the U.S.S.R. While Tokyo officials decided that the time was not ripe for a final showdown with the Soviet Union, they warned their people to prepare for the coming conflict. Friction with Russia continued over other points—the Chinese Eastern Railway payment, the Sakhalin oil concession, the suspension of parcel post service, and the perennial quarrel over Japanese fishing rights in Soviet waters, guaranteed by the Portsmouth Treaty of 1905. In December the Soviet Government refused Japan's request for a new fisheries treaty to permit fishing in Soviet waters in 1939 except on stiffer terms than theretofore prevailing. This stand aroused new threats of war in Tokyo and was still being debated at the year end.

Attitude Toward Rome-Berlin Axis. During the European crisis of September over Czecho-Slovakia, the Tokyo Foreign Office announced that in the event of war, Japan would adopt a policy of "watchful waiting," while maintaining "benevolent neutrality" in favor of Germany and Italy. After Munich another difference of opinion developed among Japanese military and diplomatic leaders over the advisability of transforming the Rome-Berlin-Tokyo anti-Communist pact into a military alliance. This issue was still unsettled when the year closed. Meanwhile, a German-Japanese cultural pact, providing for mutual recognition of their respective racial principles, was concluded on November 22. In February Chancellor Hitler had announced that he would formally recognize Manchoukuo, thus following the lead set by Italy in 1937.

See CHINA, FRANCE, GERMANY, GREAT BRITAIN, MANCHOUKUO, PHILIPPINES, and SIAM under *History*; COMMUNISM; FASCISM; LEAGUE OF NATIONS; NARCOTICS; MILITARY PROGRESS; NAVAL PROGRESS.

JAPANESE PACIFIC ISLANDS (NANYO). By the Treaty of Versailles Japan was given the mandatory right over the former German South Sea Islands north of the equator. They include (1) MARIANA (or LADRONE) group of 14 islands, the main ones being Saipan, Tinian, Rota; (2) CAROLINE group of 549 islands, the main ones being Yap, Palau, Angaur, Spring, Summer, Wednesday, Ponape, Kusaie; (3) MARSHALL group of 60 islands, the most important being Jaluit. Total area, 830 square miles; total population (1936 estimate), 108,000.

Production. Cane sugar (1935–36, 49,100 metric tons), maize (1936, 200 metric tons), phosphates (1936, 70,000 metric tons), tapioca, bananas, coffee, yams, taro, alcohol, and copra (1936 exports, 12,200 metric tons) are the main products. In 1937 the estimated value of merchandise imports (in old U.S. gold dollars) was \$3,200,000 (1936, \$2,500,000); exports, \$4,300,000 (1936, \$3,500,000).

Communications. An air service between Tokyo and Saipan was scheduled to be inaugurated during 1937, covering a distance of 2562 miles in about 36 hours.

Government. The budget for 1937–38 was estimated to balance at ¥8,700,000 (yen averaged \$0.2879 for 1937). A governor, with headquarters at Koror in the Caroline group, administers the islands under the Japanese Minister of Overseas Affairs. Governor, Kisao Hayashi.

JARVIS ISLAND. See BAKER, HOWLAND, and JARVIS ISLANDS.

JAUNDICE, NATURE OF BLEEDING IN. See MEDICINE AND SURGERY.

JAVA. See NETHERLANDS INDIES.

JEBEL DRUZE. See DJEBEL DRUSE.

JEWISH AUTONOMOUS TERRITORY. See BIRO-BIDJAN.

JEWS. Germany. The assassination in November of Third Secretary of the German Embassy Ernst vom Rath in Paris by the young Jewish refugee, Herschel Grynszpan, unleashed an official terror against the Jews in Germany, which, it quickly became apparent, had as its purpose the complete bankruptcy and eventual extirpation of some 700,000 Jews and so-called racial Jews residing in this land. On November 10, aided and abetted by the press, organized mobs made up of members of the Elite Guard and the Brown Shirts proceeded through the streets of Germany's urban communities burning synagogues, wrecking and pillaging shops and offices, and arresting on a wholesale scale thousands of heads of families for incarceration in concentration camps. This pogrom went on for 14 hours and terminated as quickly as it had begun when Propaganda Minister Goebbels called a halt, although he condoned the mob action as inspired by "healthy instincts."

The devices which Germany immediately unleashed for the purposes of exacting retaliation, clearly indicated that the plans had long been in preparation and simply awaited the appearance of a provocative act such as the Rath assassination. Field Marshal Hermann Goering, Four-Year-Plan Director, issued a decree prohibiting Jews, after January 1, from conducting retail-trade, mail-order, commission, or handicraft enterprises. He also levied a fine of one billion marks upon German Jews as a "penalty for the dastardly murder in Paris." In other words, under these decrees, Jews were to be excluded from all forms of capital and productive enterprise after the end of the year, making possible, therefore, survival only on the basis of the consumption of the capital remaining in the hands of the group. It was estimated that this total capital was not much in excess of 10 billions of marks. The impoverishment of the whole Jewish community was likely therefore to have the inevitable end of building up a new proletariat.

It was generally agreed by trained observers on the scene that this ruthlessness on the part of the German officialdom had neither the support nor the sympathy of the great mass of the population. Indeed, many of them, at the risk of their personal safety, gave asylum to Jews who were being sought by the police, helped in the feeding of families

whose menfolk had been carried off to jail, and privately expressed their shame and disgust at the wanton destruction and pillaging. Mrs. Anne O'Hare McCormick very justly pointed out that the real victims of this tragedy were not the Jews but the German people itself. She said in the *New York Times* of Nov. 12, 1938: "It means that the millions who detest this brutality have lost the power to protest and that other millions have no desire to protest because they have been worked on by years of anti-Semitic propaganda. And this shows what the Nazi mentality plus the Nazi police power has done to an intelligent people."

The work of retaliation was pursued on many fronts. Germany began a mass deportation of Polish Jews across the Polish frontier and within a single day from 4000 to 18,000 persons, according to various estimates, including women, children, and sick people, were being deported to Poland with only 10 marks in their pockets and the clothes they wore.

In the middle of December it was revealed that Germany was evolving a plan for the purposes of getting rid of the greater part of its Jewish community, not merely at the expense of German-Jewish capital, but also by the forced participation in expanded export trade on the part of Jews throughout the world. Dr. Hjalmar Schacht, President of the Reichsbank, placed before Mr. George Rublee, Permanent Director of the Governmental Committee for Refugees, which had been set up at the Evian Conference (described in detail below), the German plan. Under this, all capital possessions left by Jews in Germany after the government collected its share in "flight taxes," "money atonement," and "aryanization profits," and after the liquidators got through liquidating Jewish businesses, were to be pooled. This pool, which could not be transferred, was to be used as the basis for an international loan, to be raised obviously by world Jewry, for the purposes of financing the emigration of German Jews. The service charges on this loan were to be paid out of "additional German exports," that is to say, the servicing of the loan would be based entirely upon the willingness of Jewish refugees and their friends among world Jewry to buy German goods over and above normal German exports. Here, in other words, was a device for legalizing the expropriation of Jewish property in Germany and at the same time forcing world Jewry to pay for the redemption of Jewish hostages and their movement out of the country through the forced purchase of German goods.

It appeared, toward the end of the year, that international experts were not particularly cordial to the plan, although Mr. Rublee accepted the invitation to come to Berlin to discuss the various ramifications of the proposal with Mr. Schacht and Field Marshal Goering.

Italy. Undoubtedly inspired by the activities of the Nazis in Germany and, as many informed observers believed, caught in the toils of the net which Hitler had spun about him with great skill, Mussolini in Italy, beginning with the midyear, began to inaugurate a widespread anti-Semitic program. No effort was made by anti-Jewish propaganda to prepare the Italian people—always friendly to the Jews—for the storm which descended so suddenly. Nor did the Italian Government make any effort to provide any ameliorating measures. Seeking to cover itself in the eyes of the world on the basis of a racist doctrine which was obviously copied from Germany, Italy, beginning with August, promulgated a series of anti-Jewish decrees

which had the effects of eliminating the Jews from the cultural and public life of Italy and shutting off virtually every conceivable opportunity for business and professional enterprise.

The Jewish problem in Italy obviously was not a significant one from the population point of view, and while the Jews were common in business, professional, and educational activities, they by no means played the predominating role that was true of their position in Vienna, for example. The fact of the matter was that the number of Jews residing in Italy was very small. The 1931 census gave the total of the Italian Jewish population as well under 50,000. Even allowing for the few thousand German and Austrian Jewish refugees who had migrated to Italy and for those Jews who had been converted to Christianity, the total of persons in Italy regarded as "non-Aryans" could not amount to as much as 2 per 1000 of the population. In the second place, the Italian Jewish population had virtually been entirely assimilated in view of the fact that most Italian Jews had been Italian nationals for many generations.

The anti-Jewish decrees, in less than four months, as has been said, virtually eliminated the Jews from every form of cultural and productive activity. The decrees included the following: No Jewish students were to be permitted to study in the high schools or universities; special classes were open for Jewish children in the elementary school; all Jews who had entered Italy since the World War, whether they had become naturalized or not, were to quit the country before Mar. 1, 1941; Italian Jews were not to be permitted to own urban real estate which produced an income in excess of more than \$1000 a year; Jewish capitalists were not permitted to own factories employing more than 300 workers; all Jews in public offices, in the army, in the universities and schools, and working as journalists, writers, and artists, were to be dismissed from their posts; Jews were banned from appearances on stages and in concert halls, nor might the work of a Jewish writer, Italian or foreign, be published; banks, insurance companies, and other financial institutions were called upon to dismiss their Jewish employees and to drop their Jewish directors; the Jewish owner of a shop or business might not bequeath his shop or business to his children.

It was generally agreed that this Italian anti-Semitic policy had no basis of support in the lower classes and emerged entirely from the Fascist Party bureaucracy. It is important to note that the Vatican, speaking for the Catholic community, courageously raised its voice against the new racial dogmas which it termed "excessive nationalism." And then when Mussolini, in a further decree, prohibited marriage between Aryan and non-Aryan Christians, it officially intervened. In letters addressed to the King and to Mussolini, the Vatican indicated that such a prohibition was a violation of the Concordat between the Church and the Italian State, under which the State agreed to confirm marriages solemnized by the Church. The Vatican also was going out of its way to defy the new decrees by offering aid to baptized Jews. How successful the Church was likely to be in the struggle against the new paganism—a paganism which had virtually become the official, religious, and moral view of Germany and now apparently was being adopted in Italy as well—remained to be seen. In any case it was very important to observe that the Catholic Church increasingly was being pushed

into a position of open hostility toward Fascism and Nazism.

Pressure also was being brought to bear on Italy by the American State Department, which called upon the Italian Government to clarify its attitude as regards the status of American Jews in Italy. As a result of such inquiries, in October the Italian Foreign Office assured the American Government that its decrees related to foreign Jews in general and not only to Jews of American citizenship and that American Jews would not be treated less favorably than other foreign Jews. It was apparent, however, that such an ambiguous promise was not completely satisfactory and that the State Department was prepared to pursue the matter further until questions of American Jewish property and personal rights had been entirely clarified. On December 19 Acting Secretary of State Sumner Welles announced that the Italian Government had given assurances that the rights of all American citizens would be fully observed in the application of the Italian anti-Semitic measures.

Russia. In September it was announced that the Society for Jewish Farm Settlement in Russia, organized and financed by American Jews to assist Jews in the Soviet Union, was proceeding to liquidate its affairs and planning to withdraw entirely from the Soviet Union immediately. The reason offered was that the Society had completed its work in Russia and that there was no longer any Jewish problem in this country. In the 17 years in which the so-called Agro-Joint, the Russian subsidiary of the Society, had operated it had spent 25 million dollars in the U.S.S.R. contributed by American Jews. With the liquidation of Agro-Joint, the last American relief work terminated, in view of the fact that Ort, the American Society for helping to train Jewish artisans, had wound up its affairs in July. There was one point, however, on which questions emerged in the United States. It had been generally assumed by contributors of the work of the Society that the money expended in the U.S.S.R. was in the form of an investment or loan rather than an outright grant. It was significant to note, however, that the Agro-Joint, in heralding the termination of its work, made no reference to the arrangements effected with the U.S.S.R. for the purposes of repaying this loan. American Jews were raising the question whether it was not desirable to insist upon a final settlement in view of the fact that funds were needed so badly for the purposes of resettling Jewish refugees from Central Europe.

Czecho-Slovakia and Hungary. That, as a result of the Munich settlement, Czecho-Slovakia was increasingly falling under the sway of Germany, was revealed by the fact that an official anti-Semitic policy was being drawn up. In December the Czech press described the first step taken in this direction as falling "within the framework of solving the whole Jewish problem." This was in connection with the issuance of a decree ousting Jews in teaching posts in German-language universities and high schools in the country. There was every indication that similar limitations on Jewish professional people were going to be imposed as regards the German institutions within Czecho-Slovakia. The Czech press was admitting that prohibitions against the activities of Jewish doctors in hospitals, sanitariums, insurance societies, and other social institutions were going to be imposed before long.

A somewhat similar anti-Jewish movement was evidencing itself in the case of Hungary, which

also was falling under the sway of the Nazi system. A new law already prepared by the Government Party was presented to Parliament, based on the same racial concepts to be found in the German anti-Semitic code. Under the Hungarian bill, every "full-blooded" or "half-blooded" Jew was to be regarded as a Jew. "Quarter Jews" were not to be so regarded nor "half Jews" if the Jewish parent was baptized and if the parents' marriage was contracted before Jan. 1, 1938. The law also made exceptions in the case of veterans of the World War who received gold or silver medals or had been 50 per cent disabled.

Under the bill, the Ministry of the Interior was given authorization to deprive Jews of citizenship if they were naturalized after June, 1914. Jews were virtually disfranchised by the inclusion of a provision that they could not vote with the other part of the population but only one month later in special polling booths. Further, Jews were to be prohibited from forming more than 6 per cent of any elected body throughout the country and were entirely excluded from the Senate. They were not to form more than 6 per cent of the members of any profession. In the field of newspaper publishing, the disabilities were particularly onerous. Jews were to be entirely excluded from owning, editing, or playing a leading part in any newspaper. This provision was to be put into force at the end of 1938. In commercial undertakings Jews were restricted to 12 per cent with an additional allowance of 3 per cent for those with military decorations. In this field, however, the time limit was fixed at 1943.

Austria. For the position of the Jews consult the article on that country.

Poland. The position of the Jews in Poland, now that Germany was spreading its influence increasingly over Central Europe, was becoming more threatening. The Polish Nationalists, the outstanding political group in the country, were beginning to demand the introduction of the ghetto for Polish Jews, and as Mr. Zukerman pointed out in *The Nation* of Apr. 2, 1938, the Polish Government had begun to comply with this demand. The first step in the introduction of the ghetto was in connection with the segregation of Jewish students in the universities. While the Government itself did not sanction the movement, it made no effort to discourage it. Rectors of the Polish universities, therefore, were compelling Jewish students to sit on special benches and their refusal was met with brutal beatings at the hands of the Nationalist students, or expulsion from the schools by the university administrators.

The ghetto was also being introduced unofficially in many other quarters. Apparently there already existed hundreds of ghetto markets in Poland, where Jewish traders and stallkeepers were being separated from the Poles and where Jewish porters were being compelled to wear special badges. Nationalistic Polish lawyers were demanding special benches in the courts for Jewish attorneys and nationalistic doctors were demanding similar segregation for their Jewish colleagues. Mr. Zukerman recorded, however, the fact that all sections of the Polish people were neither approving tacitly nor acquiescing silently. Polish labor and the Democratic Polish intelligentsia raised protests, while a number of leading Polish professors and scientists openly revolted against the order of university rectors for segregation.

Polish workers gave their Jewish fellow-workers assistance when, in March, the Polish

Jews staged a general strike against the introduction of the ghetto. Everywhere Polish workers joined their Jewish comrades. Also, the Polish Socialist Party was working harmoniously with the Jewish Labor Party against anti-Semitism. Mr. Zukerman was of the opinion that a good deal of the anti-Semitism had official support. Said he:

Poland, it is true, has a grievous Jewish problem but it is not the cause of the present outburst. Of the Polish population, 76 per cent consists of peasants, most of them on the point of starvation; yet Polish peasantry as a whole is not anti-Jewish. In most of the villages when the Nationalist agitators come to organize pogroms they meet with the resistance of the peasants. The peasants insist on trading with Jews even in the ghetto markets. The Polish workers, the worst paid in Europe, are not anti-semitic. Even the Polish intelligentsia and academic youth have no real grievance which could provoke such barbarism.

Mr. Zukerman went on to say that the terror launched by the Nationalists was for the purposes of embarrassing the Government, undermining the morale of the people, and creating a mood of anarchy which would make possible the establishment of a dictatorship comparable to the Italian and German Fascist and Nazi rules. Said he: "It may sound strange abroad, but in Poland it is a generally accepted truth that the present anti-Jewish drive . . . is directed more against Polish democracy than against the Jews."

Palestine. The aggravation of the refugee problem and the outbreak of the official German pogrom in November, as well as the continued Arab terrorism that was taking place in Palestine during the year, necessitated a reconsideration on the part of the British Cabinet of its plan promulgated in 1937 for the partition of the Holy Land. Under the 1937 proposal, Palestine was to have been divided up into Jewish, Arab, and British mandated States. Because of the resistance to the proposal from all quarters, a new Partition Commission, headed by Sir John Woodhead, was set up. The Woodhead Commission had been charged with the drawing up of plans for partition; and it had reported its inability to recommend boundaries for the proposed areas which would afford a reasonable prospect of the eventual establishment of self-supporting Arab and Jewish States. The British Government announced that it would seek a new solution for the Palestine problem "consistent with its obligations to the Jews and Arabs."

Thus Palestine once more became a center of interest not only of Jewish and Arab plans and hopes, but of British imperial policy as well. As far as the Jews were concerned, the problem had become particularly acute in view of the fact that the establishment of the homeland also coincided with the revival of anti-Semitism throughout Central Europe. The necessity for quickly finding asylum for hundreds of thousands of persons who were not necessarily associated with the Zionist movement, focused attention on the need for arriving at an accommodation as regards the Arab-Jewish dispute.

The Arab world regarded the plans of Jews in Palestine with considerable misgivings. Their whole case obviously rested upon the thought that an uncontrolled Jewish immigration would swamp the Arabs and convert them into a national minority. The problem obviously was a difficult one, particularly from the British point of view, whose ability to maintain peace in this strategic area obviously was linked with the stability of the empire in near and middle Asia. As Mr. Harold Callender, writing from London on November 12 in the *New York Times*, reported: "To enforce fair play amid

such racial bitterness, to permit Jewish immigration, according to the wording of the Balfour declaration in favor of a Jewish national home in Palestine, while safeguarding the Arab interests . . . is a difficult, perhaps impossible task for Britain."

Refugee Problem. The organized movement against Jews in Germany immediately after the accession to power of Hitler in 1933 forced international interest and preoccupation with the question of refugee settlement. In October, 1933, a Commission was set up by the League of Nations, headed by the American, James G. MacDonald, who was appointed High Commissioner of Refugees coming from Germany. With funds made available only from private contributions, this Commission set about the task of finding places of asylum for fleeing German refugees, and in partial measure met with successes. Some 40,000 Jewish refugees were moved into Palestine, and the Netherlands and Czecho-Slovakia absorbed small numbers.

The new wave of terrorism in 1938, following the absorption of Austria into Great Germany and the acquisition of the Sudetenland under the Munich settlement, as well as the inauguration of official and semi-official anti-Semitic campaigns in Hungary, Poland, and Czecho-Slovakia, necessitated a re-examination of the whole problem. At the behest of the U.S. Government, on March 24, a general conference on refugees was summoned with invitations sent to 9 European powers and 20 American Republics. Only Italy rejected the invitation to attend. The conference met at Evian, France, in July, with the United States represented by a delegation headed by Myron C. Taylor. While the conferees were prepared to engage in a frank discussion and listened with sympathetic attention to Mr. Taylor's demand for immediate action, no formal commitments were entered upon. The representatives of all participating countries reported their inability to let down immigration bars because of pressures at home against the admission of new groups, many of which would inevitably be inducted into the already large unemployed populations. The French insisted that they had already admitted more refugees than they were in a position to absorb. The British could only propose that the powers should try to persuade Hitler to stop his persecutions. The final upshot of the deliberations was that only Mexico, Peru, the Dominican Republic, and the United States offered to raise slightly their quota limits on refugees from Germany and other countries.

The overseas countries, it was interesting to note, were unanimous in rejecting any suggestion of large-scale settlement on their territories. The Foreign Policy Association, in its report of Nov. 1, 1938, called "International Aid to German Refugees," pointed out that the attitude of Australia was particularly illuminating and symptomatic of the position adopted by sparsely settled overseas regions. Lieut.-Col. T. W. White, the Australian spokesman, declared that "As we have no real racial problem we are not desirous of importing one by encouraging any scheme of large-scale foreign migration."

With an eye to furthering whatever settlement was possible under the circumstances—the unwillingness on the part of countries to absorb mass movements on the one hand and the virtual refusal of Germany to permit refugees to leave that country with any funds being the leading difficulties—the conference established a so-called Inter-Governmental Committee, stationed at London, under the executive direction of the American, George

Rublee. The refugees to be assisted by this Committee were defined as "persons who have not already left their country of origin (Germany, including Austria), but who must emigrate on account of their political opinions, religious beliefs, or racial origins, and persons, as defined above, who have already left their country of origin and who have not yet established themselves permanently elsewhere." As Director, Mr. Rublee was authorized to "undertake negotiations to improve the present conditions of exodus and to replace them with conditions of orderly emigration," and to "approach the governments of refugees with a view to developing opportunities for permanent settlement." The Foreign Policy Association summed up the results of the meeting as follows:

Thus the Evian meeting can be termed successful only in the sense that it succeeded in clarifying the existing situation, setting up permanent machinery to attempt to deal with the problem, and—possibly—leading some countries to adopt a somewhat more sympathetic interpretation of existing administrative regulations blocking immigration. The only concrete contribution has been the undertaking by the United States to admit 27,370 Germans annually—a considerable increase over the figure for the past few years.

In this connection it should be noted that in the fiscal year ending June 30, 1938, the United States admitted 11,917 refugees from Germany, Jewish and non-Jewish.

Following the events of November, increasing pressure was being brought to bear on the United States and Great Britain notably, for the purposes of making possible mass settlements. The American Government listened sympathetically, but at the end of the year indicated that it would go no further than the permission it had accorded visitors on temporary visas to prolong their stay in this country and the filling up of the German quota to the legal maximum under the laws. The pressure brought to bear on the British Government seemed to promise to meet with greater success. In December the British Government indicated its receptivity to the appeal not to bar Jewish emigration into Palestine altogether, and it also showed a willingness to consider plans for the settlement of mass groups in the African Colonies and in British Guiana. Thus the present arbitrary limit of 12,000 immigrants annually to Palestine was likely to be disregarded in favor of a reversion to the principle of the "absorptive capacity" set forth in the mandate. It was being estimated that the final annual figure for Palestine would be somewhere between 12,000 and 25,000. It was to be recorded also that Britain was notably hospitable in opening its doors to the entrance of the children of Jewish families into England, where temporarily they were being housed in shelter stations until they were gradually absorbed into English foster homes. By the end of the year considerably more than 1500 such waifs had been welcomed into England. The Netherlands and Switzerland were making similar contributions to the refugee problem on a smaller scale. It was significant to note also that the U.S.S.R., despite the availability of large areas for mass settlement, made no effort to welcome German refugees.

Despite all the hopeful talk of the movement of large groups into regions like Tanganyika and British Guiana, it was becoming increasingly apparent that the tremendous costs involved for successful settlement militated against the possibility of any quick solution of the refugee problem. Informed observers, toward the end of the year, were declaring that the only hope for Central European Jewry was continued movement into Palestine, on

the one hand, and the relatively fast absorption of small groups of young people in already settled regions of the world like the United States, Canada, Great Britain, and the like. In this way it was hoped that the rigors of the German persecutions might be somewhat alleviated. Some support was given to this conjecture when on December 30, the Inter-Governmental Refugee Committee turned to plans for moving 150,000 young Jews out of Germany on the assumption—not yet officially confirmed in Germany—that Chancellor Hitler would agree to relax the campaign against elderly German Jews if their sons and daughters emigrated as quickly as possible. This apparently was a counter-proposal of the Schacht scheme described above, which called for the removal of all Jews from Great Germany. Apparently the German Government also was prepared to consider the possibility of moving young Jews as long as financial aid from foreign governments and world Jewry would be assured.

JOHNS HOPKINS UNIVERSITY. A nonsectarian institution of higher education in Baltimore, Md., founded in 1876, some divisions being for men only, others for men and women. The enrollment for the autumn of 1938 was 5107, distributed as follows: School of higher studies of the faculty of philosophy, 252; school of higher studies in education, 25; school of engineering, 31 (graduate), 324 (undergraduate); college of arts and sciences, 474; school of business economics, 108; school of medicine, 296; school of hygiene and public health, 154; afternoon and evening courses, 3443. The enrollment in the 1938 summer session was 987. The faculty numbered 674. The endowment amounted to \$30,182,644 and the income from all sources for 1937-38 was \$2,852,534. The main library contained 550,860 bound volumes. President, Isaiah Bowman, Ph.D., LL.D.

JOHNSON, JAMES WELDON. An American author, died in an automobile accident near Wiscasset, Me., June 26, 1938. Born in Jacksonville, Fla., June 17, 1871, he was graduated from Atlanta University (A.B., 1894; A.M., 1904) and subsequently did post-graduate work at Columbia University for three years. In 1917 he received the degree of Litt.D. from Talladega College, Alabama.

Entering the educational field, he became principal of the Stanton Central Grammar School in Jacksonville (1894-97), which he made into a high school and which, under his direction, became the largest Negro school in the State of Florida. He was admitted to the Florida bar in 1897, the first Negro to be admitted, and practiced there until 1901.

In that year he removed to New York in order that he might collaborate with his brother, J. Rosamond Johnson, in writing for the light-opera stage. Their best-known work was *The Csar of Zam*. One of their first works, "Lift Every Voice," became the national anthem of the Negro. They composed "Since You Went Away" for May Irwin (q.v.), and subsequently James Weldon Johnson entered into partnership with Bob Cole. This partnership lasted until 1906 and was responsible for many of the most popular songs of the day. They wrote "The Maiden with the Dreamy Eyes" for Anna Held; "The Maid of Timbuctoo" for Lillian Russell; "My Castle on the Nile" for Bert Williams; "Oh! Didn't He Ramble" for George Primrose; "Congo Love Song" for Marie Cahill, and many others.

In 1906 Johnson left Broadway to become U.S. consul to Puerto Cabello, Venezuela, the first Ne-

gro to hold such a post. During 1909-12 he held the same position at Corinto, Nicaragua, serving during the overthrow of Zelaya and through the abortive revolution against Diaz. He resigned from the consular service in 1912 and became the editor of *The New Age*.

In 1916 he accepted the secretaryship of the American Association for the Advancement of Colored People and served in that capacity until 1930. One of the foremost defenders of his people against white domination, as secretary of the Association he did much to change the condescending attitude toward his race and to raise the political status of the Negro. During the middle 1920's, when the Ku Klux Klan was at the height of its power, he made every effort to put through the House and the Senate the Dyer Anti-Lynching Bill and although unsuccessful, he did make lynching a national issue for the first time.

Dr. Johnson resigned as secretary in 1930 to become professor of creative literature at Fisk University, a post he held at his death. From 1934 he served as visiting professor of creative literature at New York University. He was the recipient of the Spingarn Medal in 1925, awarded to an "author, diplomat, and public servant"; received, for distinguished creative achievement, the Harmon Foundation Award in Literature in 1926 and the Gold Award in 1927, and in 1929, a year's fellowship from the Julius Rosenwald Fund.

The unofficial spokesman for the American Negro in prose and verse, he contributed to many magazines and to the 14th edition of the *Encyclopaedia Britannica*. His published works included *The Autobiography of an Ex-Colored Man*, which was published anonymously in 1912 and republished in 1927; *Fifty Years and Other Poems* (1917); *Self-Determining Haiti* (1920); *The Book of American Negro Poetry* (1921); *The Book of American Negro Spirituals* (1925); *Second Book of Spirituals* (1926); *God's Trombones* (1927); *Black Manhattan* (1930); *St. Peter Relates an Incident of the Resurrection Day* (1930); *Along This Way*, autobiography (1933), and *Negro Americans, What Now?* (1934). He translated into English the libretto for the grand opera *Goyescas*, produced at the Metropolitan Opera House, New York, in 1915.

JOHNSTON ISLAND. An island in the central Pacific (16° 13' N. and 169° 50' W.), southwest of Hawaii, belonging to the U.S.A.

JOHORE. See UNFEDERATED MALAY STATES.

JONES, ADM. HILARY POLLARD, U.S.N., RET. An American naval officer, died in Washington, Jan. 1, 1938. Born in Hanover Co., Va., Nov. 14, 1863, he graduated from the U.S. Naval Academy in 1884, and on July 1, 1886, was assigned to the *Nipsic*, which escaped destruction in the Samoan hurricane of Mar. 16, 1889. He was mentioned in the official report as "a young officer of great promise and bids fair to be of value to the service and his country."

During the Spanish-American War (1898) he saw service on the *Dorothea*, and for a number of years thereafter was stationed in South American waters. During 1904-06 he was in command of the *Scorpion* at the Washington Navy Yard. Subsequently, he served as executive officer on the *Idaho* (1909); at the Naval Station, Cavite, P. I. (1909-10); at the Washington Navy Yard (1910-11); as commander of the *Birmingham* (1911), *Tennessee* (1911), and the *Rhode Island* (1911-12); as commander of the Navy Yard and superintendent of

the Naval Gun Factory, Washington (1913-14), and as commander of the *Florida* (1914-16).

Jones attended the Naval War College in 1916-17, and at the entrance of the United States into the World War was in command of Squadron One, Patrol Force of the Atlantic Fleet. On July 17, 1917, he was appointed commander of Division One, Cruiser Force raider guard of the Atlantic Fleet. He commanded the Newport News division cruiser and transport force from April, 1918, to January, 1919, and as such had control of the transports sailing from Hampton Roads and more than 250,000 troops were embarked from the district under his supervision. Attached to the division were 16 transports, for the sailings of which Jones was responsible. On Aug. 20, 1918, all floating equipment belonging to the army, the navy, and the Shipping Board in that district was pooled for operation under his administration. From January to July, 1919, he was director of naval overseas transportation. For his excellent work in these fields he was awarded the Distinguished Service Medal of both the army and of the navy.

In July, 1919, he was promoted to vice-admiral and given command of the 2d Battleship Squadron of the Atlantic Fleet and in 1921 was promoted to admiral and named Commander-in-Chief of the Atlantic Fleet. Upon its reorganization in December, 1922, his title was changed to Commander-in-Chief of the U.S. Fleet. In August, 1923, he was appointed to the General Board, and on Nov. 14, 1927, was retired from active service, having attained the statutory retirement age. He was commissioned admiral on the retired list on Oct. 15, 1930.

On a special mission to Brazil in 1922, Admiral Jones was envoy extraordinary and minister plenipotentiary, and as one of the country's leading naval authorities during the postwar efforts to check the international naval building race, he was senior technical adviser to the American delegation to the Preparatory Commission for Limitation of Armaments at Geneva in 1926-27, and delegate to the Conference for Limitation of Naval Armaments at Geneva in 1927.

JUDGESHIP ACT. See UNITED STATES under *Congress*.

JUGOSLAVIA. See YUGOSLAVIA.

JUPITER. See ASTRONOMY.

JUVENILE DELINQUENCY. See CHILD WELFARE.

KABARDINO-BALKARIAN AUTONOMOUS SOVIET SOCIALIST REPUBLIC. See RUSSIAN SOVIET FEDERATED SOCIALIST REPUBLIC.

KALMYK AUTONOMOUS SOVIET SOCIALIST REPUBLIC. See RUSSIAN SOVIET FEDERATED SOCIALIST REPUBLIC.

KANSAS. Area and Population. Area, 82,158 square miles; included (1930) water, 384 square miles. Population: Apr. 1, 1930 (census), 1,880,999; July 1, 1937 (Federal estimate), 1,864,000; 1920 (census), 1,769,257. Kansas City had (1930) 121,857 inhabitants; Wichita, 111,110; Topeka, the capital, 64,120.

Agriculture. Acreage, production, and value of the chief crops of Kansas, for 1938 and 1937, appear in the table on p. 373.

Mineral Production. Of the total value, \$121,723,341, of native minerals produced in Kansas in 1936, petroleum furnished over one-half and natural gas and gasoline extracted therefrom, nearly half of the remainder. The yield of petroleum rose, for 1937, to 70,761,000 bbl., from 58,317,000 bbl.

Crop	Year	Acreage	Prod. Bu.	Value
Wheat	1938	14,497,000	152,184,000	\$ 80,658,000
	1937	13,172,000	158,052,000	159,633,000
Corn	1938	2,260,000	45,200,000	21,244,000
	1937	2,456,000	29,472,000	16,504,000
Hay (tame) ..	1938	760,000	1,171,000	5,738,000
	1937	947,000	1,032,000	9,185,000
Oats	1938	1,518,000	35,673,000	7,491,000
	1937	1,474,000	35,376,000	13,089,000
Grain sorghums	1938	1,343,000	14,773,000	5,614,000
	1937	1,370,000	12,330,000	5,672,000
Barley	1938	393,000	6,681,000	2,004,000
	1937	298,000	3,427,000	1,919,000
Potatoes	1938	29,000	3,219,000	1,416,000
	1937	28,000	2,156,000	1,229,000

^a Tons.

(value \$65,900,000) for 1936. The output of 1937 was reported as the heaviest in quantity, if not in value, that the State had attained. The number of discoveries of petroleum exceeded that for any previous year. The character of these was similar to that of earlier discoveries, the occurrences being in numerous pools, none of them of great apparent extent. The production of natural gas, somewhat over 69 billion cu. ft. (value \$23,126,000) for 1936, was not yet given for 1937, but reports on the latter year noted numerous completions of new gas wells in many parts of the State, including 10 discoveries in new fields. The mining of lead and zinc was active. The yearly yield of zinc, in concentrates, increased to 80,300 short tons (1937), from 79,017 (1936); by value, to \$10,439,000, from \$7,901,700. That of lead rose to 16,008 short tons (1937), from 11,409 (1937); by value, to \$1,888,944, from \$1,049,628.

Finance. Kansas' State expenditures in the year ended June 30, 1937, as reported by the U. S. Bureau of the Census, were: For maintaining and operating governmental departments, \$24,686,640 (of which \$10,454,252 was for highways and \$669,361 was for local education); for interest on debt, \$982,215; for capital outlay, \$16,506,120. Revenues were \$42,744,137. Of these, property taxes furnished \$5,436,012; income taxes, \$2,215,478; sales taxes, \$10,556,677 (chiefly tax on gasoline, \$9,674,514); departmental earnings, \$3,591,911; sale of licenses, \$6,198,883; Federal or other grants-in-aid, \$13,282,236. Funded debt outstanding on June 30, 1937, totaled \$21,685,000. Net of sinking-fund assets, the debt was \$21,466,768. On an assessed valuation of \$2,716,560,079 the State levied in the year ad-valorem taxes of \$5,406,678.

Education. For the year ended with June 30, 1937, the latest covered by published data that follow, inhabitants of school age were reckoned at 520,740. All of ages between 5 and 21 years were included. The year's enrollments of pupils in the public schools numbered 395,481; attendance averaged 343,891. There was an additional enrollment of 10,593 in kindergartens and 3727 in public junior colleges. Apart from the tax-supported public schools, parochial and private schools reported 18,396 enrolled pupils. The year's expenditures for public-school education totaled \$28,441,990. The public-school system comprised 8662 tax-levying school-districts, of which the most part—7253—maintained one teacher each, while a few at the opposite extreme were big urban school systems. The teachers, principals, and superintendents numbered 19,336.

A plan to provide for the retirement of elderly public-school teachers was prepared on behalf of the teaching body, for the consideration of the forthcoming session of the Kansan Legislature.

Charities and Corrections. The four groups

of State institutions under the authority of the Board of Administration were: The charitable institutions, caring for the mentally ill, feeble-minded, epileptic, and certain orphans; correctional institutions, penal, reformatory, and those for juvenile delinquents; "patriotic" institutions, including a home for soldiers; and educational institutions for special groups. In the first group were the three State hospitals for mental cases, at Topeka (1903 inmates), Osawatimie (1670), and Larned (1146); a State Hospital for Epileptics at Parsons (877); State Training School, Winfield (1236); State Sanatorium for Tuberculosis, Norton (324); and State Orphans' Home, Atchison (173). The correctional institutions were the State Penitentiary, Lansing (1809); State Industrial Reformatory, Hutchinson (634); Women's Industrial Farm, Lansing (72); Boys' Industrial School, Topeka (184); and Girls' Industrial School, Beloit (127). The third group included the State Soldiers' Home at Fort Dodge and the Mother Bickerdyke Home at Ellsworth. The State schools under the Board of Administration were the School for the Blind (100 pupils) at Kansas City; School for the Deaf (122) at Olathe; Western University (colored, 145) at Kansas City; and Kansas Vocational School (colored, 124) at Topeka.

Political and Other Events. A tax on retail sales, which went into application in Kansas in the middle of 1937, was found at the end of its first year to have yielded \$9,965,238, virtually the \$10,000,000 of the estimate that the Legislative Council had made to guide the Legislature in imposing the tax. Out of the receipts from this tax, payments were made to counties, which in turn distributed portions to taxing units within their territory, school-district units included. Renewed prospects that the petroleum company purchasing from the thousands of stripper wells in the southeastern part of the State would withdraw from the field moved the State government to seek in May for grounds on which it might prevent the company's ceasing purchases. About 13,000 of these wells, some of them active for 30 years, were said to yield from 1 to 5 barrels each daily.

The construction at Milford of a \$21,000,000 dam and reservoir and of eight other reservoirs in the basin of the Missouri River was authorized in the Flood Control Act passed by Congress, but without specific appropriation. A Federal agency, the Prison Industries Reorganization Administration, in a report on the State's prison system, charged that the State Penitentiary at Lansing was insecure as a place of confinement and recommended that dangerous convicts be segregated from other prisoners and kept elsewhere. See MINIMUM WAGE.

Elections. An extensive shift to the Republican party swayed the general election of November 8. Payne H. Ratner (Rep.) was elected Governor, defeating Gov. Walter A. Huxman (Dem.). Clyde M. Reed (Rep.) won from George McGill (Dem.) the latter's seat in the U. S. Senate. McGill, one of the authors of the Agricultural Act of 1938, had in his campaign declared that a vote defeating him would amount to a slap at that act, whereas Reed had criticized the New Deal's spending program and its plan to reorganize the courts, and had characterized McGill as a rubber stamp. Six Republicans and one Democrat were elected to the House of Representatives.

Officers. The chief officers of Kansas, serving in 1938, were: Governor, Walter A. Huxman (Dem.); Lieutenant-Governor, W. M. Lindsay; Secretary of State, Frank J. Ryan; Auditor,

George Robb; Treasurer, J. J. Rhodes; Attorney-General, Clarence V. Beck; Superintendent of Public Instruction, W. T. Markham.

Judiciary. Supreme Court: Chief Justice, John S. Dawson; Justices, W. W. Harvey, William E. Hutchison, William A. Smith, Walter G. Thiele, Hugo Weddell, Harry K. Allen.

KANSAS, UNIVERSITY OF. A State institution of higher education in Lawrence, Kans., founded in 1864. The enrollment in the autumn of 1938 numbered 4595, of whom 3106 were men and 1489 women. The 1938 summer session had an enrollment of 1231. The full-time teaching staff numbered 256. The endowment fund amounted to \$256,000 and the budget for the year was \$2,000,000, exclusive of buildings. There were 300,300 volumes in the library. The gift of a two-story addition to the School of Medicine research laboratory (\$40,000) was received during the year. Chancellor, Ernest Hiram Lindley, Ph.D.

KANSAS WESLEYAN UNIVERSITY. A coeducational institution under the auspices of the Methodist Episcopal Church in Salina, Kans., founded in 1885. The enrollment for the autumn of 1938 was 337 and in the summer school of 1938, 86. The faculty numbers 30. The University is now engaged in a campaign to raise \$300,000 in additional endowment, of which a substantial amount has already been pledged. The University operates on a debt-free basis, and a pay-as-you-go plan. The library has 25,000 volumes. A new athletic stadium is being constructed. President, E. K. Morrow.

KARAFUTO, ká'rá-fōō'tō. The Japanese part of the island of Sakhalin, south of 50° north latitude. Area, about 13,935 square miles; population (1936 estimate), 340,000. Chief towns: Toyohara, the capital, 34,274 inhabitants; Otamari, 30,913; Esuturi, 23,432; Sikka, 22,617.

Production, etc. In 1936 sea-fisheries production was valued at 19,812,145 yen. The production of chief crops in 1936 was: Wheat, barley, oats, etc., 803,492 bu.; peas and beans, etc., 114,882 bu.; buckwheat, 48,438 bu.; potatoes, 35,334 metric tons; grasses, 18,823 metric tons; vegetables and others, 61,734 metric tons. In 1936, 2,075,157 metric tons of coal were produced. The production of wood pulp in 1937 was estimated at 382,000 metric tons (dry weight). Livestock (1936): 12,468 horses, 8459 swine, 6712 cattle, and 11,165 foxes. In 1934 imports (from Japan proper) were valued at Y37,100,000; exports (to Japan proper), Y96,600,000. The budget for 1937-38 balanced at Y36,375,724 (yen averaged \$0.2879 for 1937). Governor, Takeshi Imamura.

KARA-KALPAK AUTONOMOUS SOVIET SOCIALIST REPUBLIC. See SOVIET CENTRAL ASIA; UZBEK SOVIET SOCIALIST REPUBLIC.

KARELIAN AUTONOMOUS SOVIET SOCIALIST REPUBLIC. See RUSSIAN SOVIET FEDERATED SOCIALIST REPUBLIC.

KARIKAL. See FRENCH INDIA.

KAUTSKY, kout'skí, KARL JOHAN. An Austrian Socialist, economist, and editor, died at Amsterdam, The Netherlands, Oct. 17, 1938. Born at Prague, Austria-Hungary, Oct. 16, 1854, he was educated at the University of Vienna. He joined the Social Democrat Party of Austria in 1875, and five years later settled in Zurich where he became associated with *Sozialdemokrat*, the organ of the German Socialist Party which he joined. He visited England in 1881, where he met Marx and Engels, and thereafter he corresponded with the latter until his death in 1894. He published this correspondence

in 1935 under the title *In the Time of Early Marxism*.

A convert to Marxism, in 1882 he removed to Vienna and in the following year to Stuttgart. There (1883) he founded the scientific review of the German Socialist Party, *Die Neue Zeit*, which he edited in London (1885-90) while he studied with Engels, and where he also wrote his work on *Thomas More and His Utopia* (1888; 2d ed., 1907). In Stuttgart and later in Berlin, to which he removed in 1897, he was in conflict with Eduard Bernstein over his theories challenging the adequacy of Marx on various points of policy and economic thought. As a result he published *The Agrarian Question* (1899) and *Ethics and Materialistic History* (1906), the latter considered the most important contribution to Marxian thought since Marx's death. These he followed with his work on Russia, *The Social Revolution* (vol. i, 1902; ii, 1903; 3d ed., 1911). His pacifistic stand in 1914 led to his forming in 1917, with Hugo Haase, the Independent Socialist Party. The first revolutionary government of Germany appointed him Secretary of State in the Foreign Office (1918) to study documents pertaining to pre-war history, from which he wrote *The Origin of the War* (1919), the English title being *The Guilt of William II*. He moved to Vienna in 1920, but in 1934 he became a naturalized citizen of Czechoslovakia. After the German-Austrian *Anschluss* in March, 1938, he fled to The Netherlands.

Kautsky was the foremost theorist of Socialism and after the death of Engels he was the leading interpreter of Marxist doctrine. He opposed equally Bolshevism and Fascism, declaring the former to be contrary to Marx. In 1918 he published *Dictatorship of the Proletariat* (1918; Eng. trans., 1920) in which he attacked Leninist doctrines. Among his important works may be mentioned *The Economic Doctrines of Karl Marx* (1887; 14th ed., 1912); *The Erfurt Programme* (1892; 11th ed., 1912) one of the most important contributions to Socialist thought; a popular edition of Karl Marx's *Capital* (1913); *Democracy or Dictatorship* (1919); *Terrorism and Communism* (1919); *From Democracy to State Slavery* (1920), a controversy with Trotsky; *The Proletarian Revolution and Its Programme* (1927); *The Materialistic Interpretation of History* (1927), the most notable of his later works; *War and Democracy* (1930); *A Marxist's Progress*, autobiography (1930); *Bolshevism at a Deadlock* (1931); *Communism and Social Democracy* (1932); *New Programs* (1932), and *Socialists and War* (1937).

KAZAKH SOVIET SOCIALIST REPUBLIC. One of the 11 constituent republics of the U.S.S.R., according to the constitution adopted Dec. 5, 1936. It includes the provinces of Aktyubinsk, Alma-Ata, East Kazakhstan, Karaganda, Kustanai, North Kazakhstan, South Kazakhstan, and West Kazakhstan. Area, 1,047,797 square miles; population (Jan. 1, 1933), 6,796,600. Capital, Alma-Ata (Verny). In 1938 there were 10,088,715 acres of spring sowing, by collectives, of chief grain crops. See UNION OF SOVIET SOCIALIST REPUBLICS.

KEDAH. See UNFEDERATED MALAY STATES.

KEELING ISLANDS. See STRAITS SETTLEMENTS.

KEEWATIN. See NORTHWEST TERRITORIES (CANADA).

KELANTIN. See UNFEDERATED MALAY STATES.

KENTUCKY. Area and Population. Area, 40,598 square miles; included (1930) water, 417

square miles. Population: Apr. 1, 1930 (census), 2,614,589; July 1, 1937 (Federal estimate), 2,920,000; 1920 (census), 2,416,630. Louisville had (1930) 307,745 inhabitants; Frankfort, the capital, 11,626.

Agriculture. Acreage, production, and value of the chief crops of Kentucky, for 1938 and 1937, appear in the accompanying table.

Crop	Year	Acreage	Prod. Bu.	Value
Corn	1938	2,761,000	74,547,000	\$39,510,000
	1937	2,906,000	75,556,000	43,822,000
Tobacco	1938	395,600	339,550,000 ^a	58,514,000
	1937	412,500	365,785,000 ^a	64,400,000
Hay (tame) .	1938	1,319,000	1,720,000 ^b	13,416,000
	1937	1,290,000	1,463,000 ^b	14,923,000
Wheat	1938	552,000	8,280,000	5,216,000
	1937	552,000	10,212,000	10,825,000
Potatoes	1938	45,000	4,635,000	3,244,000
	1937	47,000	4,371,000	3,322,000
Sweet potatoes	1938	24,000	2,280,000	1,710,000
	1937	24,000	2,160,000	1,771,000

^a Pounds. ^b Tons.

Mineral Production. Of the \$116,697,776 forming the yearly total, by value, of the production of native minerals in Kentucky in 1936, coal furnished more than two-thirds. The yield of the coal mines was maintained at 47,053,000 net tons for 1937, as against 47,521,950 (value \$77,678,000) for 1936. The production of natural gas totaled 43,903 million cu. ft. (value \$19,200,000) for 1936; its rate was not affected by any striking new operations in the gas fields in 1937. The output of petroleum fell slightly, to 5,484,000 bbl. (1937), from 5,633,000 (value \$7,240,000) for 1936. Shipments of fluorspar increased again, to 87,296 short tons (1937), from 80,241 (1936); by value, to \$1,710,122, from \$1,409,433.

Finance. Kentucky's State expenditures in the year ended June 30, 1937, as reported by the U.S. Bureau of the Census, were: For maintaining and operating governmental departments, \$33,786,368 (of which \$9,653,249 was for local education); for interest on debt, \$1,384,452; for capital outlay, \$12,422,466. Revenues were \$61,606,262. Of these, property taxes furnished \$5,416,161; sales taxes, \$20,491,239 (including tax on gasoline, \$11,334,794); departmental earnings, \$4,320,368; sale of licenses, \$12,353,182; unemployment compensation, \$4,673,685; Federal or other grants-in-aid, \$8,143,978. Funded debt outstanding on June 30, 1937, totaled \$15,247,627. Net of sinking-fund assets, its amount was \$14,929,210. On an assessed valuation of \$2,449,220,234 the State levied in the year ad valorem taxes of \$5,311,105.

Education. Kentucky's inhabitants of school age (7 to 16 years), in 1938, numbered 792,079. In the academic year 1937-38 the enrollments of pupils in the public schools totaled 618,318; this comprised 491,337 in elementary study and 126,981 in high schools. Annual expenditure for public-school education attained \$28,684,502. The yearly salaries of the 18,836 teachers averaged \$834.

A retirement system for public-school teachers, on account of age, was enacted but did not go into operation in 1938, as the Legislature had failed to appropriate the necessary money. A study of the subject of support for the public schools, according to the *Journal of the National Education Association*, was conducted with a view to helping the Legislature to deal with the subject in 1940.

Legislation. The General Assembly convened in regular session early in January. It enacted a measure carrying the appropriations from the general fund at the rate of about \$24,500,000 for each of the two ensuing fiscal years. No new taxes

were sought by the Governor. An act bearing on alleged oppressive practices against unionized miners in Harlan County prohibited the direct payment of officers of the peace by private companies. Louisville was deprived of its special system for the registration of voters, and provision was made for a revision of the voting lists in the city with a view to ridding them of names wrongfully carried; the city's method of registration was made the same as that of the rest of the State. A system of State regulation of the traffic in alcoholic drink was created; control was vested in administrators appointed by the Governor; sale by the drink was allowed in cities of the first, second, and third classes; sales of liquor by wholesale, to purchasers outside the State, was allowed only in case the purchasers held licenses from their own States. Cities of the second class, such as Covington and Newport, were authorized to have civil-service commissions. See CHILD LABOR; MINIMUM WAGE.

A special session summoned by the Governor for the purpose met May 23 and enacted a welfare bill, providing means to improve the personnel operating the State's mental hospitals.

Political and Other Events. The chronic violence in the coal-mining area of Harlan County led to a Federal prosecution of coal operators and of guards and deputy sheriffs in their employ, at London, Ky., before District Judge H. C. Ford. The defendants were 16 mining companies, 18 officials of companies, and 21 officers of the peace. They were charged with conspiracy to violate the Wagner Labor Act. The prosecution was conducted by the U.S. Attorney-General, through an assistant. The trial, which lasted for 11 weeks, was filled with testimony alleging acts of violence against the members of the defendant group and (for the defense) against miners. It ended (August 1) in a mistrial brought about by the jury's inability to agree on a verdict. Companies involved in the trial, however, consented to enter into labor agreements with their miners. During the trial, on the other hand, there was no complete truce to the feud between the pro-company and the pro-union groups. Frank White, one of the chief defendants, was shot to death (July 6) while sitting on a porch at a tourist camp a few miles from London. A witness who had testified for the defense declared (July 21) that \$50 had been paid him to accuse a union organizer of another killing.

The Registration and Purgation Act (see *Legislation*, above), in great part designed to prevent falsities in the list of registered voters in Louisville, was fought in the courts; the State Court of Appeals, however, held (June 7) that the act was constitutional, except in its provision for the pay of those charged with the duty of purging the list of names wrongly carried. The State's practice of hanging, at the seat of the county of jurisdiction, and usually in public, defendants sentenced to death for rape was terminated, in accordance with a legislative act including this with other capital crime, for which death was exacted by the electric chair. Under the authority of the new act to improve the personnel of the State's mental hospitals a few of the higher functionaries, including the superintendent of the Central State Hospital, were dismissed. Reportedly in a disagreement over hospital-post appointments, the Governor ousted Commissioner of Corrections Wallis in November.

Elections. U.S. Senator Alben W. Barkley (Dem.) was re-elected (November 8) by 346,735 votes (official count) to 212,266 for John P. Haswell (Rep.), his opponent. All the incumbent

members of the Federal House of Representatives, 8 Democrats and 1 Republican, were re-elected. Nine persons were reported to have been shot to death in various places in the State on election day; five of the killings occurred in Harlan County. Senator Barkley's election was effected with ease by the predominant Democratic vote, but his nomination (August 6) at the primaries was won by a closer margin of about 50,000 votes over a strong opponent, Governor Chandler, who campaigned in defiance of the Administration's wish to have Barkley, the President's choice in 1937 for majority leader in the Senate, obtain another term. The President stopped at Covington on his speaking tour in July and spoke at the Latonia racetrack (July 8); denying interference in the primary campaign, he endorsed Barkley by implication, characterizing him as "a great American of whom the whole Nation is proud." Chandler charged Barkley with being a "yes-man" and assailed the Federal spending agencies as using for Barkley's benefit funds intended to benefit the needy population. Chandler, shortly before the close of the primary campaign, was prostrated by a temporary illness, ascribed by his physician to poison in water that the Governor drank at Louisville. Chandler retained office as Governor, his term having another year to run.

Officers. The chief officers of Kentucky, serving in 1938, were: Governor, A. B. Chandler (Dem.); Lieutenant-Governor, Keen Johnson; Secretary of State, Charles D. Arnett; Treasurer, John E. Buckingham; Attorney-General, Hubert Meredith; Auditor, E. E. Shannon; Commissioner of Agriculture, Labor, and Statistics, Garth Ferguson; Superintendent of Public Instruction, Harry W. Peters.

Judiciary. Court of Appeals: Chief Justice, Alex L. Ratliff; Associate Justices (Eastern Division), Gus Thomas, Wesley Vick Perry, James W. Stites; (Western Division), William H. Rees, William Rogers Clay, Virgil H. Baird.

KENTUCKY, UNIVERSITY OF. A coeducational State institution of higher learning in Lexington, Ky., founded in 1866. The enrollment in the autumn of 1938 was 3642. There were 2449 students registered in the 1938 summer session. The faculty numbered 302. The productive funds amounted to \$184,075, and the income for the year was \$1,298,949. The library contained 213,000 volumes. New buildings completed or nearing completion were the Student Union Building, Law Building, Biological Sciences, Engineering Buildings, and additions to the Agricultural Experiment Station, the Women's Residence Halls, and the Armory. President, Frank LeRond McVey, Ph.D., LL.D., L.H.D.

KENYA, kē-nyá' or kēn'ya. A British colony and protectorate in East Africa. Area, 224,960 square miles, of which the land area amounted to 219,730 square miles. Total population (1938 estimate), 3,334,191, including 19,211 Europeans, 42,368 Indians, 3658 Goans, 13,660 Arabs, and 1605 others. Nairobi, the capital, had 61,000 inhabitants; Mombasa, 50,000. In 1937 the 1573 schools (exclusive of private Koran schools at the coast) had a total of 114,590 pupils enrolled.

Production and Trade. The main products were coffee, wheat, maize, tea, sugar, hides and skins, cotton (17,800 bales in 1937), coconuts, wattle bark and extract, sodium carbonate, timber, and gold. Kenya and Uganda are one administrative unit for customs purposes, the principal imports being cotton piece goods and manufactures, textiles, automobiles, gasoline, industrial machinery, and

wearing apparel. Coffee, gold, tea, maize, sugar, and sisal were the chief exports. In 1937 imports (Kenya and Uganda) were valued at £10,832,573; exports (Kenya only), £3,954,055.

Communications. The harbors and railways of Kenya and Uganda are owned by the state. A total of 1625 miles of meter gauge railway line was in operation in 1937, and 771,471 passengers and 1,008,128 tons of freight were carried. The government operates a marine service on lakes Victoria, Kioga, and Albert, and on the river Nile. In 1937 highways extended 9746 miles. In the same year the vessels entered and cleared the ports totaled 4,715,586 net registered tons. Kenya is served by the air service between Great Britain and South Africa operated by Imperial Airways and three stops are made in each direction every week at Nairobi and Kisumu. There is also an air mail feeder service linking the principal towns.

Finance. For the year ended Dec. 31, 1937, gross revenue totaled £3,667,393; gross expenditure, £3,565,976 (net figures are obtained by deducting reimbursements from neighboring territories in respect of joint services from Kenya and Uganda railways and harbors in respect of loan interest and from other sources on account of services which are not a charge against the local revenues of the colony. Therefore, the annual accounts for 1937 show an actual net revenue of £2,492,643, and net local expenditure of £2,391,226); total public debt, £17,580,600 of which £13,251,808 represented the capital debt of Kenya and Uganda railways and harbors.

Government. The supreme executive power for the whole country is vested in a governor, aided by an executive council of 12 members. There is also a legislative council of 41 members (the governor as president, 11 ex officio, 9 nominated, 11 European elected, 5 Indian elected, 1 Arab elected, 2 nominated unofficial members to represent the African community, and 1 nominated unofficial member to represent Arab interests). The governor can veto any measure passed by the legislative council. Governor and Commander-in-Chief, Air Chief Marshal Sir Robert Brooke-Popham (assumed office, March, 1937).

KENYON COLLEGE. A college of arts and sciences for men in Gambier, O., established in 1824 by the Protestant Episcopal Church. The enrollment for the autumn term of 1938 was 309. By action of the Board of Trustees the enrollment is permanently limited to 300. The faculty numbered 35 members. The endowment funds amounted to \$1,733,294, and the income for the year was \$243,232. The library contained about 108,500 volumes. President, Gordon Keith Chalmers, M.A. (Oxon.), Ph.D., LL.D.

KINETICS. See CHEMISTRY.

KINGMAN REEF. An atoll in the Pacific Ocean, owned by the United States. Situated 1067 miles southwest of Honolulu, Hawaii, and 1797 miles northeast of Pago Pago, American Samoa, it offers the only suitable seaplane base between those two points. Including its submerged shoals, the reef is about 8 miles long and 5 miles wide, but at high tide an area of only about 150 feet by 120 feet remains above water. The lagoon is 5 miles wide and protected against prevailing winds by barrier reefs. The atoll was occupied in 1936 by an airport crew of six Pan American Airways employees in preparation for the establishment of an air service between Honolulu and Auckland, New Zealand. Several survey flights were made along the route in 1937.

KIRGHIZ SOVIET SOCIALIST REPUBLIC. One of the 11 constituent republics of the U.S.S.R., according to the constitution adopted Dec. 5, 1936. Area, 75,926 square miles; population (Jan. 1, 1933), 1,302,100. Frunze, the capital, had 71,680 inhabitants in 1933. Chief crops are hay, hemp, oats, corn, barley, cotton, wheat, and dzhu-gara. In 1938 there were 1,187,830 acres of spring sowing, by collectives, of chief grain crops. Stock-raising is the chief occupation. See **SOVIET CENTRAL ASIA**; **UNION OF SOVIET SOCIALIST REPUBLICS**.

KIWANIS INTERNATIONAL. An organization of clubs made up of not more than two of the leaders in each business and profession, united for the rendering of civic and social service to the community. The first club was organized in Detroit, Mich., in 1915; by 1917 the organization had spread into Canada. At the close of 1938 the international organization consisted of over 1985 clubs with a membership of over 100,000. The objectives for the year 1938-39 were: 1. Service to underprivileged children; 2. Vocational guidance; 3. Boys' and girls' work; 4. Closer relations between the farmer and the business and professional man; 5. Intelligent, aggressive, and serviceable citizenship.

Citizenship activities are: 1. Sponsorship of community councils; 2. Support of churches in their spiritual aims; 3. Initiation and support of constructive policies of conservation; 4. Education concerning harmful effects of narcotics, especially marihuana; 5. Co-operation in law observance and enforcement; 6. Increased assistance in public safety movements; 7. Presentation of non-partisan information on public problems; 8. Education and training in the duties and responsibilities of citizenship to insure the perpetuation of the established institutions of freedom and popular government; 9. Maintenance of the international good will existing between Canada and the United States.

The 1939 convention will be held in Boston, Mass., June 18 to 22. The officers for 1938-39 are: President, H. G. Hatfield, Oklahoma City, Okla.; Immediate Past President, F. Trafford Taylor, St. Boniface, Manitoba; Vice-Presidents, Bennett O. Knudson, Albert Lea, Minn., and J. J. Smith, Regina, Saskatchewan; Treasurer, Samuel F. Claibough, Birmingham, Ala.; Secretary, Fred. C. W. Parker, Chicago. Headquarters are at 520 North Michigan Ave., Chicago, Ill.

KLAIPEDA. See **MEMEL**.

KNIGHTS OF COLUMBUS. A society of Roman Catholic men organized under a special charter, granted by the Connecticut General Assembly in 1882, permitting it to do business as a fraternal benefit society and to promote and conduct education, charitable, religious, and social welfare work. The four principles of the order are charity, unity, fraternity, and patriotism.

The order is composed of a supreme council, the governing body and highest authority; a supreme board of directors, the executive body; 64 state councils; and 2465 subordinate councils. The total membership as of June 30, 1938, was 430,870, which represented an associate membership of 208,965 and an insurance membership of 221,905. In the 56 years of its existence the Society has paid out more than \$50,000,000 to the beneficiaries of its members. Death claims paid during the fiscal year amounted to \$3,618,024.

The annual convention was held in Cincinnati, Ohio, Aug. 19-21, 1938. The officers were Martin H. Carmody, of Grand Rapids, Mich., supreme

knight; William J. McGinley, of New Haven, Conn., supreme secretary; and D. J. Callahan of Washington, D. C., supreme treasurer. The order publishes *Columbia*, a monthly magazine. Headquarters of the supreme council are in New Haven, Conn.

KOMI AUTONOMOUS SOVIET SOCIALIST REPUBLIC. See **RUSSIAN SOVIET FEDERATED SOCIALIST REPUBLIC**.

KOREA (CHOSEN). A former empire of eastern Asia, annexed by the Japanese Empire on Aug. 22, 1910, and incorporated as an integral part of Japan by an Imperial Rescript of 1919. Capital, Keijo (Seoul).

Area and Population. The area is 85,228 square miles and the population at the census of Oct. 1, 1935, was 22,899,038. The estimated population on Jan. 1, 1936, included 21,248,864 Koreans, 583,428 Japanese, and 58,888 foreigners (673 Americans). Populations of the chief cities on Jan. 1, 1936, were: Keijo (Seoul), 404,202; Fusan (Pusan), 180,271; Heijo (Pyongyang), 172,746; Taikyu, 105,706; Jinsen (Chemulpo), 80,420.

Education and Religion. The population is about 60 per cent illiterate. Educational facilities for Koreans in 1935 included 2363 common schools with 720,757 pupils, 45 higher common schools with 20,552 pupils, and various industrial schools. For Japanese primarily, there were 491 primary schools with 84,395 pupils, 12 middle schools with 6715 pupils, 28 high schools for girls with 10,525 pupils, 4 normal schools with 2434 pupils, and various professional, technical, and commercial schools. The University of Seoul had 465 Japanese and 210 Korean students in May, 1935. Buddhism and Confucianism are the chief religions. There were 469,242 Christians at the end of 1935.

Production. Korea is almost exclusively an agricultural country. Rice is the chief crop and main article of diet. The production of rough rice was about 4,888,700 metric tons in 1937-38 (3,594,800 in 1936-37). Other leading crops, with the latest available production in metric tons, are: Wheat, 300,500 (1937); barley, 1,365,800 (1937); oats, 40,500 (1936); corn, 112,000 (1936); potatoes, 711,900 (1936); tobacco, 26,500 (1937); cotton-seed, 92,500 (1937); soybeans, 487,100 (1936); cotton, 46,100 (1937); hemp, 18,000 (1936). The production of raw silk in 1936 was 1253 metric tons. Livestock in 1936 included 1,702,979 cattle, 51,560 horses, 1,573,590 swine, 39,534 goats, and 3997 asses. The yield of the sea fisheries in 1936 was 1,668,200 metric tons valued at 77,900,000 yen.

Mineral production is increasing; the value in 1935 was 88,039,201 yen. Output of the chief minerals and metals (in metric tons) was: Coal, 2,282,000 in 1936; tungsten, 1110 in 1936; iron ore, 346,000 in 1935; pig iron and ferroalloys, 174,000 in 1936; steel ingots and castings, 97,000 in 1935; copper ore (metal content), 3600 in 1936; lead ore (metal content), 5900; magnesite, 6900 (exports) in 1936; graphite, 45,118 in 1935. Gold output in 1938 was estimated at 30 metric tons valued at 110,000,000 yen. In 1935 Korea had 5635 industrial establishments with 168,771 employees and an output valued at 634,300,000 yen. Manufactures were expanding rapidly under Japanese auspices. Leading manufacturing lines are cotton spinning; cotton, silk, and rayon weaving; and the making of fertilizers, cement, paper, matches, pottery, flour, electric bulbs, rice wine, and enameled ironwares.

Foreign Trade. General imports in 1937 were valued at 248,686,000 U.S. currency dollars, converted at the average exchange rate, and exports

totalled \$197,217,000. Japan supplied 85.3 per cent of the 1937 imports and took 83.5 per cent of the exports. The bulk of the remaining trade was with China and Manchuria. The value of the leading exports in 1937 was: Rice, \$66,878,000; fertilizers, \$10,905,000; heavy iron, \$10,600,000; copper, gold, and silver bearing, \$7,255,000.

Finance. The budget estimates (ordinary and extraordinary) for the fiscal year ended Mar. 31, 1938, balanced at 417,187,110 yen. For 1936-37 actual revenues were 384,493,357 and expenditures 324,472,357 yen. The public debt outstanding on Mar. 31, 1937, totalled 549,731,185 yen (509,038,362 on Mar. 31, 1936). The yen exchanged at an average of \$0.2879 in 1937 and \$0.2845 in 1938.

Transportation. Government railways open to traffic on Dec. 31, 1936, totalled 2220 miles; private lines (March, 1936), 678 miles. For the fiscal year 1935-36 the government lines carried 29,344,188 passengers and 9,459,019 metric tons of freight; operating expenses were 65,979,857 yen; earnings, 90,470,458 yen. An additional 187 miles of state line were under construction. There were about 13,770 miles of roads and highways in 1937; number of automobiles, 8470. Air lines connect the chief cities with Japan and Manchuria. A number of the Korean rivers are navigable. The shipping tonnage entered at the ports in 1936 aggregated 15,716,239.

Government. Korea is governed as an integral part of Japan through a governor-general with extensive powers. Governor-General in 1938, Gen. J. Minami, who assumed office Aug. 4, 1936.

KRASNOYARSK TERRITORY. See RUSSIAN SOVIET FEDERATED SOCIALIST REPUBLIC.

KRESS FOUNDATION. See ART MUSEUMS.

KU KLUX KLAN, KNIGHTS OF THE. An American benevolent, eleemosynary, and fraternal institution, incorporated under the laws of the State of Georgia in 1915. "The membership is made up of white, Gentile persons, native-born American citizens, 16 years of age. They must be of sound mind, good character, commendable reputation, and respectable vocation; must believe in the tenets of the Christian religion; and must owe no allegiance to any foreign government, nation, institution, sect, ruler, prince, potentate, people, or person, their allegiance, loyalty, and devotion to the government of the United States of America in all things being unquestionable." At the biennial legislative meeting held in August, 1934, Dr. Hiram Wesley Evans was re-elected president, or Imperial Wizard, this being his fourth consecutive term; and Sam H. Venable, treasurer. National headquarters are in Atlanta, Georgia.

KUWAIT. See ARABIA.

KWANGCHOWAN (KWANGCHOW). See FRENCH INDO-CHINA.

KWANTUNG, kwän'dōōng'. The territory at the southern extremity of the Liaotung Peninsula, Manchuria, leased from China by Japan. Area, including adjacent islands, about 1337 square miles; population, excluding the armed forces, 1,148,034 (Dec. 31, 1936), of whom 975,935 were Manchus, and 170,535 were Japanese, with 1564 other nationalities. Chief towns (with July 31, 1935, populations): Dairen, the capital, 481,379; Port Arthur (Ryojun), 143,760; Chinchou, 125,545; Pulantien.

Production, etc. The production of chief crops in 1936, in metric tons, was: Groundnuts, 79,000; soybeans, 17,700; maize, 132,100; potatoes, 4300; rice, 2700; wheat, 1300. The sea-fisheries catch in 1936 was valued at approximately Y6,000,000. The

salt output for 1936 amounted to 413,084 metric tons. In 1936 imports were valued at Y521,065,535; exports, Y432,057,374. Japan supplied Y410,098,907 of the imports and received Y158,644,012 of the exports. The budget for 1937-38 was estimated to balance at Y26,063,681 (yen averaged \$0.2879 for 1937). Governor, Gen. Kenkichi Uyeda. See JAPAN and MANCHOUKUO.

LABOR. Industrial Relations in Great Britain. As a result of the great increase in strikes during 1937 and the feeling on the part of many industrialists that the American industrial code was too favorably disposed toward labor, President Roosevelt in 1937 was responsible for the establishment of a Commission to make an intensive study of the industrial relations in Great Britain and Sweden. The report, which was delivered in midyear 1938 and which received the unanimous endorsement of all the Commissioners, indicated that in England workers and employers had succeeded in achieving a stable pattern of industrial relations as the result of the recognition of the right of collective bargaining, the establishment of agencies for the harmonious discussion of differences between employers and employees, and the intervention of the state through the creation of mediation machinery on a voluntary basis. The Commissioners, however, pointed out that this stability in England had been achieved only after the result of a long period of great strife. It was not until the passage of the Trade Union Act of 1871, followed by a wave of intensive organizational activity on the part of the trade unions, that the principle of collective bargaining began to be universally recognized. Whereas in the early stages of union and employer organization in the industries of Great Britain violent industrial conflict had taken place, after 1910 collective bargaining was permanently established and strikes since that time had become increasingly infrequent.

Following the experiences of the World War and the establishment of a Royal Commission in 1916, the Whitley Committee, whose reports were adopted in Parliament in 1918 and 1919, there was evolved a governmental policy which has been adhered to up to the present. The essential basis of the Whitley Committee's plans was the "considered conviction that an essential condition of securing a permanent improvement in the relations between employers and employed is that there should be adequate organization on the part of both employers and workpeople." The ensuing program based upon such a general policy led to the development of a plan founded upon these two essential principles: First, labor standards were to be set, wherever feasible, by the free negotiations of voluntary organizations of workers and employers. Second, where such machinery did not function satisfactorily it was to be reinforced by the state determination of labor standards. The procedure of compulsory arbitration which had been adopted during the war, was completely abandoned.

Ever since 1919 the British Government committed itself to the promotion of the machinery of voluntary collective bargaining. The Whitley Reports recommended that in each industry national organizations of workers and employers should form a joint industrial council for the consideration not only of labor standards but of all the economic problems of the industry. Local shop councils were to implement the broad decisions registered by the national councils. As a result of an intensive campaign carried on by the Ministry of Labor, during

the period 1918-21, approximately 60 industry-wide joint industrial councils were set up. To assist this machinery, the British Government developed a complete program. First, its conciliation service was expanded and improved on a completely voluntary basis to permit the peaceful conclusion of the negotiations of labor standards. Next, in the event that conciliation was unsuccessful, the state made available an agency for voluntary arbitration. Next, an industrial court was established which was permanently available to groups desiring impartial arbitration. It was not assumed, however, that all open conflicts could be avoided by such a program. When industrial disputes, therefore, broke out, which were of particular concern to the public interest, the Government appointed a court of inquiry which did not, according to the Commission's report, "operate to stop or postpone a dispute; the purpose is to expose the facts and to bring public opinion to bear on the merits."

In view of the fact that collective machinery had been fully developed in all industries, two further devices were perfected by the government to reinforce the voluntary machinery. The first of these was the device of trade boards originally created to operate only in a few of the most sweated industries, but subsequently extended to the industries having no effective organization and having excessively low wages. Under this procedure some 47 trade boards were established. As a result, representatives of the workers, employers, and the public were appointed to boards and empowered to fix minimum wages and establish normal working hours beyond which overtime was to be paid. In the second place, in those industries where collective bargaining machinery was established but was not applicable to all of the trade, the British employed a device which they named a "fair wages clause." Under this, national as well as local Government authorities required in their contracts that the contractor should "pay rates of wages and observe hours of labor not less favorable than those commonly recognized by employers and trade societies in the trade in the district where the work is carried on."

By the end of 1921, therefore, the framework of collective bargaining now existing in Great Britain was substantially established. As has been said, basically the English pattern was that of free negotiations of voluntary organized groups. Originally organized for the purposes of fighting the trade unions, the employer associations gradually modified their position until today the purpose of their existence is to make collective agreements with the union organizations and to carry them out. According to the Commission's report, there were, in 1938, "266 general federations or associations of employers, designed to cover the whole of an industry or service, and to deal exclusively with labor matters." On the workers' side there were in existence in Great Britain and Ireland 1041 trade unions, with a stated membership of 5,308,000 workers, representing roughly one-third of the persons estimated as eligible for union membership. According to the Commission: "The employers' associations and unions have long since become an integral part of the collective bargaining system in which they respect one another and mutually attribute real value to the agreements and to the relations that have been built up between them." Negotiations for the conclusion of collective agreements in England are also carried on on an industry-wide basis. Such agreements include not only standards of wages, hours, and working con-

ditions, but also, looking to the future, "almost invariably either in the collective agreements or in agreed upon rules of joint standing bodies, composed equally of representatives of union and employer organizations, there are provisions specifying the steps to be taken before strikes or lockouts may occur." The agreements also contained procedure for handling local grievances and for handling disputes on their interpretation.

The Commission had many illuminating things to say about the general strike of 1926 and the Trade Disputes Act of 1927 which followed it. It pointed out that the collective-bargaining machinery, while it was interrupted by the strike of 1926, was neither broken nor essentially modified. The 1927 Act, while it was intended to prevent a repetition of the general strike of 1926 in ordinary industrial disputes, did not effect the immunity of trade unions. The only strike thus forbidden by the Trade Disputes Act was one which was both a sympathetic strike beyond the confines of the industry in dispute, and which was also designed to coerce the government. The act also added a clarifying definition to the obligation to carry on picketing peacefully. The Commission found that in Britain industrial disputes were usually conducted on a peaceful basis. In the case of strikes involving at the outset enough workers to make continued operation of a plant impractical, employers almost invariably shut down their plants and did not attempt to operate until the controversy had been settled by negotiations. This was true, according to the Commission, because (1) "it is difficult to obtain replacements"; (2) "there is a general feeling among workers and employers that the job belongs to the man"; and (3) a desire "on both sides to effect a resumption of work under circumstances as free from bitterness as possible."

While the Trade Disputes Act of 1927 called for the registration of trade unions, it was not true that this requirement in effect meant government regulation of these bodies. Trade unions could not be incorporated. The major obligation of a registered union under the law was to file with the Registrar an annual account of its general funds and a copy of its rules. But according to the Commission, this did not mean government control "for the Registrar functions only administratively, to see that the rules do in fact contain such provisions. Beyond this he has no power to require any particular form of organization, or to supervise the conduct of a trade union."

The Commission found that while strikes were not unknown in Great Britain, nevertheless, the ordinary procedures in industrial relations were peaceful. Also, there was a real determination on the part of the employers' organizations and the trade unions to employ to the full the system of voluntary national agreements and to make these function as effectively as possible. The Commission concluded that such agreements, resting as they did upon good faith rather than legal enforceability, would not be significant unless they were signed by responsible organizations of workers and employers. "Finally, and most important, the acceptance and general practice of collective bargaining on an industry basis places upon the employers' and workers' organizations . . . a peculiarly heavy responsibility calculated by its very nature to call forth patience, understanding, and a desire to make and keep agreements and to achieve industrial peace."

Industrial Relations in Sweden. In Sweden the basic labor conditions were substantially the

same. The Commission found that these were fixed by a series of collective agreements signed by the representatives of workers and employers, each of which set the standard for an industry. To sign and apply these agreements, as in Britain, strong organizations of workers and employers have been developed.

The Commission found that approximately 90 per cent of the manual workers in the manufacturing industries and about 65 per cent of all manual workers were members of 42 national trade unions joined together in the Swedish Confederation of Trade Unions. A substantial majority of these 850,000 members were in industrial unions. Similarly, some 5000 employers of nearly 400,000 workers were members of 37 national associations of employers which were joined together in the Swedish Employers' Federation.

It was not until 1906, after a long period of bitter industrial conflict, that an agreement was reached between the Employers' Federation and the Confederation of Trade Unions whereby the employers undertook to respect the workers' right to organize while the workers recognized the employers' right to manage the undertaking and to engage and dismiss workers without regard as to whether or not they were union members. This agreement served to establish the right of collective bargaining for manual workers and after 1909 was incorporated in all of the national collective agreements. Under it, discrimination issues were adjusted. Neither the closed shop nor the checkoff were issues, due in part to the extensive organization of the workers. The Commission reported that "although strikes and lockouts still occur in Sweden, they occur within the framework of a voluntary system of collective bargaining in which the settlement of differences by methods of persuasion rather than by force has become the order of the day." It is also to be noted, as in the case of Great Britain, that the entire process of collective bargaining was voluntary and that both workers and employers preferred this method to any kind of compulsion on the part of the Government.

As in the case of Great Britain, the Commission noted that the general prevalence of collective agreements on an industry-wide scale depended upon the extent and character of the organization of both workers and employers.

The Commission found a close parallel between the procedures under collective agreements in England and Sweden, and summarized these as follows: First, basic changes in wages and hours were commonly negotiated by the national unions with the associations of employers. Second, the failure of negotiations led the parties to seek the help of an impartial agency, established by the government. Third, local disputes were first negotiated between the particular worker or his union representative and the employer. And if not settled in this way, were referred to a joint body composed of representatives of the national union and the employers' association. Fourth, under the agreements there could be no strikes or lockouts until the procedure for negotiating basic changes or for settling local disputes and grievances had been completed. In England, enforcement of the collective agreements rested upon moral force rather than legal compulsion. In Sweden, the collective agreements were legally enforceable in the Labor Court.

In Sweden, on the other hand, certain standards which in England remain within the scope of collective agreements have been established by legis-

lation. Basic hours of work were fixed by the law of 1919 for most industrial workers at 8 hours per day or 48 hours per week. The 8-hour day could be extended to 9 within the 48-hour week, and beyond this 200 hours of overtime per year were allowed, not more than 48 of which were to be in any 4 weeks. Vacations with pay were also established by law.

Labor Conditions in the South. The National Emergency Council, in its significant report issued during the year, called "Report on Economic Conditions of the South," gave particular attention to the conditions of labor in this region. It pointed out that non-agricultural labor, which was to a large extent in the South unskilled, was increasingly becoming subjected to the competition of large numbers of farm workers who were finding continuance in agriculture difficult or impossible. The relatively low purchasing power and standard of living of southern workers and their migration to other sections made the southern labor problem an integral part of the national problem. The Council's report found that from the point of view of non-agricultural wage earners, the South was particularly significant as a reservoir of labor. One-fourth of the natural increase of the population of rural districts moved to southern cities or to other sections of the country. The tenant farmers in the South were notably mobile and formed the most unstable part of the population, more than one-third of them moving every year. The inability of southern industry to absorb the growth of rural population, in addition to the increase of population in the towns, naturally led to a mass migration out of the region. Nevertheless, in both rural and urban areas, even before the 1929 depression, there was to be found a large amount of unemployment. Perhaps even more significant, according to the Council's report, were the large numbers so inadequately employed that their work was virtually a form of disguised unemployment. The rural unemployment problem and the pressure of unemployed rural workers on industrial labor was intensified by the increased use of tractors and gang plows in agriculture. Nevertheless, in spite of widespread unemployment and inadequate employment, the amount of child labor was greater in the South—on the farms and in the cities—than any other section. Also, in many of the Southern States the proportion of women with gainful occupations was exceptionally large. And finally, low wages prevailed in many sections of the region. The average tenant family on southern cotton plantations received only \$73 per person per year. Sharecroppers' earnings ranged from \$38 to \$87 per person. In 1937 common laborers in large industries in the South were paid 16¢ an hour less than the amount paid for similar labor in other parts of the country. The average annual wage in southern industry was \$865 as compared with \$1219 in other states.

The Council indicated as its belief that low wages helped industry little in the South. Low wages curtailed the purchasing power of workers and therefore also had the effect of retarding southern industry by giving inefficient employers a competitive advantage. The Council's report pointed out that emigration of southern workers, far from affording a solution, tended to reduce the national wage level by intensifying competition for jobs in other sections. The population problems of the South were thus aggravated rather than solved by the movement of southerners to other sections unless at the same time the levels of income and

purchasing power were raised and a basis was laid for higher standards of living.

These subjects are discussed in greater detail in the articles STRIKES; LABOR, AMERICAN FEDERATION OF; LABOR ARBITRATION. Readers are referred to the following for other topics concerned with the role that labor played in American annals during 1938: UNITED STATES; CHILD LABOR; CHILD WELFARE; CO-OPERATION; OLD-AGE PENSIONS; MINIMUM WAGE; WORKMEN'S COMPENSATION; UNEMPLOYMENT; RELIEF.

LABOR, AMERICAN FEDERATION OF. See LABOR UNIONS.

LABOR ARBITRATION. National Labor Relations Board. As the year progressed it became increasingly apparent that the criticism of the NLRB not only was not relaxing, but that every effort would be made to force amendments at vital points when the new Congress assembled in 1939. In the section on the *American Federation of Labor* below, attention is called to the opposition to the National Labor Relations Act on the part of the American Federation of Labor, which was charging that the NLRB was definitely partial to the C.I.O., and in fact served as a recruiting agency for that body. Similarly, representatives of business were unrelenting in their opposition to certain aspects of the Act and certain activities of the NLRB, and this in the face of the continued approval of the NLRB's work by the U.S. Supreme Court.

The opposition of business was focused on the following aspects of the National Labor Relations Act and its administration: (1) It was an instrument devised only in the interests of labor and therefore was entirely one-sided. In this connection it was pointed out that employers were given no means by which to prevent abuses at the hands of labor leaders and labor organizations. Investigations were conducted by the NLRB only on the complaint of the workers, and the employer had no right to appeal to the Board for an initial investigation. (2) It was being charged that as a result of increasing jurisdictional disputes between the C.I.O. and the A. F. of L., working conditions in plants were constantly being disrupted so as to make normal operations difficult. (3) It was also being contended that labor leaders frequently sought to compel workers to join labor organizations and by acts of intimidation made for a certain amount of restlessness among employees. (4) It was also being maintained that the Act did not protect employers against violations of contract on the part of unions. (5) And finally, the position of many spokesmen for business was summed up in the contention that the NLRB had a decided pro-labor bias and that frequently in its trials and investigations it operated on the assumption that the employer as a rule was guilty of violating employees' rights.

Senator Burke of Nebraska, one of the most articulate spokesmen for business in this connection, pointed out that while he could see no objection to the grant of the right of free collective bargaining, there was, nevertheless, a need for protection of the workers from attempted intimidation. He went on to say:

Every employee should have the right to decide of his own free will and without any coercion whatever, whether he wants to join a union, and if so, what particular union, and whether he wants to continue his job. . . . Let the Act be amended to give that complete protection. Let it denounce unfair practices on the part of employees as well as employers. There is no reason why labor organizations should not be as strictly amenable to the law as any other group of citizens.

This criticism of the National Labor Relations Act was buttressed from another quarter in the contention of Mr. Walter Lippmann, that the law was unfair to labor as a whole because of the majority rule being imposed by the NLRB. Said Mr. Lippmann:

A minority of workers have no rights that the Wagner Act as now interpreted will protect. Their constitutional freedom of association is treated as a compulsion to follow the union of the majority. So the Board is no longer concerned with the protection of the general civil rights of labor. It is now a board to foster the organization of unions which shall have exclusive power to speak for the workers in a plant or in an industry. In practice the Board is a Federal agency for assisting the union organizers of the CIO or of the A. F. of L.

These and similar charges were denied and rebutted by members of the NLRB, notably in the addresses of Mr. J. Warren Madden, Chairman of the Board, and Mr. Edwin S. Smith, a Board member, during the year. They pointed out that the National Labor Relations Act was attempting to do for workers what employers had done for themselves for decades; that is, organize themselves to protect their interests. The employer had always enjoyed a favored position in his dealings with labor, and without such protection as afforded by the Act, the worker was likely to be at the mercy of the employer. They also denied that evidences of coercion on the part of labor leaders were frequent. Mr. Madden, particularly, in a radio speech on May 18, called attention to the fact that as a result of the presence of the Act on the statute books many thousands of employers had dispensed with industrial disputes and voluntarily had recognized the right of their employees to choose their representatives without interference. He also referred to the fact that in thousands of cases, employers and employees, through the efforts of the Board's agents, had adjusted their difficulties on the basis of compliance with the law. He also called attention to the fact that labor was as law-abiding as capital in the observance of the terms of labor agreements. Said he on this point,

In the industries where collective bargaining has been the accepted practice for years there is no difficulty about responsibility and the faithful performance of contracts on both sides. There is no possible reason why the same should not become true of those unions and those employers who have recently for the first time made contracts. In fact they are rapidly adjusting themselves to their new status.

And Mr. Madden went on to say—it was reported with White House approval—that the NLRB expected to continue to "try to do a careful and workmanlike job in the interpretation and administration of our law. We shall not modify our policy of vigorous enforcement."

Mr. Edwin S. Smith, on Nov. 30, 1938, pointed out that the opponents of the Act were beginning to focus their demands for amendment on two points. The first proposal called for the alteration of the procedural provisions of the Act, either by taking more power of decision from the Board and vesting it in the courts, or by so separating the Board's functions as to have one group of individuals responsible for conducting investigations and issuing complaints and another group responsible solely for making decisions on the facts which the first group had developed. And the second proposal for amendment called for the imposition of new obligations upon labor unions in return for the new obligations which the Act imposed upon employers. In general, such proposals sought to curtail the right to strike and to limit the manner in which the unions might pursue the work of organization.

Mr. Smith rejected the first series of proposals on the score that the Supreme Court gave full approval to the procedure followed by the Board and maintained that the legal and constitutional rights of employers were being fully protected. Again, on this proposal, Mr. Smith referred to the inevitable delay that would eventuate from a bifurcation of the Board's functions and pointed to the long delays that accompanied the operations of the state commissions regulating public utility rates. Said Mr. Smith further on this point:

There is also the problem, which must be delicately approached, of whether courts are as apt to be temperamentally inclined to give labor's problems . . . the sympathetic understanding which will be accorded by a specialized administrative tribunal. I doubt that the courts, generally speaking, could do so. Numbers of courts devote a large part of their energies to thinking in terms of property rights. . . . Judges whose predominant concern . . . is with such matters will necessarily, it seems to me, carry over into the field of labor relations something of liberal-mindedness and over-precision in assessing the significance of facts which are brought before them.

As regards the second set of proposals, namely for the imposition upon labor of new obligations, Mr. Smith said:

Generally speaking, these proposed amendments would exert various sorts of curbs upon union activity. I think such amendments are unwise. I think that the cure for undesirable union activity is to give labor organizations more responsibility, not less. To seek to curtail their present efforts at self-responsibility by forcing upon them onerous legal restrictions would tend to make them look and act more and more like wards of the state.

And in referring to the achievements of the Board, Mr. Smith pointed out that from the fall of 1935 to the end of November, 1938, the NLRB had handled more than 17,000 cases, of which more than 13,000 had been closed, 5370 of these being closed by agreement of the parties without formal action by the Board. Another 40 per cent of the cases were dismissed by the regional directors or by the Board on appeal from the regional directors' rulings. Also, more than 12,000 workers were reinstated after discriminatory discharge and more than 200,000 workers were reinstated after strikes or lock-outs. Scores of illegally maintained company unions were put out of existence. Also, the Board held over 1500 elections in which over 5000 votes were cast. On this point Mr. Smith said:

These elections are an important part of the Board's work. They have enabled employees to determine democratically who should represent them in collective bargaining. They have enabled the winning organization to achieve recognition from the employer without recourse to strike. As a matter of fact 1386 strikes have been settled as a result of the Board's intervention and 628 threatened strikes have been averted.

That the debate was making its influence felt— in certain measure at any rate—upon the American public was indicated by the results of a nationwide poll taken by the American Institute of Public Opinion under the direction of Dr. George Gallup. It is interesting to note that approximately half of the voters polled said they had not formed an opinion one way or another about the Wagner Act. But of the other half who were prepared to hazard an opinion, 43 per cent favored revision, 19 per cent favored repeal, and 38 per cent were willing to leave the Act unchanged. In other words, taking the poll as representative of the American population at large, it may be assumed that about 30 per cent of the American population favored repeal or revision, 20 per cent approved of the Act as it stood, and the other remaining 50 per cent was not in a position as yet to make a decision. In the four East Central States of Ohio, Indiana, Illinois, and Michigan, the vote for revision reached 48 per cent

of those with opinions, while 33 per cent wanted outright repeal and only 19 per cent favored leaving the Act unchanged.

The NLRB and the Supreme Court. Up to May, 1938, and in a period of 13 months, the Supreme Court handed down 11 opinions in which in every case it upheld either the Wagner Act or the authority and decisions of the Labor Board. In the five important decisions handed down in 1937, to which reference is made at length in the YEAR BOOK of 1937, the constitutionality of the National Labor Relations Act was declared and the Court held that Congress had power to regulate labor relations in production industries as well as in regard to those matters that clearly were affected by the interstate commerce clause. Not only was the Wagner Act sustained as a valid exercise of the commerce power by the Court, but it was also held not to violate the due process clause of the Constitution in that it did not interfere with the normal exercise of the right of an employer to select employees or to discharge them. Further—and this was significant from the point of view of authenticating the administrative practices of the NLRB—the Court held that the laws' procedural provisions afforded adequate safeguards for the employer against arbitrary action.

Following these five decisions, in another group of five cases, decided in the fall term of the court running from October, 1937, to March, 1938, the Court illuminated certain other aspects of the Act and the NLRB's conduct under it. In two opinions in related cases, the Supreme Court found that the NLRB could not be enjoined from holding hearings on complaints filed by workers against employers. In two other opinions, the Court held that the NLRB in particular situations, when it found domination or interference on the part of an employer in the organization of his employees, was empowered by the statute to order the employer to withdraw all recognition from and disestablish company unions. In the fifth opinion, the Court found that the law was applicable to an employer engaged in processing, even though the employer procured all his raw materials from within the state in which his plants were located and sent out of the state less than half of his product.

The outstanding decisions in which these opinions were laid down were the following: In connection with the NLRB's right to hold hearings on the charge of unfair labor practices: *Meyers vs. Bethlehem Ship Building Corporation* and *Newport News Ship Building and Drydock Co. vs. Schauffler*, decisions rendered on Jan. 31, 1938. In connection with the NLRB's right to order the disestablishment of company unions: *National Labor Relations Board vs. Pennsylvania Greyhound Lines, Inc.* and *National Labor Relations Board vs. Pacific Greyhound Lines, Inc.*, decisions rendered on Feb. 28, 1938.

In connection with the jurisdiction over a processing company, whose interstate business represented only a minor fraction of its production, *Santa Cruz Fruit Packing Co. vs. National Labor Relations Board*, decision rendered on Mar. 28, 1938.

Another outstanding decision was that rendered in the *National Labor Relations Board vs. MacKay Radio and Telegraph Co.*, on May 16, 1938, when the Supreme Court upheld the procedure followed by the National Labor Relations Board in ordering the reinstatement of five strikers. This case had significance for two reasons. First, on the merits of the controversy involved in the case, the

Court ruled that workers who went out on a strike, not provoked by any unfair labor practice of their employers, nevertheless remained employees; and that the employer, if he discriminated because of union activities in reinstating the strikers after failure of the strike, was therefore violating the Wagner Act. Second, on the procedural side of the case, the Court held that the employer was not denied a full and accurate hearing before the Board which had refused the employer's request for notice of its proposed decision so that objections could be taken before any order was issued.

On December 5 another decision, that of the Consolidated Edison Co. of New York vs. the National Labor Relations Board, the Court for the first time refused to validate one of the procedural rules of the NLRB. The NLRB had ordered the Consolidated Edison Co. and its subsidiaries to abrogate contracts with the International Brotherhood of Electrical Workers, an affiliate of the A. F. of L., on the basis of representations made by a rival union, the United Electrical and Radio Workers, affiliated with the C.I.O. On the grounds that the contracts were illegal because the company had influenced its employees to join the I.B.E.W., the NLRB, after investigation, had ordered the company to abrogate the contracts. The majority of the Supreme Court held that it had not been proved that the company's contracts with the I.B.E.W. had been made for the purpose of effecting and perpetuating unfair labor practices which discriminated against the C.I.O. union. The majority opinion contended that the law gave the Board no express authority to validate contracts with independent labor organizations and that the scope of its power was restricted to taking such affirmative action as would effectuate the policies of the law. Said the decision: "We think that this authority does not go so far as to confer a punitive jurisdiction enabling the Board to inflict upon the employer any penalty that it may choose because it is engaged in unfair labor practices. The power to command affirmative action is remedial not punitive." In other respects the Court upheld the decision of the Board. Those parts of the order requiring reinstatement of workers allegedly discharged because of union discrimination and banning recognition of the union as the exclusive bargaining agent of the workers, were sustained. The union was held to be the bargaining agency only for its members. Equally important was the support given by the Court to the Board's contention that it had the right of jurisdiction over public utilities serving interstate industries. In this respect the Board reaffirmed its previous opinion that industries operating within a state are subject to Federal regulation if industrial disputes or other emergencies in their operations would affect interstate commerce. It is interesting to note that four of the eight members of the Court were in complete agreement on the decision, delivered by Chief Justice Hughes; also, that President Roosevelt's two appointees to the bench, Justices Reed and Black, held that the action of the Board should have been sustained in every particular.

Elections Conducted under the NLRB.

Figures made public by the NLRB presented an interesting analysis of the outcome of elections conducted under its supervision. From October, 1935, when it first began to function, through December, 1937, the NLRB conducted 966 elections to determine the majority choice of representatives for purposes of collective bargaining. In 14.5 per cent of the elections, all types of labor organizations ap-

pearing on the ballot were defeated. In 74.8 per cent, employees chose established trade unions of national or international affiliation. Unions having no outside affiliation and confined to a particular company or plant, as well as unions restricted to a certain locality, won 10.7 per cent of the elections. The 74.8 per cent of the total elections that were won by established trade unions were divided as follows: Unions affiliated with the A. F. of L. won 26.3 per cent; unions affiliated with the C.I.O. won 47.1 per cent; workers in 1.4 per cent of the elections chose to be represented by such standard independent or non-affiliated unions as the Sailors' Union of the Pacific. In terms of the total number of valid votes cast in elections held by the Board during the period in question, 81.1 per cent of the votes were for some trade or independent union, 13.6 per cent were for plant or local independent unions, and 5.3 per cent were for no organization.

The Harlan Dispute. In 1937, as a result of the investigations conducted by the Senate's Civil Liberties Committee, headed by Senator La Follette of Wisconsin, and the NLRB, the United States was given the full tale of violence, bloodshed, and intimidation which had characterized the history of industrial relations in Harlan County, Kentucky, an important bituminous coal center. As a result of the filing of charges with the NLRB against some 40 Harlan County coal companies and operators by a union representing coal miners, the NLRB took jurisdiction and proceeded to test its powers procedurally and in the courts. In the case of one large company, the Board made an order for reinstatement of some 60 miners discharged for union activities, and ordered compensation for loss of pay. The U.S. Circuit Court of Appeals upheld the Board's order in all particulars and entered its decree against the company. As a result of non-compliance and for other purposes the U.S. Attorney in the area brought suit against 55 Harlan County coal companies, mine operators, and former deputy sheriffs for conspiring to deny Harlan citizens their civil rights. Jurisdiction was taken under a Federal law passed in 1870 to combat the Ku Klux Klan. On August 1, after 12 weeks given over to the taking of testimony and the hearing of witnesses, the jury reported its inability to arrive at a verdict and Federal Judge H. Church dismissed the jury.

But the story apparently was to have a happy ending, for on August 27 an agreement was signed between the United Mine Workers of America and the Harlan County Coal Operators' Association, which seemed to presage peace. In view of the fact that the agreement recognized the U.M.W.A. as a collective bargaining agency for the miners in the community and also imposed the standard check-off, the NLRB consented to dismiss finally all charges of violation of the Wagner Act against the coal companies of the county.

Railroad Wage Dispute. Following negotiations that began on May 12 and that finally terminated on Oct. 29, 1938, a threatened industrial dispute affecting virtually all the railway companies in the United States was averted. On May 12 the carriers served notice on their employees of their intention to reduce wage scales 15 per cent on July 1, 1938. Efforts at settlement proving unavailing, mediation was invoked and followed, however, without succeeding in adjusting the dispute. As required by the Railway Labor Act, the National Mediation Board requested the parties to submit the controversy to arbitration. The carriers signified their willingness to arbitrate, but the employ-

ees declined. On Aug. 31, 1938, the National Mediation Board formally notified the parties of the termination of its services. This automatically stayed the original notices for an additional 30 days. The carriers then notified their respective employees that the notices would be put into effect on Oct. 1, 1938. Strike votes were taken and on September 26 the employees announced their intention to call a nationwide strike unless the wage-reduction proposals of the carriers were withdrawn. On the following day, the National Mediation Board notified the President that in its judgment the unadjusted dispute of the parties threatened substantially to interrupt interstate commerce to a degree such as to deprive the country of essential transportation service. As empowered by the Railway Labor Act, President Roosevelt thereupon created an Emergency Board to investigate and report respecting the dispute. It was this Board which recommended on October 29 that the railway companies rescind their wage-reduction orders. On November 4 the railroads complied and withdrew their orders for the wage reduction.

Recognizing that the request of the railroads grew out of their financial needs and conceding that it was necessary to give some consideration to the railway problem as a whole as a result of which ways and means would have to be devised for coming to the aid of individual railroads in difficulties, the Board nevertheless concluded that the level of wages of railroad labor was not high when compared with wage levels in other industries. The Board went on to say:

Nor do wage trends show that railway wages have advanced proportionately greater than wages in other industries. Instead they seem to show a slight lag. . . . Furthermore, no justification arises for a wage reduction from the current wage situation in other industries. . . . These considerations lead us to the conclusion that the carriers' proposal can derive no sustenance from the contention that railway wages as a whole are too high.

Establishment of the Maritime Labor Board. In June, 1938, as an amendment to the Merchant Marine Act of 1936, Congress provided for the establishment of a Federal Maritime Labor Board to aid in the settlement of disputes between maritime workers and their employers. The Board was to be composed of three members. The primary function of the Board was to encourage all maritime employers and their employees to bargain collectively and endeavor to settle disputes amicably. The Board was called upon to encourage employers and employees to make every reasonable effort "to make and maintain written agreements concerning rates of pay, hours of employment, rules, and working conditions, which agreements shall provide, by means of adjustment boards or port committees, for the final adjustment of disputes growing out of grievances or the application or interpretation of the terms of such agreements," and to "settle all disputes, whether arising out of the interpretation or application of such agreements or otherwise, in order to avoid any interruptions to transportation of passengers or property in water-borne commerce." The amended act did not affect or limit the provisions of the National Labor Relations Act, and no unfair labor practice under that act was a dispute for the purposes of the new act. The National Labor Relations Board was to continue to determine questions relating to representation of employees of a maritime employer. The parties to a dispute might request the Maritime Labor Board to act as mediator in such agreements, also the Board might proffer its services in case any maritime labor dispute was

found to exist. If the Board found itself unable, through mediation, to bring the parties to a dispute to an agreement, it was required to use its best efforts to secure the assent of both parties to arbitration of the matter in dispute.

LABOR BANKS. See CO-OPERATION.

LABOR CONDITIONS IN THE SOUTH. See LABOR.

LABOR LEGISLATION. The most significant achievement in labor legislation during 1938 was the adoption by Congress of the National Fair Labor Standards Act—fixing maximum hours and minimum wages and prohibiting child labor in interstate industries.

Of first rate importance also were the new Federal law setting up a national system of unemployment compensation for railway workers, the constitutional amendment adopted by Arkansas voters in November authorizing enactment of a state workmen's compensation law, the New York constitutional amendment authorizing adoption of a health insurance law, and the new minimum wage laws in Kentucky and Louisiana. Outstanding, too, in its implications was the final ratification by the United States Senate of five maritime labor treaties, the first International Labor Organization conventions to be ratified by this country.

These and many other advances in labor legislation came in a year when, in addition to Congress, fewer than half of the state legislatures met in regular or special session.

With the new Federally administered law for railway workers, there are now 52 American unemployment compensation laws. Noteworthy among amendments to these laws was the suspension of worker contributions in Massachusetts for one year, while a recess commission studies the advisability of their permanent abolition. Only six other laws compel workers to contribute. In Georgia, the date for the beginning of benefit payments was advanced six months to Jan. 1, 1939; and in Louisiana, coverage was extended to employers of four or more workers instead of eight or more. Benefits were liberalized in Louisiana and Mississippi; and flat minima were fixed in Kentucky (\$4), Louisiana (\$4), New Jersey (\$5), and Virginia (\$3). The maximum amount a worker may earn at odd jobs without affecting his benefit rights was raised in Georgia, Massachusetts, and New York. The waiting period was reduced to two weeks in Louisiana and Massachusetts.

All of the states and Alaska, Hawaii, and Puerto Rico now have old age pension or assistance laws. These laws were amended by the legislatures in Georgia, Kentucky, Massachusetts, New Jersey, and Rhode Island. Missouri, by constitutional amendment, authorized payment of pensions beginning at age 65 instead of 70. North Dakota voters by initiative petition amended the state law to fix a minimum pension of \$40, or \$30 if more than one person in the same family is receiving a pension.

Besides Arkansas which in 1938 approved a constitutional amendment explicitly authorizing the legislature to adopt a workmen's compensation law, only Mississippi is now without this legislation. Liberalizing or strengthening amendments to existing laws were adopted in Kansas, Louisiana, Massachusetts, New Jersey, Puerto Rico, and Virginia. New York removed the state insurance fund from the labor department and placed it under an independent eight-man commission. Massachusetts provided for a special commission investigation of methods of insurance, silicosis compensation, and

allocation of rejected risks. Congress made several changes in the Federal Longshoremen's Compensation Act and the United States Employee's Compensation Act, and exempted clerical employees of members of Congress from the District's law.

Notable among laws affecting labor's right of collective bargaining is the act of Congress creating a three-man Maritime Labor Board to mediate maritime labor disputes and to promote arbitration when other means fail. Puerto Rico, moreover, enacted a labor relations act similar to the Federal law. New York adopted a constitutional amendment establishing labor's right to organize and bargain collectively through representatives of their own choosing; and Massachusetts extended the state conciliation board's jurisdiction. Several states, including Kentucky and New York, enacted laws designed to safeguard the rights of striking workers. Congress strengthened the law prohibiting the interstate transportation of strike-breakers. Rhode Island outlawed the use of tear gas by private individuals or corporations during strikes and lockouts. Virginia provided for a study of causes and remedies of labor disputes. Oregon, on the other hand, by referendum on November 8, adopted a law designed to limit severely the rights of labor to picket, to boycott and to accumulate funds, with provision for enforcement through court injunctions and criminal penalties.

In the National Fair Labor Standards Act, Congress fixed a national minimum wage for employees in interstate industries, beginning at 25 cents an hour the first year and rising to 30 cents the second year and to 40 cents six years later. Industry committees may be created to recommend different hourly rates but not more than 40 nor less than 30 cents an hour. The new state minimum wage laws of Kentucky and Louisiana made a total of 25 states, the District of Columbia, and Puerto Rico having such laws. Massachusetts made it illegal to attempt evasion of the minimum wage law through leases or otherwise. New York by referendum voted a constitutional amendment requiring prevailing wages on public works.

The Federal wage-hour law which went into effect October 24, requires extra pay for weekly hours in excess of 44 the first year, 42 the second, and 40 thereafter in interstate industries. Important among new state hour laws is the South Carolina act putting into effect a 1936 law limiting hours of employees in textile mills to 8 a day and 40 a week, and placing the same limits on women's hours in garment factories and a 48-hour weekly maximum for women in finishing, dyeing, and bleaching plants. That State also restricted hours in many other industries. Louisiana fixed an 8-hour day and a 48-hour, 6-day week for women in most industries, prohibited night work for females under 18 and prescribed rest periods for women.

Virginia reduced women's hours in many occupations from 10 to 9 a day and fixed a 48-hour weekly limit. New York made her one-day-rest-in-seven law applicable to janitors, watchmen, and superintendents of buildings and to engineers and firemen in theaters. An 8-hour day and 5-day week was prescribed for public works in an amendment to the New York constitution adopted on November 8.

Congress extended coverage of the 8-hour day for seamen and licensed officers in deck and engine departments to vessels on the Great Lakes. Massachusetts provided for a joint investigation of hours of women and children in hospitals and nursing

homes, to be made by the labor and health departments.

Revival of Federal regulation through the Fair Labor Standards Act made 1938 a year of outstanding importance for child labor legislation. Returning to the method first attempted in the 1916 act which was declared unconstitutional in 1918, Congress has now prohibited the shipment in interstate commerce of goods produced in any establishment, where, within the preceding 30 days, any child under 16 years of age had been employed, or any person between 16 and 18 years of age had been employed in an occupation declared to be particularly hazardous or detrimental to the health or well-being of such person. Administration is through the Children's Bureau.

Among the states, South Carolina forbade night work of minors under 18 years of age between 10 p.m. and 6 a.m., New York extended the application of the street trades law. Louisiana, Massachusetts, and Virginia provided for state systems of voluntary apprenticeship.

A modern boiler safety law applying outside of New Orleans was adopted by Louisiana, where the commissioner of labor was authorized to make and enforce administrative regulations, to inspect boilers and levy inspection fees, and to accept inspections by qualified insurance company inspectors. Puerto Rico created an accident prevention council empowered to make and enforce safety rules in industry and elsewhere.

Louisiana authorized the commissioner of labor to license and regulate fee-charging employment agencies. Agencies transacting all their business in a regular office in a city or town are required to pay an annual license fee of \$50, instead of \$25 as formerly. For others, the fee is \$500. A \$5000 bond must be filed with the commissioner. Licensees must be at least 21 years of age and of good character.

Several states, including Massachusetts, New Jersey, New York, Rhode Island, South Carolina, and Virginia, enacted laws to protect workers' wage claims. Laws seeking to prevent age discriminations in public employments were enacted by New Jersey and New York.

New York authorized savings banks to write life insurance or annuity policies; required approval of the board of standards and appeals for use as corporate names of such phrases as "industrial union"; and created a commission to study English methods of industrial self-regulation and existing profit-sharing plans. Congress made applicable to the construction of naval vessels the provisions of the Walsh-Healy Act relating to wages, hours, and conditions of workers under public contracts.

To enforce the Federal wage-hour law Congress established a wage and hour division in the Labor Department. Congress also created a three-man Maritime Labor Board to mediate maritime labor disputes.

Louisiana authorized the labor commissioner to appoint three inspectors to enforce the women's hour law, created a minimum wage division in the labor department, and provided for a director of apprenticeship in the labor department and also for an apprenticeship council. Massachusetts and Virginia also created apprenticeship boards attached to their labor departments.

Louisiana established a civil service system for its state employment offices and unemployment compensation division; and Kentucky authorized her unemployment compensation commission to adopt

such a system. In Virginia the advisory legislative council was authorized to study the advisability of enacting a state civil service law.

LABOR LEGISLATION, AMERICAN ASSOCIATION FOR. Founded in 1906, this membership organization of socially minded economists, lawyers, journalists, labor leaders, and employers has worked along scientific lines, consistently attacking needless industrial evils from the general welfare viewpoint. It continued its work as the American arm of the International Association for Social Progress formed in 1925 by the fusion of the three international organizations for labor legislation, unemployment, and social insurance. At the World Congress on Social Policy in Paris, July, 1937, the American Section actively participated. Progress of the Association was recorded in its substantial quarterly, the *American Labor Legislation Review*. A cumulative index to the first 20 volumes of this *Review* was published in 1931.

The Association from the beginning has given special attention to social insurance legislation, and to laws for the prevention of industrial and mine accidents and occupational diseases, the mitigation of the evil effects of unemployment through long-range planning of public works, the regulation of fee-charging employment agencies, and the development of public employment offices, and for the provision of one day of rest in seven. It places special stress upon effective administration of the laws.

The Association's 32nd Annual Meeting was held in Detroit, December 29-30, several sessions being held jointly with the American Economic Association, the American Statistical Association, and the American Sociological Society.

The president in 1938 was Joseph P. Chamberlain; the Treasurer, Eustace Seligman; the Secretary, John B. Andrews; and they were re-elected. Headquarters are at 131 East 23rd Street, New York City. See **LABOR LEGISLATION**.

LABOR UNIONS. The rift which had developed in the ranks of organized labor in 1935 came to an open break in 1938 when the Committee for Industrial Organization decided to go its own way as an entirely independent body. The result was that in November of the year its constituent national trade unions organized the Congress of Industrial Organizations, a body which duplicated the American Federation of Labor. As a result of the internecine struggle, labor made relatively little advances during the year. Indeed, in some sectors there were definite losses. The following factors contributed to the uncertain situation: (1) Factional struggles broke out in a number of important unions, notably the United Automobile Workers of America, the National Maritime Union, and the International Fur Workers' Union, which checked organizational activities. Charging them with Communist sympathies, Homer Martin, president of the automobile union, suspended four international officers. The fight spread to a number of the outstanding locals, and, as a result, appeal was made to John L. Lewis, Chairman of the C.I.O., for the purpose of rehabilitating the union. Setting up what came to be virtually a regency, under the direction of Sidney Hillman and Philip Murray, vice chairmen of the C.I.O., Mr. Lewis endeavored to re-establish peace through the restoration of the suspended officers and the limiting of the powers of Homer Martin. This plan took effect in October. A similar factional struggle, which endangered the progress of C.I.O. organizational work on the

west coast, took place when a number of local unions, notably those affiliated with the International Ladies' Garment Workers' Union, charged that Harry Bridges, the west coast regional director of the C.I.O., was following the Communist Party line. The same difficulties emerged on the east coast in the Maritime Workers' Union and in New York among the furriers. (2) In November, David Dubinsky, president of the I.L.G.W.U., withdrew from the C.I.O. just before the meeting of its constitutional convention on the grounds that John L. Lewis had made no real efforts to establish peace with the A. F. of L.—a peace which he charged had been on the verge of realization in December, 1937, as a result of the meetings taking place between the representatives of the two bodies—and because of the I.L.G.W.U.'s refusal to countenance "dual national movements." Said Mr. Dubinsky in explaining his attitude:

We believe now, as we have always believed, that one unified labor organization in this country could and should bring the benefits of organization to all wage-earners in the land, whether in the mass-production or the skilled industries, and protect labor against its economic as well as political enemies.

Being vitally interested in the reconciliation of the two parts of the labor movement, we therefore decide to remain an independent union until peace is established in the labor movement or until it is otherwise decided by a regular or special convention of our union.

3. Though unaffiliated with either side, our policy in the future will be to support every genuine effort, whether C.I.O. or A.F.L., in their organizational activities for the improvement of the conditions of the workers, and in every effort to achieve peace in the labor movement.

(3) As a result of the inability of the two Federal organizations to come to terms, the A. F. of L. proceeded to charter dual national unions, the outstanding one of these being the International Union of Progressive Mine Workers of America, which was to work in the same field as the C.I.O.'s United Mine Workers of America. This new union held out the olive branch to employers when it promised to eliminate the check-off from contracts and not to call strikes without the consent of the rank and file membership. (4) Another important characteristic of the period was the continued attacks of the A. F. of L. on the work of the National Labor Relations Board. Further mention of the attitude of the A. F. of L. toward the NLRB will be made below. (5) In May, the A. F. of L. took the final step of outlawing the suspended unions which had thrown in their lot with the C.I.O. when it formally expelled 9 of the 10 bodies that had followed the leadership of John L. Lewis. The suspended unions were as follows: United Mine Workers of America; International Union of Mine, Mill, and Smelter Workers; Federation of Flat Glass Workers of America; Amalgamated Clothing Workers of America; Amalgamated Association of Iron, Steel, and Tin Workers; United Textile Workers of America; International Union United Automobile Workers of America; United Rubber Workers of America; Oil Field, Gas Well, and Refinery Workers of America.

A. F. of L. Convention. The 58th Convention of the A. F. of L. met at Houston, Texas, during October 3-13 with the question of peace in organized labor and the A. F. of L.'s attitude toward the NLRB as the outstanding topics of discussion. The executive council's report indicated a growth of membership from 2,860,933 paid-up members on Aug. 31, 1937, to 3,623,087 on Aug. 31, 1938. To this latter figure must be added the unemployed members of 1,400,000, bringing the total up to 5,000,000, the highest in the A. F. of L.'s history.

The tone of the meeting was set when the execu-

tive council's report openly charged the NLRB with being linked with the fortunes of the C.I.O. and with "fostering its interests and by the effect of its decrees recruiting membership for the C.I.O." The executive board, in its report, made three charges against the NLRB as follows:

First, in a large number of instances its agents have shown gross favoritism and bias in the handling of cases, furthering the objectives of one union against another and favoring one form of labor organization.

Second, by administrative fiat the board has set aside legally valid and binding contracts entered into in good faith by bona fide unions and employers.

Third, through the arbitrary determination of appropriate units in cases dealing with the question concerning representation, the board has sought to impose upon workers, regardless of their wishes, the type of organization it favored.

On the second day of the convention's meetings the question of peace in the ranks of organized labor was forcibly placed before the assembled delegates when President Roosevelt's message to the convention openly asked for a reconsideration of the basis of the strife. Said his message:

... I venture to express the hope that the convention will leave open every possible door of access to peace and progress in the affairs of organized labor in the United States. If leaders of organized labor can make and keep the peace between various opinions and factions within the labor group itself, it will vastly increase the prestige of labor with the country and prevent the reaction which otherwise is bound to injure the workers themselves.

This appeal met with response from an unexpected and powerful quarter within the ranks of the A. F. of L. when Daniel J. Tobin, president of the International Brotherhood of Teamsters, Chauffeurs, Stablemen, and Helpers of America, the largest international in the A. F. of L. with a paid-up membership of 309,200 on October 7, declared:

I hope and trust that you will pay some attention to that [President's message], the first message of its kind that ever came to one of our conventions, and that you will not leave this convention without telling us in the executive council in no unmistakable language, "Go and meet those people (the C.I.O.) if you are called upon, and try to bring about a settlement."

Mr. Tobin further went on to say that the division in the ranks of labor had become so serious that no further labor legislation might be expected in Washington until labor itself was cemented into one body. The door was left open to peace when the Committee on Resolutions recommended that "the convention authorize the executive council to carry on the battle and at the same time stand ready to respond to any genuine appeal for peace or any honorable and sincere opportunity to reunite the labor movement." That this attitude was not accepted in ill part by Mr. Green was indicated by the remarks made in his speech of acceptance as president of the A. F. of L. for the 15th consecutive term. Here he said:

I promise you that I shall make every contribution that lies within my power towards the promotion of peace in the labor movement; I shall do what I can to heal the wounds and close the breach and unite the force of labor. ... I will do what I can to serve in every way to establish here in America a solid invincible movement unassailable and unafraid.

There was no question that Mr. Tobin's position was strategic and at the end of the convention he indicated that he was not prepared to remain in the A. F. of L. quiescently; indeed to reporters he said that the teamsters could "build their own house" if peace did not quickly come.

Also, at its convention, the A. F. of L. openly voiced its opposition to the NLRB and to those among its decisions which it charged were friendly to the C.I.O. In the executive council's report the

NLRB was accused of misinterpreting the intent of Congress in determining what constituted an appropriate unit for the purpose of collective bargaining, and of rendering aid directly and through decisions to the C.I.O. In line with this sentiment, the convention approved the report of the executive council and instructed the council to draft amendments to the National Relations Act to meet the following demands:

1. The unit rule must be changed to conform to that which is in the Railway Labor Act so that it will be obligatory on the Board to grant a craft or class the right to select its bargaining representative by majority vote.

2. The power of the Board to invalidate contracts must be definitely curtailed.

3. Every known interested party should be served with due process and be afforded an opportunity to appear in any case. No contractual rights should be passed upon without every party to the contract being served with process and given the right to appear in the case.

4. Intervention by interested parties should be made a matter of right and not a matter of discretion.

5. Definite qualifications should be set forth in respect to examiners. Some are wholly incompetent and unfit to serve in that capacity. In fact, affidavits of prejudice should be permitted to be filed against them where an examiner is considered unfair.

6. Clarification respecting power over the issuance of subpoenas is necessary and liberalizing of the rule in that respect should be provided.

7. The secrecy of files must be lifted to the extent that all persons may have an opportunity to examine a record which contains material on which decisions are made.

8. Elections should be held within thirty days from the filing of petitions.

9. All cases should be decided within forty-five days after the close of the taking of testimony.

The convention also recommended consideration of the desirability of (1) granting jurisdiction to appellate courts to "review the facts as well as the law . . ." and (2) of separating "the administrative functions from the judicial functions of the NLRB."

Other important decisions taken by the convention included the following: (1) It approved the objections of its executive council to Section 14 of the Fair Labor Standards Act of 1938 pertaining to special rates of wages for apprentices and handicapped workers. (See MINIMUM WAGE.) (2) It approved the Walsh-Healey Act and recommended that the law "be further amended so that all contracts entered into by government agencies for marine vessels . . . should come under the wage provisions of the law." (3) It pledged support to the railroad workers' unions in their struggle against the 15 per cent wage reduction which the operators demanded. (See LABOR ARBITRATION.) (4) It refused to adopt a resolution for united action by democracies for peace and for the quarantining of aggressor nations. (5) It commended the Federation's officers for helping German and Austrian refugees and praised Mr. Green for carrying out the Federation's policy favoring boycott of German goods and his recent telegrams to the State Department and the British Trades' Union Congress on behalf of keeping immigration open to Jews who may wish to go to Palestine.

Mr. Green was re-elected president and all the other officers were similarly re-elected. The convention voted to hold its next meeting in San Francisco.

See ART EXHIBITIONS.

C.I.O. The Committee for Industrial Organization took the step that led to the establishment of a dual labor federation when it met in Pittsburgh during November 14-18 and drew up a constitution for the Congress of Industrial Organizations. Its organizing committee claimed a membership of 4,037,877, but, deducting the 250,000 members representing the I.L.G.W.U., the net membership was 3,787,877. It should be noted that

these included dues-paying as well as unemployed members. Thus these 3,788,000 persons were to be added to the 5,000,000 gross members of the A. F. of L. to make the total of almost 9,000,000 organized trade unionists in America exclusive of the membership of the railroad brotherhoods.

There assembled at Pittsburgh representatives of 35 affiliated unions, 675 local industrial unions, 9 organizing committees, 23 state industrial councils, and 115 city councils. It can be seen, therefore, that the C.I.O. planned to duplicate point for point the organizational forms and the activities of the A. F. of L.

President Roosevelt in his message to the C.I.O. convention repeated again, largely in similar terms, the plea for peace that he had voiced in his message to the A. F. of L. He said:

... it is essential that there be co-operation among the wage earning groups and because of this I venture to express the hope, as I did also to the A. F. of L. convention delegates, that every possible door to the access to peace and progress in the affairs of organized labor in the United States be left open. Continued dissension can only lead to loss of influence and prestige to all labor. On the other hand, collective bargaining will be furthered by a united labor movement making for co-operation and labor peace which will be in the interests of all Americans.

Reporters were quick to observe that while there was a good deal of free discussion on the floor of the convention, nevertheless its proceedings were dominated by a small group of executives who quickly indicated that no dissension or factionalism would be brooked. For one, the top leadership refused to permit the reopening of the peace discussions and would not tolerate a motion calling for delay in the setting-up of an independent organization. Without a dissenting vote, therefore, the delegates resolved that while the goal of unity in the labor movement was accepted, the C.I.O. would never compromise with either the fundamental principle of industrial unionism or "its obligation to fully protect the rights and interests of all its members and affiliated organizations." In the words of a well-informed observer, "the door for further negotiations was not slammed; it simply was not approached."

In similar fashion, the top leadership treated none too gently the demands of left wingers at the convention who called for tolerance toward radical political groups. In its preamble the C.I.O. declared it as its purpose "to bring about the effective organization of the working men and women of America regardless of race, creed, color, or nationality." It became at once apparent that the preamble had nothing to say about "political affiliation," meaning of course those persons who openly or tactically were following the line of the Communist party. For the purposes of giving further consideration to this question, delegates Rathborne, Curran, and Bridges requested that a little more time be afforded to study the provisions of the constitution before voting on it, the thought being to force the inclusion of the term "political affiliation." But the top leadership would brook neither delay nor criticism and the preamble as originally written was forced through.

The constitution as accepted provided for an unpaid president, two vice-presidents, a secretary, and an executive board comprising representatives of each of the 41 affiliated international unions. Headquarters were to be in Washington and conventions were to be held annually with the executive board meeting twice a year. Revenues for the C.I.O. were to be derived from a tax of 5¢ a month per member from each international union, and 50¢ per member from each directly affiliated in-

dustrial union. Questions before the C.I.O. executive board were to be decided by a simple majority vote with a roll call on demand of any member. In the case of the roll call each member was to cast as many votes as there were members in his union. This obviously meant control by a group of the large unions, notably the miners, the clothing workers, the steel workers, and the automobile workers. Also, the constitution provided that no affiliate was to be suspended or expelled without a two-thirds vote at the convention.

The constitution declared the objects of the newly named Congress of Industrial Organizations to be as follows:

1. To bring about the effective organization of the working men and women of America regardless of race, creed, color, or nationality and to unite them for common action into labor unions for their mutual aid and protection.
2. To extend the benefits of collective bargaining and to secure for the workers means to establish peaceful relations with their employers, by forming labor unions capable of dealing with modern aggregates of industry and finance.
3. To maintain determined adherence to obligations and responsibilities under collective bargaining and wage agreements.
4. To secure legislation safeguarding the economic security and social welfare of the workers of America, to protect and extend our democratic institutions and civil rights and liberties, and thus to perpetuate the cherished traditions of our democracy.

The delegates adopted a social security and health program of their own as well as a score of other resolutions. These included the establishment of a permanent civil liberties bureau in the Federal Government; liberal credit to small farmers and the maintenance of farm prices at not less than the cost of production; opposition to reduction in WPA; substantial expansion in the housing, social security, and youth programs; the expansion and raising of wage and hour standards; the elimination of poll taxes in the South; Federal legislation forbidding the use of the National Guard to break strikes; and approval of President Roosevelt's Latin-American program. It did, however, demand that social services should not be curtailed to pay for armament and that the right of labor under the National Labor Relations Act be respected. The NLRB received a clean bill of health from the convention.

The C.I.O. elected as its first constitutional president John L. Lewis, president of the United Mine Workers of America. The two vice-presidents named were Philip Murray, of the United Mine Workers and chairman of the Steel Workers' Organizing Committee, and Sidney Hillman, president of the Amalgamated Clothing Workers of America and chairman of the Textile Workers' Organizing Committee. As secretary it named James E. Carey, president of the United Electrical and Radio Workers' Union.

LABRADOR. The most easterly part of North America; a dependency of Newfoundland. Area, 118,400 square miles; population (1935), 4716. Capital, Battle Harbor. On Nov. 16, 1938, it was announced by Dr. J. A. Retty, chief geologist of the Labrador Mining and Exploration Company, that two great iron-ore deposits were discovered. One deposit, of high-grade ore, is at Sawyer Lake; the second deposit, of lower-grade ore, is at Attikamagen. See NEWFOUNDLAND.

LABUAN. See STRAITS SETTLEMENTS.

LACROSSE. See SPORTS.

LA FARGE. CHRISTOPHER GRANT. An American architect, died at Saundertown, R. I., Oct. 11, 1938. Born in Newport, R. I., Jan. 5, 1862, the son of John La Farge, he studied at the Massachusetts Institute of Technology (1880-81) and spent the

year 1882 in the office of H. H. Richardson. In 1883 he joined his classmate, George L. Heins, at Minneapolis as an architect on a railroad station project. They moved to New York in the following year where they took charge of the architectural work of La Farge's father.

In 1886 the firm of Heins and La Farge was founded which lasted until 1910. During this period some of Mr. La Farge's best work was done. In 1890, as the result of a competition in which 30 architects participated, their design for the Cathedral of St. John the Divine in New York City was adopted. It was conceived on Byzantine lines internally but externally treated in a free Romanesque manner. After Mr. Heins' death in 1907, Mr. La Farge was retained as architect, but in 1911 the remainder of the work, the design of which was changed to Gothic, was entrusted to Mr. Ralph Adams Cram of the firm of Cram, Goodhue & Livingstone.

Other works on which Mr. La Farge acted as collaborator during his membership in this firm were: The interiors of the Church of St. Paul the Apostle, the Church of the Incarnation, and the church and parsonage of the 4th Presbyterian Church, all in New York; St. Matthew's Church, Washington; the Church of the Blessed Sacrament, Providence, R. I.; St. Paul's Church and parish house, Rochester, N. Y.; the Houghton Memorial Chapel, Wellesley, Mass.; the Roman Catholic Church and rectory, Tuxedo, N. Y.; the chapel and parish house, St. Michael's, Geneseo, N. Y.; the Roman Catholic chapel at West Point, N. Y.; the Lorillard, Matthiesen, and Bliss mausoleums in Woodlawn Cemetery, New York; the Calvin S. Brice mausoleum, Lima, O.; the alterations and extensions to Grace Church, New York; accessory buildings of the Cathedral of St. John the Divine; the Roman Catholic cathedral, Seattle, Wash.; the Packard Memorial Library, Salt Lake City; many of the New York subway stations built under the Rapid Transit Commission, particularly those below Grand Central Station on the Interborough Rapid Transit line; the buildings of the New York Zoological Park; the Morgan Library, Hartford, Conn.; the Williams Memorial, Trinity College; St. Patrick's Church, Philadelphia; the U.S. Naval Hospital, Brooklyn, N. Y.; the New York Yacht Club Station; the Chelsea-Moore Apartment House; the N. Y. Genealogical Society Building; the gymnasium, Woodstock (Conn.) Academy, and the residences of Caspar Whitney at Irvington, N. Y., and Donald Frothingham at Darien, Conn.

From 1910 to 1915 he was a member of La Farge and Morris, and after Jan. 1, 1926, of the firm of La Farge, Warren and Clark, and from April, 1931, executive member of La Farge & Son. During April-December, 1918, he was an investigator and later assistant general manager of the U.S. Housing Corporation.

Elected an Associate National Academician in 1910, Mr. La Farge also was a fellow and director of the American Institute of Architects, past president of the Architectural League of New York, and secretary of the American Academy in Rome. He acted as chairman of the Advisory Commission of the School of Architecture of Columbia University and was a member of a similar commission at the Massachusetts Institute of Technology. In 1921 Princeton University honored him with the honorary degree of Master of Fine Arts.

LAFAYETTE COLLEGE. An institution for the higher education of men in Easton, Pa.,

founded in 1826. The registration in the autumn of 1938 was 940. The faculty numbered 99. The productive funds amounted to \$3,921,000 in 1938, and the income was \$157,783. The number of volumes in the library was 97,000. President, William Mather Lewis, A.M., LL.D., Litt.D., L.H.D.

LANDS, PUBLIC. Readjustment of its activities to meet the primary responsibilities placed upon it by a universally recognized need for prudent conservation of the natural resources on the public domain, was the outstanding problem met by the General Land Office during the fiscal year ended June 30, 1938.

The total cash receipts from sales, leases, and other disposals of public lands (including receipts from copies of records, sales of Government property, etc.) were \$8,393,511, and from sales of Indian lands \$53,863.28, an aggregate of \$8,447,374, all of which was deposited in the Treasury. The total expenditures from appropriations made for the conduct of the General Land Office was \$1,821,681. The excess of receipts over expenditures was \$6,625,693. The receipts were the largest in any year since 1927, exceeding 1937 receipts by \$1,047,535. Receipts under mineral leasing acts as bonuses, royalties, and rentals under laws providing for the leasing rights on the public domain (including royalties and rentals of potash deposits and royalties on coal leases in Alaska) aggregated \$6,675,973. Receipts under the Taylor Grazing Act as fees on grazing licenses amounted to \$817,499, and for fees and rentals as under section 15 of the act, \$47,932.

On June 30, 1938, about 6,500,000 acres were embraced in unperfected entries upon which proof of compliance with the law was not due or had not been presented. In addition, there were pending applications for exchange under the Taylor Grazing Act involving approximately 2,500,000 acres of privately owned and state school land and about the same area of public land. At the beginning of the year there were outstanding 1020 oil and gas leases embracing 405,671.72 acres. On July 1, 1938, there were outstanding 11 potash leases for 27,785.49 acres; 28 potash permits for 62,548.87 acres; and 7 phosphate leases embracing 3352 acres. During the year 9 sulphur permits for 5985.01 acres were issued, bringing the total to 27 permits covering 17,508.01 acres. Twenty-two sodium permits, embracing 36,227.38 acres, were issued during the fiscal year, making in all 47 sodium permits for 65,586.36 acres.

New applications by various states, under the Taylor Grazing Act, for exchanges of lands, were received, embracing 266,067.44 acres. Selections involving 79,957.26 acres were approved, and patents were issued in 24 cases embracing 50,377.16 acres. The rejected and relinquished applications involved 123,260.19 acres.

In Alaska on June 30, 1938, there were outstanding 32 leases for fur farming covering approximately 170,260 acres. Matters relating to fur farm leases were considered in 164 instances. Three renewal leases were issued; two new leases were issued; and two leases were canceled. There were 13 grazing leases in effect, embracing approximately 899,312 acres.

The area of existing power-site reserves was decreased by 2838 acres, that of the public water reserves was increased by 1030 acres, and the lands classified as valuable for hydroelectric power purposes were increased by 83,969 acres.

Withdrawals aggregating 252,258 acres were made for use by the Farm Security Administration, successor of the Resettlement Administration, and

3187 acres purchased by the latter were transferred by Executive order from the jurisdiction of the Department of Agriculture to the jurisdiction of this Department. Withdrawals for lighthouse purposes were reduced by 1120 acres, a withdrawal of 40 acres for use by the War Department as an airplane site was revoked, and one for the use of an Indian tribe expired by limitation.

A summary of the outstanding mineral withdrawals and classifications as of June 30, 1938, is as follows:

	<i>Withdrawn acres</i>	<i>Classified acres</i>
Coal	26,971,813	33,276,103
Oil	5,168,593	71,884
Oil shale	5,989,949	4,081,208
Phosphate	1,889,601	302,219
Potash	9,411,906	.....
Total	49,431,862	37,731,414

LANGE, CHRISTIAN LOUS. A Norwegian historian and Nobel Prize winner, died at Oslo, Dec. 11, 1938. Born in Stavanger, Norway, Sept. 17, 1869, he was educated at the University of Oslo (Ph.D., 1919) and studied history and modern languages in Paris and London. He taught and lectured in Oslo from 1890 to 1909 and from 1900 to 1909 he was secretary to the Nobel Committee of the Norwegian Parliament. Thereafter he became a member of the Nobel Prize Committee. He represented Norway at the Peace Conference at The Hague in 1907, and in 1909 he became secretary general of the Inter-Parliamentary Union, serving first at Brussels, at Oslo during the World War, and from 1920 to 1933, when he retired, at Geneva. He was a European correspondent for the Carnegie Peace Endowment from 1917 to 1930, and in 1926 lectured at the Academy of International Law, The Hague, and in Europe and America on international problems.

A member of the Royal Commission relating to The Hague Conference and the League of Nations, Lange was appointed Norwegian delegate to the League in 1920, where he was president of the 6th Committee of the Assembly in 1932, president of the Consultative Committee on the Sino-Japanese Dispute in 1933, and president of the 3d Committee of the Assembly in 1936. With Hjalmar Branting, the Premier of Sweden, he shared the Nobel Peace Prize for 1921, awarded for his consistent advocacy of disarmament and his labors in this field.

The author of many pamphlets and articles on arbitration, disarmament, etc., he wrote *L'Arbitrage International en 1913* (1914); *The European Civil War* (1915); *L'Histoire de l'Internationalisme* (1919); *International Politics* (1924); *History of International Relations, 1814-1914* (1926); *Imperialism and Peace* (1938). He edited *Annuaire de l'Union Interparlementaire*, 1911-14, and *Bulletin Interparlementaire*, 1920-33.

LAOS. See FRENCH INDO-CHINA.

LATAKIA. See SYRIA AND LEBANON.

LATIN AMERICA. See articles on the various countries of the Caribbean, Central America, and South America; also, PAN AMERICAN CONFERENCE; PAN AMERICAN UNION.

LATTER-DAY SAINTS, CHURCH OF JESUS CHRIST OF. A religious body, commonly known as the Mormon Church, organized in 1830 at Fayette, N. Y., by Joseph Smith. Its membership is largely in the Mountain States, owing to the early migration of the Mormons and their final settlement in Utah. For history, see THE NEW INTERNATIONAL ENCYCLOPEDIA under MORMONS.

In 1938 the organization of this church included

126 stakes, 1040 wards, and 102 independent branches, with a membership of 616,088. Each stake organization is a pattern of the general Church organization, with a stake presidency of 3 men and a high council of 12 men. Each stake comprises several wards. A bishop and two counselors preside over the ward. A branch presidency of three men presides over a branch. There were 17 missions in America with 447 branches and a membership of 101,660; the missions in Europe had 318 branches and a membership of 31,145, and those in the Pacific Islands, 186 branches and a membership of 18,859. Of the 2083 missionaries, 1049 were at work outside of the United States. The administrative affairs of the church and the performance of all church ordinances are attended to by the priesthood, consisting of the Melchizedek Priesthood, a senior order, with 98,376 male members, and the Aaronic Priesthood, a junior order, with 96,326 male members.

The church maintains seven temples which are devoted to sacred ordinances for the living and the dead, such as baptism, endowments, and marriages. It also maintains Brigham Young University (q.v.), Ricks Junior College, Latter-day Saints Business College, 13 collegiate institutes, 2 high schools, 101 senior seminaries (schools adjoining high schools and providing special religious instructions), 100 junior seminaries (schools for the religious training of junior high school students), and 6 elementary schools. Enrollment in senior seminaries, 19,502; in junior seminaries, 3481.

The auxiliary bodies include a women's Relief Society numbering, in 1938, 75,064 members who care for the sick and the poor. The Sunday Schools in 1938 had an enrollment of 287,203 pupils and 31,698 officers and teachers. The two Mutual Improvement Associations, composed of young people, had an enrollment of 138,698. The Primary Association for those under 12 had 114,997 members.

The church holds in Salt Lake City, Utah, two general conferences each year, one during the first week in April and the other the first week in October, at which the work of the general authorities is reviewed. On Jan. 1, 1939, the General Authorities were: First Presidency: Heber J. Grant, president; J. Reuben Clark, Jr., first counselor; David O. McKay, second counselor. Quorum of the Twelve Apostles: Rudger Clawson, President, and Reed Smoot, George Albert Smith, George F. Richards, Joseph Fielding Smith, Stephen L. Richards, Richard R. Lyman, Melvin J. Ballard, John A. Widtsoe, Joseph F. Merrill, Charles A. Callis, Albert E. Bowen, and Sylvester Q. Cannon, Associate of the Council. First Council of Seventy: Rulon S. Wells, Levi Edgar Young, Antoine R. Ivins, Samuel O. Bennion, John H. Taylor, Rufus K. Hardy, and Richard L. Evans. Presiding Bishopric: LeGrand Richards, presiding bishop; Marvin O. Ashton, first counselor, and Joseph L. Wirthlin, second counselor.

LATTER-DAY SAINTS, REORGANIZED CHURCH OF JESUS CHRIST OF. After the death of Joseph Smith in 1844, several factions developed among the Latter-day Saints. In 1852, in Wisconsin, one of these scattered congregations effected a partial reorganization, which was completed in 1860 under the name of "Church of Jesus Christ of Latter-day Saints." About 1870 the word "Reorganized" was prefixed to avoid confusion.

In 1938 the church reported a membership of 120,368, which included members throughout the United States and in Canada, Great Britain, Australia, Germany, Isle of Pines, the Netherlands,

Switzerland, Norway, Sweden, Palestine, South Sea Islands, Hawaii, and New Zealand. There were 745 churches, 7000 ministers, and 730 Sunday schools with 50,000 pupils. The church maintains Graceland College at Lamoni, Iowa, and homes for the aged and the Independence Sanitarium at Independence, Mo. The official periodical, the *Saints' Herald*, is issued weekly.

Dr. Frederick M. Smith has been a member of the First Presidency since 1902 and president since 1915. Elbert A. Smith is Presiding Patriarch, after 29 years as Counsellor in the First Presidency and L. F. P. Curry, Presiding Bishop since 1932. Headquarters are at the Auditorium, Independence, Mo.

LATVIA. A Baltic republic, established Nov. 18, 1918. Capital, Riga.

Area and Population. With an area of 25,402 square miles, Latvia had a population estimated at 1,971,000 on Dec. 31, 1937 (1,950,502 at the 1935 census). Of the total population, 35 per cent lived in communities of 2000 or more. Living births in 1937 numbered 34,863 (17.7 per 1000); deaths, 28,083 (14.3 per 1000); marriages, 15,971 (8.1 per 1000). The 1935 census populations of the chief cities were: Riga, 385,063; Liepaja (Libau), 57,098; Daugavpils (Dvinsk), 45,160; Jelgava (Mitau), 34,099; Ventspils (Windau), 15,671; Rzekne, 13,139.

Education and Religion. According to the 1930 census, 13.6 per cent of the population 10 years of age and older were illiterate. The school attendance in 1936-37 was 269,354 (elementary, 221,180; secondary, 22,620; university, 7258). At the 1935 census 56.13 per cent of the inhabitants were Protestants, 24.45 per cent Roman Catholics, 14.4 per cent Greek Catholics and members of the Orthodox Church, and 4.79 per cent Jews.

Production. Agriculture, stock raising, lumbering, and manufacturing are the principal sources of the national income, which was estimated at 950,000,000 lats in 1937. There were in 1935 5,223,000 acres of cultivable land, 4,094,000 acres of meadow and pasture, and 4,317,000 acres of woods and forests. The chief cereals produced in 1938 were (in metric tons): Wheat, 208,100 (171,500 in 1937); barley, 237,400 (218,400); rye, 365,000 (418,600); oats, 475,000 (405,000). The potato harvest in 1937 was 65,476,000 bu.; linseed, 880,000 bu.; flax, 50,971,000 lb. Livestock in 1937 included 1,210,000 cattle, 739,000 swine, 1,334,000 sheep, and 392,000 horses. At the close of 1937 there were 5717 industrial establishments employing 111,917 workers and with an annual output valued at 636,800,000 lats. The chief manufacturing lines are metallurgy, textiles, foodstuffs, wood-working, metal working, and chemicals.

Foreign Trade. Total imports in 1938 were valued at 227,400,000 lats (231,200,000 in 1937) and total exports at 227,200,000 lats (260,900,000 in 1937). Coal and coke, machinery, iron and steel, fertilizers and wheat were the leading 1937 imports for consumption. The chief 1937 exports were (in U.S. paper dollars): Butter, \$8,891,000; mine timbers, \$4,809,000; pulpwood, \$4,611,000; and plywood, \$4,379,000. Of the imports for consumption in 1937, Germany supplied 27.1 per cent by value; the United Kingdom, 20.7; and the United States, 7.0. Of the exports, the United Kingdom purchased 38.4 per cent, Germany, 35.1; the Soviet Union, 2.6; and the United States, 1.1. United States trade figures for 1938 showed exports to Latvia of \$1,461,571 (\$1,743,846 in 1937); imports from Latvia, \$558,080 (\$766,585).

Finance. Budget estimates for the fiscal year

ending Mar. 31, 1939, provided for receipts of 190,878,000 lats and expenditures of 190,481,000 lats. For 1937-38 the budget estimates balanced at 180,092,000 lats. The public debt as of Mar. 31, 1937, totaled 142,074,000 lats (external, 123,202,000; domestic, 18,872,000). The domestic debt on Mar. 31, 1938, was 26,671,656 lats. When the gold standard was abandoned on Sept. 28, 1936, the lat was pegged to British currency at 25.22 lats to the pound sterling; subsequent exchange on the dollar was about \$0.1945.

Transportation. Railway lines in operation Apr. 1, 1938, aggregated 2092 miles; highways and roads in 1937, 21,185 miles; automobiles on Jan. 1, 1938, 5834 miles; inland waterways, 2775 miles. An airline between Riga and Liepaja (Libau) was opened in 1937. The net tonnage of vessels entering Latvian ports with cargo and in ballast in 1938 was 1,344,000 (1,584,000 in 1937). The Latvian merchant marine on Jan. 1, 1937, comprised 102 vessels of 181,105 tons gross.

Government. On May 15, 1934, the government headed by Premier Karlis Ulmanis established a *de facto* dictatorship pending reform of the Constitution of Feb. 15, 1922, which was suspended. Parliament was dissolved, its functions were assumed by the Ulmanis Cabinet, and activities of political parties were banned. With the expiration of the term of President Albert Kviesis on Apr. 11, 1936, Dr. Ulmanis assumed the Presidency in addition to the Premiership. A law of the same date provided that in the absence of the President, his post was to be filled by the Minister of War, Gen. J. Balodis.

History. The vast extension of government control over industry was continued by the Ulmanis-Balodis dictatorship in 1938 but at a slower pace than in the previous year (see 1937 YEAR BOOK, p. 392). A state-controlled textile enterprise was founded, for which the government purchased the "Buffalo" cotton mill. Plans were announced for the state-supervised production of artificial wool from processed milk. A cold-storage plant in Riga was bought by the Ministry of Agriculture for the storage of eggs, cheese, and fruit. Two new state-controlled stock companies were organized—one for the exploitation of peat fields and the manufacture of peat products and the other for the production of slate and artificial slate. To offset the decline in world prices for agricultural products, the government beginning July 1 paid farmers guaranteed prices on butter, hogs, clover and other seeds, cereals, and poultry products which amounted to a subsidy of from 15 to 60 per cent. Beginning September 1, control of foreign exchange transactions was further concentrated in the hands of the Bank of Latvia. Meanwhile, the constitutional reforms promised upon the establishment of the dictatorship in 1934 appeared to have been indefinitely postponed.

Several laws passed in December promised to have far-reaching effects upon the Latvian economic system. One provided for the establishment of syndicates to rationalize the various branches of trade and industry. The syndicates were to be controlled and supervised by the Chamber of Commerce and Industry and the Ministry of Finance. They were to include both government-controlled and private enterprises in each branch of production and the liquidation or absorption of a number of smaller enterprises was expected. Another law provided for an Institute of Economic Research to study and recommend methods of rationalization for each industry. Other measures fixed the maxi-

mum interest rate on loans at 7 per cent and established a new General Farmers' Bank to serve the rural communities.

Dragged into the European armaments race by its dangerous position as a prospective battleground in a German-Russian conflict, Latvia increased her national defense appropriation by 4,500,000 lats in the 1938-39 budget. In addition a national defense fund was established by the decree of Apr. 2, 1938, imposing special taxes on real property, salaries, and imports, which were expected to yield 9,000,000 lats per annum. Early in December, Foreign Minister Vilhelms Munters visited Great Britain for the purpose of purchasing arms and munitions as well as to discuss an Anglo-Latvian trade treaty. However, Latvia placed her main reliance in preserving her independence upon a policy of neutrality in any war between the great European powers. See **BALTIC ENTENTE**; **ESTONIA**, and **LITHUANIA under History**.

The republic celebrated the 20th anniversary of its independence in 1938 with a program of events and ceremonies extending from April to November 18, the date of the independence proclamation.

LAW. (See also **CRIME**, **INTERNATIONAL LAW**, **LABOR ARBITRATION**, **LABOR LEGISLATION**, **MEDICAL JURISPRUDENCE**, **TAXATION**.)

GENERAL

Comparative Law. "Teaching Comparative Law" (i.e. "functional comparison of legal rules and institutions"), *U. of Chicago L. Rev.*, V, 615 (Max Rheinstein), is "an attempt to define, on the basis of experiences, during the first two years of the author's incumbency . . . of the Max Palm Professorship (in that institution) various aspects of the term." *La Fonction de la Methode Comparative dans L'Histoire et la Philosophie du Droit*, by Arthur K. Kuhn of the New York bar, is an excerpt from *Recueil d'Etudes en l'honneur d'Edouard Lambert*, on the occasion of the latter's retirement from the University of Lyons. Other current articles on the subject are: "The Comparative Aspects of Legal Terminology," *Tulane L. Rev.*, XII, 401 (H. C. Gutteridge); "Balance between Legislative and Executive Power" (Comparative), *U. of Chic. L. Rev.*, V, 566 (Karl Loewenstein); "The Mechanics of Fact Discovery" (Comparative), *Ill. L. Rev.*, XXXII, 261 (R. W. Millar); "Comparative Air Law," *Air L. Rev.*, VIII, 259 (H. S. Leroy).

Jurisprudence. Former Dean Pound continues his review, "Fifty Years of Jurisprudence," in *Harv. L. Rev.*, LI, 444, 777; "Jurisprudence is the ordered relation of all these studies" (ethics, philosophy, psychology) according to President Hutchins, *U. of Chic. L. Rev.*, IV, 368; "The Lawyer and Psychology" are considered in *Kansas St. Bar Assn. Jnl.*, VI, 231; "A Restatement of Hohfeld" is essayed by Max Radin, *Harv. L. Rev.*, LI, 1141; "Petrazhitskii, Science of Legal Policy and Theory of Law," *Boston Univ. L. Rev.*, XVII, 793 (H. W. Babb); "Natural Law in American Jurisprudence," *Notre Dame Lawyer*, XIII, 89 (W. P. Sternberg); "The Natural Law Precedent and Thurman Arnold," *Va. L. Rev.*, XXIV, 587 (Jerome Hall); "The Soviet Concept of Law," *Fordham L. Rev.*, VII, 1 (V. Gsovski). "Louisiana's Legal System" is the subject of a "Reappraisal" by R. L. Tullis (*Tulane L. Rev.*, XII, 113, cf. *U. of Toronto L. Jnl.*, II, 298), of which an "Appraisal" by various authors is made in *ib.* 12. "The Path of Due Process" is discussed in *Ethics*, XLVIII, 269;

Property. "Development of the Conception of, in Political Philosophy," *Ethics*, XLVIII, 297 (R. McKeon);

"Changing Conceptions of," *U. of Pa. L. Rev.*, LXXXVI, 691 (F. S. Philbrick); "The Institution of," (*N. Y.*, 1936), C. R. Noyes, rev., *U. of Chic. L. Rev.*, IV, 686 (Rhein-

stein). **Sociological.** "Cardozo's Doctrine of Sociological Jurisprudence," *Jnl. of Social Philosophy*, IV, 5 (M. J. Aronson); "The Sociological Place of Law," *Am. Jnl. of Sociology* (September, 1938; N. S. Timasheff); "Sociological and Comparative Aspects of the Trust," *Columbia L. Rev.*, XXXVIII, 408 (A. Nussbaum).

Legal History. Increasing space in the periodicals continues to be given to contributions to this subject. Among them are:

Hebrew. "Trial by Ordeal in Ancient Hebrew Law," *Detroit L. Rev.*, VII, 78 (J. Gross).

Greek. "Platonic Justice," *Ethics*, XLVIII, 367 (H. Retsen); a study of this concept in the philosopher's system.

Roman. "Custom in Classical Roman Law," *Va. L. Rev.*, XXIV, 268 (A. Schiller); "Societas as a Consensual Contract," *Cambridge L. Jnl.*, VI, 381 (D. Daube); Genet, *De la Procedure formulaire du Droit romain à la Procedure de la cour permanente de Justice Internationale*, *Revue International Française du Droit des Gens*, V, 17.

English. "The Harvard MS. of Thornton's Summa" (ca. 1290), *Harv. L. Rev.*, LI, 1038 (F. T. Plucknett); "Year Books of Richard II," vol. iii (rev. Yale L. J., XLVII, 1231 G. E. Woodbine); "The Inns of Court," *Canadian Bar Rev.*, XV, 675 (E. M. McDougal); "History of English Ecclesiastical Law," *Boston Univ. L. Rev.*, XVIII, 342 (F. C. Setaro); "Some Considerations on the Origins of Habeas Corpus," *Canadian Bar Rev.*, XVI, 92 (M. Cohen); "The Clermont Assizes of 1665" (State v. Feudal Barons), *U. of Pa. Press* 1937 (Linn); "The Doctrine of the Separation of Powers in 17th Century Controversies," *U. of Pa. L. Rev.*, LXXXVI, 842 (M. Radin); "A Breach of Promise Case in the Early 1800's," *Peabody L. Rev.*, III, 2 (C. F. Robinson); *The Life of Blackstone* by Lewis C. Warden (Charlottesville, 1938); "Lord Tenterden (Charles Abbott)," *The Law Student*, XVI, 18 (H. R. Harrison). See England under Legislation below.

French. "Legal Practice in 15th Century France," *W. Va. L. Rev.*, XXIV, 581 (A. B. Kerr); "Passing of the Montesquieu School," etc., *Tulane L. Rev.*, XII, 1 (M. Franklin).

Canadian. *Civil versus Common Law in Canada 1775-1791 (Administration of Justice under the Quebec Act)*, by Hilda M. Neathy (Minneapolis, 1937), rev. *Harv. L. Rev.*, LI, 1323.

Spanish. "A Thirteenth-Century MS. of the Primera Partida," *Speculum*, XIII, 278 (J. Homer Herriott).

United States. "The Influence of English and Civil Law Principles upon the American Legal System during the Critical Post-Revolutionary Period," *U. of Cincinnati L. Rev.*, XII, 289 (F. R. Aumann); "Probate Practice: Origin and Development," *Kan. St. Bar Assn. Jnl.*, VI, 226 (S. E. Bartlett); "Connecticut's Colonial Committee System," *Conn. Bar Jnl.*, XI, 359 (D. L. Jacobus); "Michigan Court Rules: Historical Review," *Detroit Bar Quar.*, V, 19 (Olive C. Iathrop); "The Lawyer's Test Oath during Reconstruction," *Miss. L. Jnl.*, X, 154 (W. A. Russ, Jr.).

Legislation. "The Common Law of," *Iowa L. Rev.*, XXIII, 41 (F. E. Horack); "The Legislative Rider and the Veto Power," *Georgetown L. Jnl.*, XXVI, 954 (Casey & Naughten); in the 75th Congress, *A.B.A. Jnl.*, XXIV, 505:

California. *Cal. L. Rev.*, XXVI, 329 (B. N. Armstrong); *So. Cal. L. Rev.*, XI, 1 (various authors).

Florida. *Fla. L. Jnl.*, XI, 283 (H. C. Tillman).

Illinois. *U. of Chic. L. Rev.*, V, 89 (various authors).

Kentucky. *St. Bar Jnl.*, I, 13, 11, 17, 19, 22 (H. B. Mackoy).

Massachusetts (a session of 232 days, longest in Commonwealth's history, closed on August 24).

Michigan. *Detroit Bar Quar.*, V, 6, VI, 21.

Nebraska. Work of the unicameral legislature is reviewed in *Minn. L. Rev.*, XXII, 60 (L. W. Lancaster); *Annals, Am. Acad. Pol. & Social Sc.*, January, '38 (J. P. Senning); *Lincoln, State Journal and Star*, Apr. 17, 1938 (L. E. Aylesworth).

New Jersey. *L. Jnl.*, LXI, 45, 75.

New York. "On the whole it did a good job," said the *N. Y. Times*, editorially, of the legislature's 161st session. The state's "Law Revision Commission" is described in *Georgetown L. Jnl.*, XXVI, 60 (J. W. Macdonald); its recommendations, *N. Y. St. Bar Assn. Bull.*, IX, 234, X, 114 (id.); "Laws Sponsored by the Judicial Council," *ib.*, IX, 166 (L. S. Saxe).

Ohio. Table of 1938 Laws, *O. L. Reporter* (1938), 101.

Pennsylvania. "The Statutory Construction Act," *U. of Pa. L. Rev.*, LXXXVI, 189.

Philippines. Following the regular session, a special one began on July 25 to consider an electoral reform bill and tax measures. (See also **FREEMASONRY**.)

Wisconsin. "Permanent Statute Revision in," *Mo. Bar Jnl.*, IX, 37 (E. E. Brossard).

For the fiscal year ending April 30, the Legislative Service Bureau of the N. Y. Merchants' Assn. reviewed 449 new Federal laws, 941 new state laws, and 110 laws and 33 ordinances of the N. Y. Municipal Assembly.

FOREIGN. Austria. The Civil Code, promulgated in 1911, is undergoing revision, especially the part relating to Succession which is being changed to conform to Nazi ideology.

Colombia. "Legislative Trends in," *Tulane L. Rev.*, XII, 534 (R. C. Backus); a Code of Criminal Procedure was enacted at the special session ending May 26.

England. "Law Reform in," *U. of Toronto L. Jnl.*, II, 233 (F. A. Vallat); recent and pending Parliamentary legislation is mentioned in the London Letter of the *A.B.A. Jnl.*, XXIV, 73, 164, 296, 493.

Canada. "Survey of Legislation in," *U. of Toronto, L. Jnl.*, II, 374 (various authors); American influence on Canadian legislation is discussed by Under Secretary of State Coleman, *A.B.A. Jnl.*, XXIV, 627.

Switzerland adopted a new Penal Code (see REFERENDUM).

Interstate Compacts are neither treaties nor statutes; but when the subject thereof is an interstate stream, the apportionment of its waters thereby binds all citizens of the signatory states. *Hindler v. La Plata Co.*, 304 U.S. 92. In *Cornell L. Quar.*, XXIII, 280, the question is raised whether states should be permitted to make compacts without the consent of Congress (E. C. Carman). Other articles are: "Legal Problems Relating to Interstate Compacts," *Ia. L. Rev.*, XXIII, 618; "Influence of Federal upon State Legislation," *ib.* 519 (W. B. Graves); "Legislative Co-operation, Federal and State," *ib.* 539 (J. P. Clark); "Modern Machinery for Interstate Co-operation," *ib.* 573 (H. W. Toll).

In *Swift v. Tyson*, 16 Pet. (U.S.) 1 (1842), the Supreme Court, per Story, J. (with one justice dissenting on another point), held that the Judiciary Act's requirement (XX, 34) that the Federal Courts apply state "laws," in the absence of contrary Federal provisions, did not include decisions. This doctrine was overruled 96 years later, in *Eric R. Co. v. Tompkins*, 304 U.S. 64, where Brandeis, J. traced its subsequent history and followed the decisions of Pennsylvania, where the case arose. There were two dissents and the majority opinion evoked widespread comment. Solicitor General Jackson called it "one of the most dramatic episodes in the history of the Supreme Court" (*A.B.A. Jnl.*, XXIV, 609). See also *U. of Pa. L. Rev.*, LXXXVI, 896; *A.B.A. Jnl.*, XXIV, 862 (A. G. Powell); *Va. L. Rev.*, XXIV, 895 (N. T. Winthrop).

Vetoes. "Where Congress has not adjourned and the House in which the bill originated is in recess for not more than 3 days . . . the bill does not become law if the President has delivered it, with his objections, to the appropriate office of that House, within . . . 10 days and Congress does not pass it over his objections by the required votes." *Wright v. U.S.*, 302 U.S. 583, 598. "The Legislative Rider and the Veto Power" is discussed in *Georgetown L. Jnl.*, XXVI, 945 (Casey & Naughten). By the end of 1938, President Roosevelt had vetoed nearly 300 bills—more than any other President save Cleveland.

ADMINISTRATION

"Causes of Popular Dissatisfaction with the Administration of Justice" are considered by Former Dean Pound, *U.S.L. Rev.*, LXXII, 28; "The Fee System," *Okla. St. Bar Jnl.*, IX, 52 (L. B. Moore); "The Missouri Institute for," *Mo. Bar Jnl.*, VIII, 273 (various authors).

Courts: In General. Taking a leaf from Pennsylvania's experience, the new Constitution of New York (see p. 398) prohibits the suspension or

impairment of the judicial power to investigate and indict officials. "Legislative Power over Court Officers" is discussed in *Kansas Bar Assn. Jnl.*, VI, 311; "Judicial Councils" in *Wis. St. Bar Assn. Bull.*, X, 212 (J. C. Warner); *Cal. St. Bar Jnl.*, XIII, 11 (A. Ames). Representative Hobbs of Alabama hopes to expedite and reduce the cost of appeals by his bill to provide all U.S. court rooms with "sound equipment" which would record all trial proceedings for reproduction in the appellate court. In "Burgos Justice," Ruiz Vilaplana, former Commissioner of Justice in Franco's capital, excoriates the brutality of the military regime in revolutionary Spain, from which, when he could no longer endure it, he fled.

Judicial Opinions are treated in *Boston Bar Bull.* No. 137 (C. T. Bond); (Dissenting), *Jno. Marshall L. Quar.*, III, 570 (E. A. Evans).

Judicial Selection is the subject of a 40-page report of a Committee of the A.B.A.'s Judicial Section. Methods in vogue among the states are described and commented on. The present status of reforms in this direction are discussed in *Am. Jud. Soc. Jnl.*, XXII, 121; *Ohio St. Univ. L. Jnl.*, IV, 157 (F. J. Milligan); *Commercial L. Jnl.*, XLII, 449, 267; *Okla. St. Bar Jnl.*, VIII, 185. The proposed constitutional amendment, substituting appointment for original election, was defeated in Ohio and Michigan. (See REFERENDUM.) Selection of substitute judges is discussed in *Mich. L. Rev.*, XXXVI, 985 (J. Kaplan).

Rule-Making Authority of the courts has been a frequent subject of discussion during the year. The Pennsylvania Supreme Court's recent statutory authorization to formulate rules for all the courts of that state has been exercised by its approval of a draft by a committee of lawyers, to become effective Mar. 20, 1939. (See *Dickinson L. Rev.*, XLII, 204; *Am. Jud. Soc. Jnl.*, XXI, 101, 198; XXII, 158.)

Other current articles on the subject are:

ib., XXI, 39; XXII, 10, 27; *U.S. L. Rev.*, LXXI, 618 (H. Hirschman); *Commercial L. Jnl.*, XLIII, 25 (H. U. Feibleman); *A.B.A. Jnl.*, XXIV, 645 (No. Car.; F. E. Winslow); *Fla. L. Jnl.*, XI, 350; *Wis. L. Rev.* (1938), 324 (Evidence, E. V. Davey); *Mo. Bar Jnl.*, IX, 44 (England, L. M. Hyde).

United States: SUPREME COURT. Its October (1937) term was ended in June, during which it disposed of 878 cases up to the recess of May 2. Sessions were resumed on October 7, opening the October, 1938, term. Justice George Sutherland retired during the year and was succeeded by Solicitor General Stanley F. Reed. Justice Benjamin N. Cardozo (q.v.) died on July 9 and, by reason of illness during the previous term, had taken little part in the Court's work (see *A.B.A. Jnl.*, XXIV, 638, 728). (Professor Felix Frankfurter of Harvard was nominated on Jan. 5, 1939, as his successor.)

Discussion of Justice Black's appointment (1937 YEAR BOOK, 394) continued. A critical article by Marquis Childs in *Harper's Monthly* evoked a favorable one in *Nat. Lawyers' Guild Quar.*, I, 181 (H. C. Havighurst); "Is Hugo Black a Supreme Court Justice *De Jure*?" is the subject of another, *Cal. L. Rev.*, XXVI, 31 (D. O. McGovney); "When Is It Vacant?" *ib.* 32 (E. W. Camp). A proposed resolution for a committee to present to the Supreme Court the question of Justice Black's eligibility, failed of adoption by the A.B.A. House of Delegates at Cleveland (*Jnl.*, XXIV, 747). The Court as a whole is treated in *Georgetown L. Jnl.*, XXVI, 88, 369, 669, 931 (T. L. Seamon); "Busi-

ness in the 1935, 1936 Terms" (Frankfurter & Fisher). Its recent decisions are reviewed in *A.B.A. Jnl.*, XXIV, 46, 135, 222, 305, 374, 463, 559, 652; *Cleveland Bar Assn. Jnl.*, IX, 25 (A. H. Holtzoff); *Fed. Bar Assn. Jnl.*, III, 77, 149 (D. E. Hudson) (and see under *Constitutional Decisions*); "The Supreme Court and Rotation in Office," *Geo. Wash. L. Rev.*, VI, 401 (C. S. Collier); "As an Arbiter between Congress and the States," *Va. L. Rev.*, XXIV, 613 (A. Lincoln); "A Superannuated Bench?" *Los Angeles Bar Assn. Bull.*, XIII, 287 (F. G. Tyrrell). Many periodicals continued to deal with the attempt to enlarge the Court (1937 YEAR BOOK, 394). Prof. Edwin Borchard argues for "relinquishment by the Court of its assumed function as the arbiter of social policy" (*Yale L. Jnl.*, XLVII, 1051).

The Federal Judicial Conference of 1938 opened at Washington September 29 and continued for three days, with all of the 11 circuits represented (the 5th and 10th by other than Senior Judges) besides the Chief Justice, the Attorney General, and the Solicitor General. Legislation was recommended for adding 4 circuit judges and 9 district judges, changes in court rules to conform to the new procedure were discussed, and the Attorney General's proposal for a Federal Court administrative office was referred to a committee for study (see *A.B.A. Jnl.*, XXIV, 905; *Am. Jud. Soc. Jnl.*, XXII, 160, where the possibilities of the conference are set forth). A conference of Washington, D. C., appellate and district judges, mainly to follow the above recommendations as to rule changes, was held near the University of Virginia, November 4 and 5. "The Circuit Court of Appeals as a Court of Last Resort" is discussed in *Jno. Marshall L. Quar.*, III, 203 (E. A. Evans); The U.S. District Court (Mass.), *Boston Bar Bull.*, No. 132, 3 (H. D. McLellan); "Federal Justice," (Cummings & McFarland, 576 pp.) traces an evolution from the Attorney General's Office, established in 1789, and the Department of Justice in 1871, to the vast legal organization of today.

State Courts (Appellate): Connecticut *Am. Jud. Soc. Jnl.*, XXI, 201 (A. T. Vanderbilt); *Massachusetts L. Quar.*, XXIII, 1 (H. S. Lummus); *Missouri L. Rev.*, II, 293; *Wisconsin L. Rev.* (1938), 43, 329 (various authors); (*Superior*): *Mass. Boston Bar. Bull.* No. 136; *Mass. L. Quar.*, XXIII, 14; (*Minor*): "Justice in Minor Courts," *Am. Jud. Soc. Jnl.*, XXII, 38 (H. T. Lummus). **Magistrates' Courts** in New York City handled, in the first half of 1938, 6599 felony (excluding traffic) cases (a decrease of 839 from the corresponding period of 1937) and 52,055 misdemeanors—an increase of 45 per cent. These courts are discussed in *Brooklyn L. Rev.*, VII, 295, 411, and the N. Y. *Times* editorially indorses the movement for their merger with the Court of Special Sessions, calling the present system "obsolete." **Miscellaneous:** The Municipal Court of Boston, *Bar Bull.* No. 134 (W. Bolster); *Mass. L. Quar.*, XXIII, 1; The Michigan Circuit Court Commissioner, *Detroit L. Rev.*, VII, 121; The Small Claims Court, *The Shingle*, I, 131 (J. Jaffe). One of these was recently installed in Washington, D. C., as a branch of the Municipal Court, from which judges are detailed to preside. Its jurisdiction is limited to claims not over \$50, the filing fee for a case is \$1, and pleadings and procedure are simplified; *Juvenile Courts* (abolition advocated), *Cal. St. Bar Jnl.*, XIII, 1 (J. Olney); *Probate Courts*, *Kansas St. Bar Assn. Jnl.*, VI, 134, 226 (S. E. Bartlett). **Justices of the Peace**, to the number of over 300,

representing more than 48 New York counties, assembled at Geneva, N. Y., in March, for a four-day school of instruction under the guidance of Dr. James M. Williams, Professor of Sociology in Hobart College. This reminds the writer of the Justices of the Peace Assembly which he held in the Philippines in 1905 for a similar purpose and which is believed to have been the first of its kind (see his *Philippine Practice*). In Britain, where the office is an ancient one, Justices of the Peace are appointed from the landed gentry and numbered some 30,000 until Lord Chancellor Hailsham began his "purge" of the absentees and superannuated. On February 11 the Attorney General reported 365 resignations to the House of Commons.

Necrology. Members of the judiciary who died in 1938 were:

Benjamin N. Cardozo (68), Supreme Court Justice from 1930 (q.v.); A. B. Anderson (81), 27 years on Federal bench (Indiana); C. H. Moorman (61), U.S. Court of Appeals (Kentucky); G. W. Anderson (76), U.S. Court of Appeals, First Circuit; J. M. Killitts (79), eight years Judge of Northern (Ohio) District Court; S. H. West (66), Justice of same court; J. L. Glenn (46), U.S. District Judge in South Carolina; E. K. Campbell (80), Court of Claims Court Judge 1913-28; W. H. Jackson, former Judge of Panama Canal Zone, *Connecticut*, J. K. Beach (83), 13 years on Supreme Court; Isaac Wolfe (78), 31 years on Superior and Common Pleas Courts at New Haven; W. C. Rungee (64), former Probate Judge at Greenwich, *Delaware*, J. O. Wolcott (61), State Chancellor since 1921; former U.S. Senator, *Georgia*, R. B. Russell (77), Supreme Court Chief Justice for 15 years, *Illinois*, G. A. Cooke (69), former Supreme Court Chief Justice; W. W. Duncan (81), 18 years on Supreme Court; J. B. David (74), over 20 years on Cook County Superior and Criminal Courts, *Indiana*, W. C. Daly (70), former Indianapolis City Court Judge, later practiced in New York, *Kentucky*, W. R. Clay (collateral relative of Henry, 73), on Court of Appeals since 1920, *Massachusetts*, Arthur P. Rugg (76), 32 years a member and Chief Justice of Supreme Judicial Court; J. P. Doran (63), Presiding Judge of Bristol 3d District Court, *Michigan*, T. E. Weadock (88), over 65 years at Bar and for a brief time on Supreme Court, *Missouri*, Wm. F. (brother of Glenn) Frank (63), Supreme Court Justice, *Nebraska*, C. A. Goss (74), two terms Chief Judge Supreme Court; L. B. Day (49), on Supreme Court since 1929, *Nevada*, G. F. Talbot (79), 12 years on Supreme Court, *New Jersey*, R. V. Lawrence (67), 12 years Circuit Judge; E. W. Hicks (69), former District Court Justice and Supreme Court Commissioner, *New York*, A. S. Tompkins (72), 29 years on Supreme Court; W. N. Cohen (82), Supreme Court Justice 1897-98; F. W. Kruse (85), former Presiding Judge 4th Division Supreme Court (Olean); H. J. Lynch (56), former Supreme Court Justice (Westchester); Jno. Bizell (70), former New Rochelle City Judge; T. C. Brown (62), 33 years on N. Y. City Municipal and Domestic Relations Courts, *North Carolina*, J. S. Manning (79), former Supreme Court Chief Justice, *Ohio*, Coleman Avery (58), former Supreme Court Justice (suicide), *Pennsylvania*, Presiding Judge W. A. McKeen (69), of North Hampton Common Pleas Court; W. S. McLean (61), Presiding Judge Luzerne County Court, *Rhode Island*, Jerome Hahn former Supreme Court Justice, *South Dakota*, C. G. Sherwood (83), former Supreme Court Justice, *Tennessee*, D. W. Wilkie (80), former Circuit Court Judge, *England*, Sir George Talbot (77), 14 years on High Court of Justice; Sir Thomas G. Horridge (80), King's Bench Justice 27 years, participated in Roger Casement trial; Cecil Chalmers (86), 25 years London Magistrate, legal author; Sir Lewis Dibdin (86), 31 years an ecclesiastical court judge, *Canada*, F. R. Latchford (84), Chief Justice Ontario Supreme Court; C. P. Fullerton (68), former Manitoba Court of Appeal Justice, *Peru*, Ulises Quiroga (72), 40 years in the Judiciary, twice President Supreme Tribunal, *Misc.*, J. W. Wright (54), American Representative on International Mixed Court at Cairo.

JURIES. "Lawyers and judges must face the fact that the system of jury trials is undergoing criticism in many jurisdictions," is the opening of a 12-page report to the A.B.A. Judicial Section, suggesting various improvements in the selection of jurors and the conduct of trials. The recommendations on these points, including adoption of the Cleveland system of selection, were approved by the association. Courts with three judges for important cases, said to be the rule in continental countries, are

provided here in the Federal system and are urged for the state courts as no more expensive than juries. Other signs pointing to a decline of the jury system are: *Connecticut*: In New Haven County only 7 per cent of the cases judicially handled were tried by juries and three-fourths of these were negligence cases. *District of Columbia*: The new court rules provide that juries in civil cases are waived unless requested within 10 days after completion of the pleadings. Requests were filed in one-fourth of the cases to the date of the latest information. *Maryland*: Luther Bevans, convict, was tried for murder at Snow Hill without a jury, upon petition of his own attorneys. *Minnesota*: A Minneapolis juror in a personal injury action was recognized by a motorman (witness) as a bandit who had recently robbed him. The juror was arrested, but not until the jury, of which he had formed a part, had returned its verdict. *New York*: The special ("blue ribbon") jury is chosen from a general list consisting of those who, in the judgment of the clerks who interview them in advance, are "alert, intelligent, and unprejudiced" (e.g. on capital punishment). An attempt to repeal the statute providing for such juries was defeated in the recent legislative session and it was with one of them that the Hines trial (see p. 397) opened. One phase of that "mistrial" which has been generally overlooked is that it could not have happened had the trial been before judges only; for it was the flimsy fiction that a single unanswered question "might mislead the jury" which afforded the excuse for a "mistrial."

Although women jurors have served in Wyoming since 1870, less than half the states now provide for them. In Arizona a school for jurors (cf. 1937 YEAR BOOK, 395) was opened at Phoenix on January 18 under the auspices of women's clubs, with a Superior Court Judge and several attorneys as instructors, to promote a movement for women jurors. A New York act of 1938 excludes from first degree murder jury panels the names of conscientious objectors to capital punishment. *Grand Juries* have been abolished in England (see *Jnl. Crim. L. & Criminology*, XXIX, 3) and their powers curtailed in Pennsylvania (see *Harv. L. Rev.*, LII, 151); but a new constitutional amendment is designed to preserve them in New York, where women have been serving for several years, though their eligibility for grand jury service has recently been challenged (*St. John's L. Rev.*, XII, 172 [Reardon]; *U.S. L. Rev.*, LXXI, 75). For the Grand Jury's history and functions, see *L. Soc. Jnl.*, VIII, 192, 205. Other recent New York jury legislation is discussed in *Columbia L. Rev.*, XXXVII, 1235; *Jury Trials*, in *Cambridge L. Jnl.*, VI, 367 (R. M. Jackson); *Cal. St. Bar Jnl.*, XII, 276 (J. G. Sweet). In *U.S. v. Melitzer and Klein*, 100 Fed. 2d, 739, judges of the 7th Circuit Court of Appeals, at Chicago on December 20, reversed a conviction because the trial judge, following a practice in vogue in the Federal courts for three quarters of a century, commented on the merits of the evidence. Judge Evans maintained, however, that the wisdom of the practice had been demonstrated by experience.

ADMINISTRATIVE TRIBUNALS. These appear to advance in public favor as juries decline. "The multiplication of administrative agencies is the outstanding characteristic of our time" said Chief Justice Hughes before the American Law Institute on May 12, and that fact is naturally reflected in the law journals. *Current Legal Thought* (Index) lists nearly six columns of titles of articles relating

thereto, only a few of which is there space here to mention. The February *Yale L. Jnl.* carried a symposium on current developments in this field. Following the Foreword by Professor Frankfurter of Harvard, Dean Landis wrote on "Administrative Policies and the Courts," reviewing Supreme Court decisions and arguing for larger discretionary powers in such tribunals. Prof. R. F. Fuchs of Washington University discussed "Concepts and Policies in Anglo-American Administrative Law Theory." Other articles are found in *A.B.A. Jnl.*, XXIV, 837 (traces the history of administrative tribunals and urges making them safe and judicial "by barring politics, training administrators and securing their tenure," J. V. Masters); "Judicial Review of Administrative Agencies" (*ib.*, 897; A. S. Faught); "The Extent to Which Fact-Finding Boards Should Be Bound by Rules of Evidence" (*ib.* 1), the Ross Prize for 1938, awarded to Albert E. Stephan (*ib.* 510), claiming that "ultimately the courts will profit by borrowing some of the fact-finding methods of the administrative commissions; but the A.B.A. Committee on Administrative Law denounced "the principle of absolutism in administrative offices" as manifested in various "defects" and "tendencies" which it enumerated. The report was adopted although Commissioner Frank of the SEC protested that certain phrases therein "defamed" Chairman Douglas of that Commission. Again, on November 9, Commissioner Frank criticized the report, as not based on fact, and also a draft bill which accompanied it but which the Committee members disclaimed having seen. Hearings were continued before the Senate Judiciary Subcommittee on Senator Logan's bill for a proposed administrative court to review the rulings of all these agencies. A second hearing in *Morgan v. U.S.*, 304 U.S. 1, brought a reversal of the Secretary of Agriculture's order, as based on findings which the party adversely affected had no opportunity to examine. Interlocutory orders of the Federal Power Commission are not reviewable by the Court of Appeals; nor is any other order thereof unless a rehearing by the Commission has been sought; and its orders to produce books are "nothing more than a notice" (*Federal Power Commission v. Met. Edison Co.*, 303 U.S. 375). But the Comptroller of the Currency's order for an assessment on shares of an insolvent bank is final and conclusive (*Adams v. Nagle*, 303 U.S. 532). Besides the voluminous periodical literature on this subject, two books have appeared: *The Administrative Process*, by James M. Landis (155 pp.); *A Case Book*, by Prof. K. C. Sears of the U. of Chic. L. School (850 pp.).

Legal Education. Of the 49 continental American jurisdictions 39 now require two years of college education, or its equivalent, before taking the bar examination. The new Arkansas constitutional amendment (see REFERENDUM), empowering the Supreme Court to make rules regarding the legal profession, should normally add another, especially as that State and Georgia are the only ones requiring no preliminary standards of any kind. On July 1 the Washington, D. C., Court of Appeals adopted a rule requiring of all applicants for admission after July 1, 1943, two years of college work and a diploma from an accredited law school. Some five months later the District Court of the same jurisdiction adopted a rule with a somewhat lower standard, recommended by the local bar association. If both rules are to stand there will eventually be a class of lawyers in the District who are ineligible for admission to the Court of Appeals. "Out of 185 law schools, 99 are now on the ap-

proved list of the A.B.A. (*Jnl.*, XXIV, 879) and these contain over 60 per cent of the present student body." Five jurisdictions now require preparation in such a school; 12 more recognize no other law schools; 6 more limit this rule to schools outside the jurisdiction, while in 3 more, a proposal to adopt the rule is pending. The new Harvard Law School curriculum is discussed in the school's *L. Rev.*, LI, 965 (*Am. L. Sch. Rev.*, VIII, 1038) by Prof. S. C. Simpson. The needs and progress of legal education are discussed in *Okla. St. Bar Jnl.*, IX, 10, 116 (R. G. Storey); *Fla. L. Jnl.*, XII, 156 (R. A. Pasco); *La. L. Rev.*, XXIII, 297 (P. Bordwell); *Yale L. Jnl.*, XLVII, 214 (F. W. Hanft); *Jno. Marshall L. Quar.*, III, 584; *Mo. Bar Jnl.*, IX, 71 (J. A. McLain); *A.B.A. Jnl.*, XXIV, 105; *Commercial L. Jnl.*, XLIII, 179 (M. L. Ferson); "Prelegal Education," *Kansas City Bar Bull.*, XIV, 2 (F. J. Mereau); *Ky. L. Jnl.*, XXVI, 290 (F. Murray); "Jurisprudential Aims of Church Law Schools," *Notre Dame Lawyer*, XIII, 363 (B. F. Brown); "Are Gradings Accurate?" *Cal. St. Bar Jnl.*, XII, 241; *Foreign: The Shingle*, I, 86 (L. H. Van Dusen, England); *Wis. L. Rev.* (1938), V (M. Rheinstein, Germany); Moscow's Law Institute, *A.B.A. Jnl.*, XXIV, 130.

Legal Profession. *Bar Integration* is now attained in 20 States and the Territory of Puerto Rico and some 40,000 lawyers have been brought into integrated bars (see *Fla. L. Jnl.*, XI, 296 (H. Harley). The Nebraska Supreme Court, in an exhaustive opinion (275 N.W. 265), directed integration without a statute specifically authorizing it. The Virginia legislature enacted such a statute on March 3. Arguments for integration and for "building a better bar" appear in *Am. Jud. Soc. Jnl.*, XXI, 213 (C. B. Rix); *Detroit Bar Quar.*, VI, 11; *Ohio St. Bar Assn. Reporter*, X, 653 (J. E. Brenner); Opposing integration: *N. J. L. Jnl.*, LXI, 1 (I. Gross); *Commercial L. Jnl.*, XLIII, 4, 114 (H. U. Feibleman). On June 23 the Penna. State Bar Assn. rejected such a proposal.

Conferences, Congresses, Conventions, etc. (National and International). The *National Lawyers' Guild* (1937 YEAR BOOK, 398) held its second annual convention at the Willard Hotel, Washington, D. C., February 19-22. Following the opening session, at which Pres. John P. Devaney delivered the annual address, a "series of conferences under auspices of corresponding guild committees" met concurrently and discussed papers relating mostly to economic and sociological jurisprudence.

The *American Society of International Law* held its 32d annual meeting at the Carlton Hotel, Washington, April 28-30. A full program with an attendance of "several hundred members" was reported; but Pres. J. B. Scott was unable to be present (*Am. Jnl. Int. L.*, XXXII, 555). The meeting was preceded by a conference of international law teachers.

The *American Law Institute* held its 16th annual meeting at the Mayflower Hotel, Washington, May 12-14. A letter of commendation was received from President Roosevelt and Chief Justice Hughes addressed the Institute for the ninth time. Drafts of the law of torts and of property were approved and that of security considered (*A.B.A. Jnl.*, XXIV, 426). "The Restatement in the Courts" (3d ed.), a valuable digest showing how the work of the Institute has been used judicially, was distributed.

The *American Judicature Society* met preceding the Institute on May 11 and also on July 27 at Cleveland, Ohio, during the 61st annual meeting of the *American Bar Association* which opened in that

city on July 25 and continued in session until July 29. Frank J. Hogan was elected president, (*A.B.A. Jnl.*, XXIV, 685) and Herbert Harley, editor of the *Judicature Society's Journal*, was awarded the Association Medal for 1938 (*ib.* 714). The *National Conference of Commissioners on Uniform Laws* also met in Cleveland during the week preceding the Association's meeting; the National Conference of Bar Examiners met contemporaneously (see its organ, VII, 115).

The *Incorporated Law Society of Great Britain* has proposed, through its president W. W. Gibson, a measure for sweeping changes in the British judiciary, including withdrawal of judicial functions from the House of Lords. The *Union Internationale des Avocats* met in the *Salle de Curie Royale*, Budapest, Hungary, September 8-11. Four delegates from the American Bar Association attended (*Jnl.*, XXIV, 896).

Discipline. Oran Farmerter was disbarred by the Texas Supreme Court for having, some 12 years previously, obtained his license by misrepresentation. The National Lawyers' Guild announced on April 10 the appointment of a committee, including the Solicitor General and other government officials, to defend Edward Land, of Toledo, against a charge of professional misconduct in criticising the course of an Ohio judge before whom he appeared.

Legal Aid Societies and their work are discussed in *Am. Jud. Soc. Jnl.*, XXI, 189 (R. H. Smith), 190 (C. E. Hughes, Jr.); *N. Y. Times Mag.*, March 27 (C. Janus). The New York Society (an outgrowth of the *Deutscher Rechts-Schütz Verein*, founded in 1876 to assist German immigrants) made an appeal early in the year for a contribution of \$25,000 from laymen, although they gave only about \$10,000 in the preceding year as against \$77,357 by 169 law firms and 462 individual lawyers. More experienced trial lawyers were asked to serve on the Voluntary Defenders' Committee. Legal aid in civil cases is discussed in *Georgetown L. Jnl.*, XXVI, 32; *N. Y. St. Bar. Assn. Bull.*, X, 12 (W. B. Cobb).

Necrology. Members of the bar who died in 1938 included:

California, T. C. Ridgway (59), former president State Bar Assn. *Connecticut*, John Elliott (73), 40 years at the bar. *Georgia*, H. N. Randolph (66), great-great-grandson of Thomas Jefferson, nearly 40 years at bar of Atlanta. *Illinois*, Clarence Darrow (80 q.v.), defender in 100 or more murder trials, no client ever executed; Samuel Ettelson (63), twice Chicago corporation counsel; Clyde L. Day (69), 48 years at Chicago bar; D. R. Anderson (73), dean of Will County bar. *Kentucky*, J. D. Black (88), lawyer and public official. *Maine*, Hannibal Hamlin (79), former attorney general and son of vice-president. *Maryland*, James H. Preston (78), lawyer and former Baltimore mayor. *Massachusetts*, Augustus P. Loring (81), of the Boston bar; specialized in trust activities; Francis Peabody (83), over 60 years at Boston bar. *Missouri*, E. T. Miller (67); general counsel St. L. & S. F. R. Co.; Nebraska, A. F. Mullen (65), lawyer and political leader; E. J. Cornish (76), lawyer and corporate executive. *New Hampshire*, E. K. Woodworth (63), former president State Bar Assn. *New Jersey*, G. S. Hobart (63), nephew of former vice-president; head of Newark law firm and civic leader; H. G. Gaston (80), Somerville, scion of a family of lawyers; C. A. Swift (79), 58 years at bar. *Charles Jones* (60), real property lawyer, Newark; C. W. Hurst (68), Englewood, over 25 years at bar; W. L. Clark (82), 61 years at bar; Clarence Sackett (78), court reporter and afterward lawyer. *New York City*, (Admiralty): C. S. Haight (67), decorated by foreign sovereigns; Earl Appleman (51); (Corporations): Victor Morawetz (79), author, Carnegie's attorney; T. L. Chadbourne (66); S. W. Howland (59), once partner of Elihu Root; R. A. Young (54); (Patents): F. J. Allen (79), former U. S. Commissioner of Patents; William Muzzy (66); J. F. Neary (61); (Reality): Joshua Kantrowitz (81), practiced half a century in Brooklyn; Herman G. Loew (81), single tax advocate; D. J. Daly (52); (General Practice): Howard Mansfield (89), 64 years at the bar; J. M. Gifford (82), 55 years at bar;

James Hillhouse (84), lawyer and civic leader; C. W. Bacon (82), lawyer and writer; G. P. Hotaling (81), executor and trustee of large estates; C. H. Fuller (79), 54 years at bar; W. A. White (77), member of N. Y. Law School's first class; T. D. Day (73), 50 years at bar; J. C. Judge (69), nearly a half century at bar, critic of juries; F. T. Warburton (72), lawyer and welfare worker; Irving Ernst (58), defended Molyneux; Mansfield Perry (56), 30 years at bar. *New York (Upstate)*, H. W. Mack (77), Port Chester, long at N. Y. City bar; P. H. Murphy (77), former Herkimer County attorney; J. A. Peck (75), 54 years at Westchester bar; F. S. Wright (80), Auburn; F. S. Sidway (68), Buffalo. *Oklahoma*, W. W. Hastings (71), once attorney general for Cherokee Nation (of which he was a full-blooded member) and Member of Congress. *Pennsylvania*, E. A. Ballard (77), over 35 years General Counsel for Philadelphia Rapid Transit Company; Harvey Huffman (70), lawyer and four-term state senator; H. A. James (72), practiced 49 years in Doylestown. *South Carolina*, Alfred Huger (61), maritime lawyer. *Vermont*, M. C. Webber (70), Rutland, former president State Bar Assn. *Virginia*, T. J. Michie (70), law publisher, formerly Supreme Court reporter. *Washington*, Harold Preston (79), Dean of Seattle Bar. *England*, Sir Cecil Howard (92), barrister; former head of Inc. L. Soc. *Canada*, A. J. Brown (77), lawyer and senator; C. W. Bell (61), leading criminal lawyer and playwright; successful defender in 16 murder trials; G. P. Pearson (61), Halifax King's Court public utility specialist; S. W. Jacobs (67), first Jewish member of House of Commons. *Spain*, M. G. Prieto (77), lawyer, diplomat, and six years premier.

Penal Law. (See also CRIME.) **Causes célèbres.** On March 12, the California lower house adopted, by a bare two-thirds majority, a resolution designed to pardon "Tom" Mooney (1937 YEAR BOOK, 297), but it was rejected forthwith by the Senate. Mooney's attorneys then, for the third time, presented his case to the U.S. Supreme Court, which, on October 10, denied *certiorari* (*Mooney v. Smith*, 305 U.S. —). *Habeas corpus* was then sought and likewise denied on December 12. The case figured in the state campaign, the Democratic gubernatorial candidate, Olson (who was elected), being understood to favor a pardon (which he granted soon after inauguration). Another move in the "Scottsboro Cases" (1937 YEAR BOOK, 396) was the pardon of Clarence Norris by Governor Graves on July 5; Wright and Weems are still serving long sentences. Of the 73 persons indicted for fraud and conspiracy in connection with the WPA in New Mexico, two pleaded guilty and the attacks on the indictment by the others were overruled and their trial set for January, 1939.

Terrorism in Puerto Rico. On January 10 eight of those accused of shooting at Judge Cooper (1937 YEAR BOOK, 394) were convicted by a jury in San Juan and sentenced to five years of imprisonment. Two others who had turned "state's evidence" were given two and one-half years each. Four others were convicted and sentenced to terms ranging from 6 to 10 years for participating in bombing a priest's house in the preceding July. While the 40th anniversary of the first arrival of United States troops was being celebrated at Ponce, on July 25, between 65 and 80 shots were fired at Governor Winship. The shots missed him, but two others were killed and 32 wounded in the clash which followed. Arrests of 13 were made and the leader, Escobar, who had been acquitted of complicity with the murder of a policeman on the preceding Palm Sunday, was this time convicted and sentenced to life imprisonment. Others were convicted later.

Hines Case. The trial of James J. Hines, Tammany district leader, for "racketeering" was ended on September 12, when the presiding Justice (Pecora) granted a motion for a "mistrial" because District Attorney Dewey had asked a defense witness, in a 14-word question, whether he remembered any testimony before the Grand Jury "about Hines and the poultry racket." The District At-

torney asked for a retrial before another judge and it was originally fixed for November 14 but had not been called up by the close of the year. Justice Pecora's ruling was widely discussed in the public press and is the subject of articles in *Cal. St. Bar Jnl.*, XIII, 32 (P. S. Sommer); *Boston Bar Bull.*, No. 140, 3 (J. M. Maguire).

Penalties. *Nulla Poena Sine Lege* is the subject of a learned article by Prof. Jerome Hall (*Yale L. Jnl.*, XLVII, 165) in which the limitations upon judicial punishment are traced from Roman times. There were 194 legal executions in the United States during 1936, according to the latest Census Bureau report, and nearly 5000 lynchings in the last 55 years—an average of almost 100 per annum. But the Anti-Lynching Bill was laid aside in the Senate "for more important measures." According to Louis Waldman, American labor candidate for Kings County Judge, Brooklyn judges directed acquittals of 51.4 per cent of those on trial in the fiscal year 1936-37. "*Capital punishment* is the only way to deal with terrorists who kill fine citizens, like Colonel Irizarry," declared Governor Winship; but Attorney General Garcia and a majority of the Puerto Rican legislature opposed it. The new Honduras Constitution sanctions it, however, and the "murderer of a friend" was executed there on March 8. The first white man to suffer the death penalty in Northern Rhodesia was hung on August 22 for the murder of an Afrikaner. A convicted wife beater was given 20 lashes at Baltimore on March 1 and another was sentenced to similar punishment at Hagerstown. A confessed burglar received 10 lashes at the New Castle Co. (Del.) Workhouse on November 5. A poll of the American Institute of Public Opinion showed 61 per cent as disapproving that mode of punishment (see 1936 YEAR BOOK, 359). Sir Samuel Hoare, British Home Secretary, is reported as framing a bill to abolish corporal punishment in prisons, with certain reservations.

Procedure. The New Federal Rules (1937 YEAR BOOK, 398) came into force on September 1, despite a threatened attempt in the Senate Judiciary Committee to postpone the date, and their appearance occasioned another flood of periodical literature.

Their history in *A.B.A. Jnl.*, XXIV, 97; their "underlying philosophy," *ib.*, XXIII, 976 (Dean C. E. Clark, a draftsman); other points in *Cal. St. Bar Jnl.*, XII, 192, 223; *S. F. Bar J.*, II, 7; *Ky. St. Bar Jnl.*, II, 14; *Columbia L. Rev.*, XXXVIII, 1179; *Wash. L. Rev.*, XIII, 198; *Kan. St. Bar Assn. Jnl.*, VII, 9; *Patent Off. Soc. Jnl.*, XX, 672. "Institutes" were held in various states, at which judges and lawyers expounded the rules to the bar. Judge John J. Parker, e.g. explained to the Virginia Bar Association how to handle a case under the rules (*A.B.A. Jnl.*, XXIV, 793). As a result of their promulgation, President Hogan of the A.B.A. predicts eventual unification of state court procedure (now quite diverse) and similar suggestions have been considered in Colorado (*Dicta*, XV, 5); Florida (*L. Jnl.*, XII, 195, 235); Indiana (*L. Jnl.*, XIII, 202, 299); Ohio (*St. Univ. L. Jnl.*, IV, 143 [cf. *St. Bar Assn. Report*, XI, 48], E. R. Sunderland, also a draftsman); and South Dakota (*Bar Assn. Jnl.*, V, 13). Dean Wigmore suggests (*Am. Jud. Soc. Jnl.*, XXII, 166) a special Reporter for decisions construing these rules and the Department of Justice publishes a Bulletin containing them which is utilized by the *A.B.A. Jnl.* (See XXIV, 913 sq.)

Attorney General Cummings (who retired shortly after the year's end, and was succeeded by Ex-Gov. Frank Murphy of Michigan) proposed (*ib.* 151) extension of the Supreme Court's rule-making power to all phases of criminal procedure, instead of, as now, to procedure after verdict only. These rules are held inapplicable to the territorial

and oversea jurisdictions (*Mookin v. U.S.*, 303 U.S. 201).

Pre-Trial Procedure is provided, for the first time in the Federal courts, by the new rules. No. 16 authorizes the judge to call in the attorneys of both parties and discuss, informally, simplification of issues, amendment of pleadings, admissions to "avoid unnecessary proof," limitation of experts, reference to a master, etc. According to the *Am. Jud. Soc. Jnl.*, XXI, 160, the success of this new feature has already been demonstrated in California, Massachusetts, and Michigan. It was adopted in Dallas, Tex., upon the judges' unanimous recommendation, and continued by a pronounced vote of the bar. In Washington, D. C., it was applied in a libel case involving some 2000 exhibits and 100 depositions. Sifting such voluminous evidence before a jury is called saves enormous waste of time and money. An 18-page printed report of the A.B.A.'s Committee on the subject concludes that it "produces results which cannot be obtained in any other way."

Proof. The A.B.A. House of Delegates at Cleveland (*Jnl.*, XXIV, 726) approved 25 proposals of its Judicial Administration Committee to improve the law of evidence, although 10 of them were grouped as "recommendations for reference, further study, etc." Included was the "Uniform Expert Testimony Act," sponsored by the National Conference of Commissioners on Uniform Laws, discussed in *Am. Jud. Soc. Jnl.*, XXI, 156. "Tomorrow's Law of Evidence," *A.B.A. Jnl.*, XXIV, 507 (C. T. McCormick), stresses the rationalizing influence of the jury system's gradual displacement by administrative tribunals, compensation boards, etc., advocates a similar method of handling automobile accident cases, points out the advantages of "discovery" and "pre-trial," predicts "that the hard rules of exclusion will soften into standards of discretion to exclude," and suggests "comparative research and open-minded willingness to profit by the experience of others" as "the path of improvement." **Fingerprinting tests** (see 1937 YEAR BOOK, 398) were denied in *People v. Gati*, N. Y. Court of General Sessions, where the accused asked for such a test of a pistol, suspected of use in the affair; and by Justice Laws of the Washington District Court. On January 20 at Croydon, England, one accused of burglary secured acquittal by demonstrating (to the jury's satisfaction) that he could "fake" fingerprints. French police were reported as "baffled" by a similar claimant. According to Brazil's fingerprint expert, Ribeiro, the "whorling patterns," which vary with the individual, may be altered by certain skin diseases, e.g. leprosy. Bodkin, the Philadelphia fingerprint specialist, scoffs at the so-called "demonstrations." *Jnl. Crim. L. & Criminology*, XXVIII, 573 (W. W. Harper). The Washington press made much of the identification, from civil service fingerprints, of a woman's corpse found in a nearby Maryland creek. Director Hoover of the F.B.I. predicts "the day when all citizens will be fingerprinted" as "a matter of common sense and expediency." **Pathometer** ("Lie Detector") tests were held in *Fort v. People*, 4 N.Y.S. (2d) 913, insufficiently established scientifically as yet to rank with "handwriting, fingerprinting, and ballistics . . . recognized by experts as possessing such value that reasonable certainty can follow from tests." The trial judge was upheld in denying the accused's motion for such a test by Rev. W. G. Summers (49), pathometer's inventor, who died September 24. In Chicago, one Stanley, accused of driving while intoxicated, invoked the

"Lie Detector" with the result that his fine was raised from \$25 to \$118.50. Other uses of the instrument are described in a lengthy Associated Press dispatch from the N. J. State Hospital, Trenton, November 26. It is said that Keeler, who developed the polygraph (a form of the pathometer), requires an operator to undergo at least six months' training (see Marston, *The Lie Detector Test*, N. Y. 1938). **Miscellaneous:** In *State v. Welch*, at Webster City, Iowa, the accused was convicted of manslaughter, largely, it is reported, on a test of his blood, admitted in evidence over the protests of his counsel that it infringed the privilege against self-incrimination—which Professor McCormick calls "that curious survival" and predicts will "ultimately . . . disappear." Governor Blanton Winship of Puerto Rico reported that all 13 of those arrested for attempting to assassinate him (see p. 397) reacted to the "paraffin test," showing gunpowder granules on their hands. In a mail fraud trial, before U.S. Dist. J. Patterson in New York, the phonographic record of a telephone conversation, within the state, was admitted in evidence as not subject to the rule in *Nardone v. U.S.* (1937 YEAR BOOK, 398). **Remedies:** "Election of, A Delusion" is discussed in *Columbia L. Rev.*, XXXVIII, 292; "Accounting in Assumpsit (Extension)," *Dickinson L. Rev.* XLII, 42 (W. Garber); "The Writ of Prohibition," *Georgetown L. Jnl.*, XXVI, 831 (Hughes & Brown); "*Scire Facias* (in Penna.)," *Bar Assn. Quar.*, XXXV, 158 (S. M. Sofel). For comparative law see Genet, *De la Procédure Formulaire du Droit romain à la Procédure de la Cour permanente de Justice Internationale*, *Revue Internationale Française du Droit des Gens*, V, 17.

CONSTITUTIONAL AND PUBLIC LAW

United States. Interpretation by the Supreme Court of Federal Constitution clauses included:

Amendments I and XIV, guaranteeing freedom of speech and the press, held infringed by a Georgia municipal ordinance prohibiting the circulation of "literature of any kind" without written permission of the City Manager, *Lovell v. Griffin*, 303 U.S. 444.

Amendments I and X, held not infringed by the Bankruptcy Act of 1937, adding Ch. X, authorizing composition of debts by taxing agencies, etc., *U.S. v. Bekins*, 304 U.S. 27.

Amendment XIV, 1, not infringed by a state procedure which enables defendant, in an action brought by a non-resident, to obtain a judgment against the latter upon serving his attorney alone in a cross section, *Adam v. Saenger*, 303 U.S. 59; but a negro student is not given "equal protection of the laws" (if denied admission to his state's one law school) by providing a course for him in a school outside the state, *State ex rel Gaines v. Canada*, 305 U.S. 337. Grant of "exclusive jurisdiction" by a state to the Federal Gov't is not effective to prevent operation of the former's tax laws, unless the latter has accepted such jurisdiction, *Atkinson v. Tax Comm'n*, 303 U.S. 20. (A new edition of Elliot's Debates, in the state conventions, on the Federal Constitution, is announced by the Michie Company, Charlottesville, Va.)

Conventions and Constitutions. **UNITED STATES.** *New Hampshire.* The 12th constitutional convention (1937 YEAR BOOK, 649) of the Granite State, described as "an unwieldy mass meeting of 481 members," met at Concord in May and adjourned on the 31st, after submitting proposals for absentee voting, income, inheritance, and sales taxes, and reservation of revenues from vehicle traffic to highway purposes. Governor Murphy's proposal for state aid to private enterprise and all plans to reduce the present legislative membership below 424 were rejected by the convention (see also REFERENDUM). *New York's* eighth constitutional convention (see 1936 YEAR BOOK, 656) opened auspiciously at Albany on April 5 with 168 dele-

gates, of whom 92 were Republicans and 76 Democrats (one chosen on an opposition ticket). Partisanship figured considerably behind the scenes, notably as to legislative reapportionment. According to the *N. Y. Times* "an alliance of upstate Republicans and Tammany Democrats put through a discreditable political deal" to outlaw PROPORTIONAL REPRESENTATION (q.v.). Such a provision was actually inserted in the original draft but was detached just before adjournment on August 27, after 694 proposals had been considered. The convention's work, as finally submitted, consisted of nine so-called "amendments," though the first was "actually the new constitution," consisting of 20 articles (replacing 14 in the old instrument) and 50,000 words as against 30,000. The new one contained various provisions which aroused opposition, such as tax exemptions, free transportation of private school pupils, and civil service pensions as a "contractual relationship," but it was ratified by the voters. The other eight "amendments" were submitted separately; five were adopted (see REFERENDUM) and provision was made for holding the next convention in 1959—an "off year."

Abroad. *Australia.* Attorney General Menzies announced in the House of Representatives on November 22, the government's intention to seek more powers for the Federal Parliament, either by a Referendum or a transfer from the state legislatures. A new constitution came into force in *Czechoslovakia* (with a dictatorship trend). *Colombia* adopted a constitutional amendment for annual, instead of semi-annual, sessions. *Rumania.* Here on February 24 all voting subjects were required to appear before local authorities and answer aloud whether they should be recorded for or against the new constitution of 117 articles by which the King becomes virtually a dictator with a parliament, nominally in the "corporative" form but really impotent. A religious ceremony is required for all marriages but religious and racial equality are promised. (*El Salvador.* The National Constitutional Assembly met at the capital, San Salvador, on November 15, pursuant to demands of many municipalities and thousands of citizens, for constitutional reform. It began work by approving the preamble and first articles of a new instrument which reaffirm the form of government as republican, democratic, and representative. In Art. I, *El Salvador* undertakes also to do its part toward achieving real solidarity among the American nations and forming thereby a continental democracy. But later it was announced that the convention had extended the term of President Martinez for six years from March 1, when his present term expires.

PRIVATE LAW

Contracts. *General phases* of this branch are treated in the following current articles: "A Theory of Contract Sanctions," *Columbia L. Rev.*, XXXVIII, 775 (M. S. Mason); "Statute of Frauds and Consideration" (English Law Revision Committee Report), *Canadian Bar Rev.*, XV, 585; *Williston on Contracts* (revised ed.) reviewed, *Cornell L. Quar.*, XXIII, 269 (H. E. Whiteside); "Williston's Fundamental Conceptions," *Mo. L. Rev.*, III, 219 (A. L. Harding); "Quasi-Contracts," *N. J. L. Jnl.*, LX, 409 (R. W. Mullin).

Bankruptcy. The Chandler Act of June 22 is "the first thorough-going revision" of the American Bankruptcy Statute in 40 years. Its introducer, Representative Chandler of Tennessee, traces its history through successive congresses (*A.B.A.*

Jnl., XXIV, 880). Section 77B of the old act, dealing with corporate reorganizations, is expanded into a new chapter (X), and the Securities & Exchange Commission, which has created a new division for that purpose, acts with the courts in an advisory capacity. The purposes and provisions of this new chapter are explained by Chairman W. O. Douglas of the S.E.C. (*ib.*, 875). Other discussions of the act are found in *U. of Chicago L. Rev.*, V, 1, 272, 398; *Commercial L. Jnl.*, XLII, 411, 443; XLIII, 326, 332; *Nat. Bankruptcy Referees Jnl.*, XII, 124; *Temple U. L. Quar.*, XIII, 1; *U. of Pa. L. Rev.*, LXXXVII, 105; *St. John's L. Rev.*, XIII, 18.

Carriers. The urgent railway legislation failed of enactment by the 75th Congress, and the proposed wage cut was abandoned by the companies after fruitless attempts to reach an agreement with their employees. The distinction between "common" and "contract" carriers is explained in *Mich. L. Rev.*, XXXVI, 802 (M. L. Plant; cf. *Va. L. Rev.*, XXIV, 168, A. Svihra). Motor carrier legislation is discussed in *Wash. U. L. Quar.*, XXIII, 1 (E. A. Haid); *U. of Pa. L. Rev.*, LXXXVI, 403 (S. T. McDowell); *Kan. Cy. L. Rev.*, VI, 264 (J. F. Miller). Natural Gas Pipe Lines are treated in *D. C. Bar Assn. Jnl.*, IV, 5.

Insurance. The London underwriters of policies on the *President Hoover*, wrecked near Formosa, Dec. 10, 1937, accepted liability for a "total loss" (£1,000,000) within four days after the claim had been received. Recent and pending insurance legislation is discussed in *Ill. L. Rev.*, XXII, 391 (H. C. Havighurst); *Jno. Marshall L. Quar.*, III, 145 (H. S. Moses); *N. Y. St. Bar. Assn. Jnl.*, IX, 161; X, 110 (L. H. Pink).

Negotiable Instruments. "Development, in Early English Law," *Harv. L. Rev.*, LI, 813 (F. K. Beutel). Following the example of the British Bills and Notes Act and the American Uniform Negotiable Instruments Law, the Baltic states of Estonia, Latvia, and Lithuania have adopted a common code for such instruments.

Sales. Following are current articles under this branch: "A Federal Uniform Sales Act," *Va. L. J.*, XXIV, 793 (L. B. Blissard); "Buyer's Election under the Sales Act," *Columbia L. Rev.*, XXXVIII, 888; "Draft of an International Law of Sales," *U. of Chicago L. Rev.*, V, 543 (E. Rabel); "Through Title to Contract," etc., *N. Y. U. L. Quar. Rev.*, XV, 159 (K. N. Llewellyn).

Corporations. "The Natural History of the Private Artificial Person," *Tulane L. Rev.*, XIII, 41 (Charles S. Lobingier), undertakes to trace the corporate notion from its earliest manifestations, in primitive human groups, through the guilds of Rome, Continental Europe, and England, to the United States and the present day. Titles of articles in this field fill 4½ columns of *Current Legal Thought's* latest Index. Among them is "The Future of Corporations," *Cleveland Bar Assn. Jnl.*, IX, 93 (J. P. Taggart). Before the National Lawyers' Guild, A. A. Berle, Jr. declared Federal licensing of corporations a logical development of the future, as did also Senator O'Mahoney, author of a bill for that purpose (*Commercial L. Jnl.*, XLIII, 67). The "Census of American Listed Corporations" (a WPA project, begun in 1936) abstracts data from S.E.C. registration statements including to date about 2000 companies. On January 29 a new and modern corporation act came into force in Georgia, and the D.C. Bar Assn. is reported as moving to supersede an archaic statute there. In *Electric Bond & Share Co. v. S.E.C.*, 303 U.S. 419,

the Supreme Court upheld as divisible and separately enforceable, regardless of the act as a whole, those provisions of the Public Utility Holding Company Act of 1935, requiring such companies to register with the S.E.C. or be barred from the mails and interstate commerce. Chairman W. O. Douglas discusses the effect of the decision and the S.E.C.'s future policy in applying the act in *A.B.A. Jnl.*, XXIV, 800. The "Illinois Business Corporation Act" is treated in *Jno. Marshall L. Quar.*, IV, 106 (A. B. Wilson). Wisdom of the corporate form of business organization is questioned in *Ind. L. Jnl.*, XIII, 533 (H. H. Bredell).

Domestic Relations. Marriage. With the accession in 1938 of New Hampshire, New Jersey, and New York, eight states now require blood tests of all applicants for marriage licenses, five others require them of male applicants only. In New York, where the law became effective July 1, there was a 50 per cent decrease in applications during that month; but almost three times as many licenses were issued in August. Connecticut and Illinois reported a continuing decline. The latter's act is discussed in *Ill. L. Rev.*, XXXII, 327; *Jno. Marshall L. Quar.*, III, 471 (A. Goldblatt). "Common Law Marriages" (without ceremony) are considered in *Minn. L. Rev.*, XXIII, 177 (Billig & Lynch); *Ia. L. Rev.*, XXIII, 75 (necessity of cohabitation). District judges (who supersede Justices of the Peace in Nassau Co., N. Y.) may solemnize marriages under an Attorney General's opinion. "Effect of Extra-State Marriage Ceremonies," in *Miss. L. Jnl.*, X, 105 (C. Taintor). An amendment (February 1) of the French Civil Code gives the wife independent civil status and eliminates "obedience" from the civil ceremony. Marriage by purchase prevails yet in parts of Yugoslavia, where three young Englishmen are reported as having recently purchased brides. The German marriage laws (1937 YEAR BOOK, 401) were extended to Austria on August 1 and a rush of applications followed from those who had "remarried" under "civil dispensations," not by the Roman Church. *Observatore Romano*, Vatican organ, published a two-column protest.

Divorce. The inclusion of insanity as a ground for divorce in England (1937 YEAR BOOK, 401) may affect 32,000 people. "Impotence as a Ground (in Pennsylvania)" is considered in *Temple L. Quar.*, XII, 242; "What Constitutes Open Concubinage (in Louisiana)," *Tulane L. Rev.*, XI, 447 (G. T. Wogan). In *Walker v. Walker*, N. Y. L. Jnl., June 8, Justice Collins of the New York Supreme Court refused to enforce a divorce decree of the U.S. Court for China, rendered upon grounds which arose in another country. The Maryland act of 1937, authorizing divorce for five years' voluntary separation, was upheld in *Campbell v. Campbell*, 198 Atl. 414. A Nevada divorce to the husband was recognized in *Glasser v. Glasser*, 276 N.Y. 206; the Court of Appeals accepted the Nevada court's finding that plaintiff was a "resident." But the German *Reichsgericht*, on April 28, refused to recognize a Latvian divorce obtained during temporary domicile. Although Eire has banned divorce (1937 YEAR BOOK, 401), Northern Ireland is reported as moving to make it "speedier and cheaper." *Annulment* is discussed in *U. of Toronto L. Rev.*, II, 319 (England); *Md. L. Rev.*, II, 211 (Md.). The New York State Law Revision Committee sponsors a bill permitting annulment (now granted for extra-state marriages only) of those contracted within the State. The Quebec Superior Court, on June 8, reversed a decree of annulment granted on the ground

that the marriage had not been solemnized in accordance with canon law, which, said the Superior Court, "has nothing whatever to do with the validity of marriage." "Das Legitimitätsproblem und das kanonisch Recht" is discussed in *Zeitschrift für Öffentliches Recht*, XVIII, 1 (W. Plöhl).

Adoption, in various jurisdictions, is discussed in the following periodicals: *Calif. St. Bar. Jnl.*, XIII, 55; *Georgetown L. Jnl.*, XXVI, 119 (D. C.); *Jno. Marshall L. Quar.*, III, 491; *Miss. L. Jnl.*, X, 239; *Mo. Bar Jnl.*, IX, 47; *Dickinson L. Rev.*, XLII, 12 (Penna.).

Guardianship. An attempt by Dionne, father of the "quintuplets," to obtain their custody, displacing Dr. Dafoe as guardian, was unsuccessful. A natural tutor's authority over a child's estate is discussed in *Tulane L. Rev.*, XI, 419 (J. V. Wolff).

Property. "Changing Conceptions of Property" are considered in *A.B.A. Jnl.*, XXIV, 70 (N. W. MacChesney) and 65 (Leon Green); The American Law Institute's Restatement of Property Law, in *U. of Pa. L. Rev.*, LXXXVI, 173 (W. R. Vance); *St. John's L. Rev.*, XII, 1 (J. P. Maloney); *N. J. L. Jnl.*, LXI, 73; "Rights of Way by Prescription (Comparative)" *Tulane L. Rev.*, XI, 226 (Otto Schoenrich); "The Rule in Shelly's Case" (personal property transfers), *Ill. L. Rev.*, XXII, 935 (E. M. Leesman); *Ind. L. Jnl.*, XLII, 466 (A. M. Dowling). Legislation, past and proposed, affecting real property in various jurisdictions is discussed in *Conn. Bar Jnl.*, XII, 9 (H. J. Marks); *Mass. L. Quar.*, XXII, 38; *N. Y. St. Bar Assn. Bull.*, IX, 254; *Columbia L. Rev.*, XXXVII, 238; *Okla. St. Bar Jnl.*, IX, 43; *Canadian Bar Rev.*, XV, 516 (Ontario). Strong recommendations for a coordinated system of land surveying and description were made at the conference of engineers in Troy, N. Y. The President's suggestion of "excess condemnation" in constructing highways and other public works, is warmly commended in a letter to the N. Y. Times (February 22, F. P. Stockbridge). On March 30, the General Land Office ruled that the Federal government, and not the oil companies, was the owner of another section of lands in the California Elk Hills Naval Reserve (see "The Conservation of Oil," *Harv. L. Rev.*, LI, 1209 (N. Ely)). Opposition to making compulsory the "Torrrens System" (1935 YEAR BOOK, 384) was voiced by several speakers before the N. Y. Title Assn.'s convention, on April 24. "The Tragic Story of Pueblo Indian Land Titles" is told in *Kan. Bar Assn. Jnl.*, VI, 158.

Copyright entries in the Library of Congress from 1897 now number about 9,000,000. "Copyright Law and Its Sanctions" are discussed in *Brooklyn L. Rev.*, VII, 523 (A. Lerner); "Comparative Copyright Legislation," *Jnl. Patent Off. Soc.*, XX, 157 (J. L. Brown); "Revision of the Copyright Law," *Harv. L. Rev.*, LI, 906; "Copyright Reform and the Duffy Bill," *Yale L. Jnl.*, XLVII, 433; "Legal Protection of Ideas," *Pittsburgh L. Rev.*, IV, 113 (J. M. Duff); *Special Productions: (Musical)*, *Dicta*, XV, 117 (D. W. Strickland); (News), *A.B.A. Jnl.*, XXIV, 17 (F. Thayer); (Performing Artists), *Dickinson L. Rev.*, XLII, 57, 88 (Bass & Hitchler); (Radio), *Air L. Rev.*, IX, 265; *Columbia L. Rev.*, XXXVIII, 578.

Patents. Following several fruitless congressional investigations, the "Temporary National Economic Committee" (inter-departmental) has undertaken a study of invention "from its cultural, social, and economic aspects" with a view to recommending reforms in procedure, the apparent conflict between patent monopoly and the anti-trust

laws (considering "the effect of cross-licensing and patent pooling"), and the proposal for compulsory licensing of patents (see *G. W. L. Rev.*, VI, 357, 364, 499, 520; *Mich. L. Rev.*, XXXVI, 811).

Trademarks. "Trademark Problems and Laws" are treated in *Brooklyn L. Rev.*, VII, 20 (F. S. Moore); Power of Congress re, *Fordham L. Rev.*, VI, 408; Regulation and Legislation, U.S. Trademark Assn. *Bull.*, XXXIII, 177, 184, 229; Results of the Prague Congress, *ib.* 201; late decisions, *ib.* 235; in Britain, *ib.* 717 (cf. *Va. L. Rev.*, XXIV, 440; in Germany, *ib.* 253. The *Oficina Interamericana de Marcas*, established at Havana under joint agreement of western hemisphere nations, undertakes to "harmonize and articulate" notions of industrial property protection and publishes a *Boletano*. The Exchequer Court at Ottawa, in July, found the "Pepsi-Cola Co. of Canada" an infringement of the "Coca-Cola Co. of Canada." The Hudson's Bay Co., chartered in 1670, appealed to the Washington District Court from the refusal to register its trademark, "H. B. World Charters," as resembling that of a Louisville firm.

Succession. The new English Inheritance Act adopts the Civil Law principle of the *legitime*, requiring provision for the testator's wife and children. Similar restrictions in the British dominions are discussed in *Mich. L. Rev.*, XXXVI, 1107. "The power of appointment is the most efficient dispositive device" and "the answer of more problems that face the draftsman of wills and trusts than any other," says Prof. W. B. Leach (*A.B.A. Jnl.*, XXIV, 807). "Evolution of Testamentary Capacity in Illinois" is traced in *Ill. L. Rev.*, for April (D. M. Schuyler); "Execution of Wills in Michigan," *St. Bar Assn. Jnl.*, XVI, 527 (G. L. Field); "The Investment Clause," *Dicta*, XV, 14; "Nuncupative Wills" (La.), *Tulane L. Rev.*, XII, 439; "Contingent Wills," *U.S. L. Rev.*, LXXI, 671; Testamentary Conveyances, *Miss. L. Jnl.*, IX, 183 (F. G. Berger); *Kansas St. Bar. Assn. Jnl.*, VI, 280 (P. L. Wilbert). The Roman doctrine of implied revocation was applied by Surrogate Slater of Westchester Co., N. Y., in construing the will of F. W. Mosher, who, after its execution, married the beneficiary, thereby, it was held, revoking the will. On February 11, the Philadelphia Orphans' Court, by a vote of 3 to 2, decided that testamentary trustees, vested with discretion, may invest estate funds in stocks—preferred or common. In *Texas v. Florida* (306 U.S. —) the U.S. Supreme Court, the referee's report, finding the late Colonel (son of Hetty) Green (1936 YEAR BOOK, 402) a resident of Massachusetts at the time of his death, was confirmed November 14. The Virginia Court of Appeals (144 S. E. 804) upheld the will of the late W. R. Hayes, Roman Catholic priest, bequeathing his entire estate to the woman he married (1936 YEAR BOOK, 402). The late Justice Cardozo (q.v.) executed his will on June 12, 1935 (see N. Y. *Times*, July 29), bequeathing the residue of his estate (after paying certain bequests to charities, etc.) to Columbia University with

"The wish and hope . . . that the gift shall be applied to the foundation or maintenance of a chair of jurisprudence in the law school . . . associated with my name and to perpetuate the scientific study of a subject which has been one of my chief interests in life."

President Kemal Atatürk's (q.v.) will, executed September 5, provides for life incomes for certain relatives, etc., the remainder to the Society for the promulgation of Turkish Language and History.

Torts (Delicts). The American Law Institute voted, May 12, to approve its final draft of this

branch of the law. Current articles on its general phases are:

"Pennsylvania Tort Law v. The Restatement," *Pa. Bar Assn. Quar.*, No. 33, p. 33 (L. H. Eldridge); "The Right of Privacy," *Jno. Marshall L. Quar.*, III, 265 (C. Stepper); *Los Angeles Bar Assn. Bull.*, XIII, 991 (Moore & Norris); *Canadian Bar Rev.*, XVI, 425 (Broadcasting; G. W. Paton). Damage by Chattels, *U. of Toronto L. Jnl.*, II, 280 (F. V. Harper).

Defamation. Privilege in, *Cal. L. Rev.*, XXVI, 226 (J. M. Hall); *Tulane L. Rev.*, XII, 452 (J. R. Stewart); *Texas L. Rev.*, XVI, 87; "Punitive Damages in Pa. for," *U. of Pittsburgh L. Rev.*, IV, 92 (W. B. Gold, Jr.); By radio, *Washington U. L. Quar.*, XXIII, 262 (J. Kutten); *Georgetown L. Rev.*, XXVI, 475 (E. J. Hickey); *Oreg. L. Rev.*, XVII, 307, 314; *U. of Newark L. Rev.*, III, 182 (A. Teich).

The Institute's draft above mentioned seems to ease the risk of newspapers in this field. Shortly before (April 24) the French *Cour de Cassation* reduced to 5000 francs an award of 20,000 against the late Anatole France, although in the lower court plaintiff had asked 100,000. Defamation in Scotland is treated in *Cambridge L. Jnl.*, VI, 327 (Lord Normand).

Misrepresentation—A Synthesis of the Law, *Minn. L. Rev.*, XXII, 939 (Harper & McNecly).

Negligence. "Last Clear Chance," *Yale L. J.*, XLVII, 704 (F. James, Jr.); *Kan. Cy. L. Rev.*, VI, 235 (in Mo., W. H. Coulson); Comparative, *Wis. L. Rev.*, (1938), 465 (T. P. Whelan); Contributory, *Minn. L. Rev.*, XXII, 410; Of children, *Ida. L. Rev.*, XXIII, 15 (H. J. Hoffman); *W. Va. L. Quar.*, XLIV, 55 (C. L. Carroll); Causal Relation Required for, *Minn. L. Rev.*, XXII, 410; "Wrongful Death and," *N. Car. L. Rev.*, XVI, 211 (R. H. Wettach); Survival of Action in, *Oreg. L. Rev.*, XVII, 218 (D. C. Silven).

LAWRENCE COLLEGE. A coeducational institution in Appleton, Wis., founded in 1847. For the autumn term of 1938, 581 students were enrolled in the college of liberal arts, 77 in the Conservatory of Music, and 56 in the Institute of Paper Chemistry, a graduate school affiliated with the college. There were 57 members on the faculty of the college, 14 on that of the Conservatory, and 47 on that of the Institute. The endowment, exclusive of buildings and equipment, amounted to \$1,519,488; the income from endowments for 1938 was \$57,480. The college library contained 133,652 volumes, and the Institute, 8097 volumes. President, Thomas N. Barrows.

LEAD. Reports from producers in the United States covering 11 months' actual production plus an estimate for December, indicate, according to the U.S. Bureau of Mines, that about 196,100 tons of primary domestic desilverized lead, 114,500 tons of soft lead, and 30,800 tons of desilverized soft lead were produced in 1938—making a total output of about 341,500 tons of refined lead from domestic ores. Corresponding figures in 1937 were 247,876 tons of desilverized lead, 139,949 soft lead, 55,317 desilverized soft lead, making a total of 443,142 tons. The output of lead smelted and refined from foreign ore and bullion was about 44,800 tons as compared with 24,175 in 1937. The total primary lead smelted or refined in the United States in 1938 was thus about 386,200 tons, a decrease of 17 per cent as compared with the 467,317 tons in 1937. Plants that treat primary materials mainly produced 23,000 tons of secondary lead in 1938 compared with 29,986 in 1937. Therefore, the total output of primary and secondary refined lead at primary refineries was 409,200 tons, as compared with 497,303 in 1937.

Antimonial lead produced at primary refineries totaled 23,500 tons, containing 8900 tons of primary domestic lead, 1300 of primary foreign lead, 2400 of primary domestic and foreign antimony, 10,200 of secondary lead, and 700 of secondary antimony.

According to the U.S. Bureau of Foreign and Domestic Commerce, total imports of lead as "pigs,

bars, and old" amounted to 4,379,851 lb. valued at \$104,483 during 1938 compared with 5,407,174 lb. valued at \$204,887 in 1937. Base bullion imported during the same period totaled 607,747 lb. compared with 374,258 lb. during 1937. Imports of lead in ore and matte were 13,030,198 lb. compared with 11,223,944 lb. in 1937. Exports of lead in pigs, bars, sheets, etc., during 1938 amounted to 91,732,717 lb. valued at \$3,354,616. Total exports of pig lead for 1937 were 40,181,083 lb. valued at \$1,838,662, and 1,195,199 lb. valued at \$84,619.

The new supply of lead made available for consumption in 1938 is calculated at about 347,000 tons, a decrease of 23 per cent from the 452,129 tons in 1937. Producers' and consumers' stocks are not taken into account in the calculation of apparent consumption.

World production of lead excluding the United States, according to American Bureau of Metal Statistics, for 1938 was estimated at 1,447,892 tons.

LEAGUE OF NATIONS. From Jan. 26 to Feb. 2, 1938, the Council of the League held its 100th session. The members of the Council took that opportunity of reaffirming their faith in the system of international co-operation for which the League stands.

Resolution on China. After a discussion between certain of its members on the position in the Far East, the Council noted with regret that hostilities continued in China. It found this deterioration in the situation particularly deplorable in view of the efforts and achievements of the National Government of China in her political and economic reconstruction. The Council then recalled and emphasized the terms of the Assembly resolution of Oct. 6, 1937, and expressed its confidence that the members specially concerned would consider what other steps could be taken to secure an equitable settlement of the conflict. By ignoring the question of applying sanctions in its resolution of February 2 on the Sino-Japanese situation, the Council tacitly recognized the suspension of the coercive clauses of the Covenant.

Though regarding the resolution as "inadequate," the Chinese representative, Dr. V. K. Wellington Koo, accepted it in the hope that "the proposed examination will be pursued with energy and promptness." The representatives of Peru and Poland abstained from voting on the resolution on the ground that it "had been prepared by certain members of the Council without keeping the others day by day informed of its progress."

Miscellaneous Developments. On January 27, the Council decided that League control of Hungary's finances should end on March 31. On January 28 it appointed a committee of seven experts "to inquire into the status of women in all countries and to suggest means for equalizing their standing with that of men." In accordance with a resolution of the Assembly of the League, the Council also appointed a special committee to inquire into the functions of the economic and financial organizations of the League with a view to enlarging the bases of international co-operation in the economic and financial domain.

On the occasion of this 100th meeting the Council took occasion to publish an inventory report about itself. The main purpose of this 150-page book is to present in a clear and concise manner a résumé of the Council's organization and activities since its first session in January, 1920—an account of its "composition, competence and procedure." There is, in addition, a series of annexes, giving a chronological table of the Council sessions

and lists of the various states which have been members of the Council from time to time.

In the course of February, a Committee of 28, instructed by the Assembly to study the application of the principles of the Covenant, proceeded to a general discussion on the question of the participation of all states in the League, in connection with a report submitted by Viscount Cranborne, representative of the United Kingdom.

In March the German Government communicated to the Secretary-General the text of a law of Mar. 13, 1938, providing for the return of Austria to Germany and holding of a plebiscite on that issue in Germany and Austria on April 10. The German Government added in its communication that the former Federal State of Austria, upon the promulgation of this law, had ceased to be a member of the League of Nations.

As a result of certain observations made by the Turkish Government, a special Committee, appointed by the Council, revised the regulations drawn up by the Electoral Commission for the first elections to be held in the Sanjak of Alexandretta. It forwarded the final text to the president of the Council for transmission to the French Government and promulgation in the Sanjak. In accordance with the Montreux Convention on the Regime of the Straits, the Turkish Government forwarded to the Secretary-General its first annual report on the movement of battleships and merchant vessels in the Straits.

The Secretary-General of the League sent a mission headed by M. Podesta Costa, Under-Secretary-General, to various countries of South America. The mission visited Uruguay, Argentina, Chile, Bolivia, Peru, Ecuador, Panama, Venezuela, Colombia, Cuba, the Dominican Republic, Haiti, and Mexico.

Activity during April was marked by the meeting of a number of Committees. The Committee entrusted with the task of preparing the European Conference on Rural Life, to be convened in 1939, drew up a detailed agenda for that Conference, bearing on the role of the public authorities, national, regional, and local, in improving the conditions of rural life, and that of the agricultural associations and co-operative societies. The Road Traffic Committee adopted a number of conclusions in connection with the revision of the International Conventions of 1926 and 1931 on motor traffic and various questions, including the safety of pedestrians, protection of traffic, simplification of traveling documents, and unification of accident statistics. A Special Committee for the Study of Signals at Level Crossings prepared a report on the technical and legal aspects of the problem of safety on roads and railways. This report, to which the Committee attached a preliminary draft convention, is intended to facilitate the work of a conference to be summoned for the purpose of concluding an international convention on the subject.

The Executive Committee of the International Committee on Intellectual Co-operation reviewed the work done by the Intellectual Co-operation Organization. It dealt, among other questions, with the Declaration concerning the Teaching of History, the teaching of the principles and facts of international co-operation, standard regulations for international architectural competitions, broadcasting, use of the moving picture in the cause of peace, "conversations" on scientific subjects, intellectual rights, and protection of monuments and works of art during armed conflicts.

On May 14 the Secretary-General reported to

the Council on the progress in organizing the League of Nations' participation in the New York World's Fair. He had asked the Commissioner of the Vatican Pavilion to prepare, as technical adviser, plans for the League Pavilion.

Retreat from Collective Security. The 101st session of the League Council met May 9 to May 14. Its proceedings illustrate the retreat from Geneva that has taken place during the past two years. A handful of the states represented on the Council—China, Soviet Russia, and New Zealand—tried to stem the retreat. The others, led by Britain and France, devoted their energy to the evasion of critical issues rather than to their settlement.

To stop the Japanese invasion of China, a resolution was passed reaffirming approval of aid to China by individual states. To stop intervention in Spain, Lord Halifax expressed the hope for "eventual success" of the British plan of evacuation. To protect Ethiopia, the President of the Council maintained that member states were free to decide on recognizing the Italian conquest.

Many powers, including the United States, bear responsibility for the retreat from League principles to power politics, but the major responsibility rests with certain of the great powers. The latter are swiftly reverting from a policy of protecting their interests through the maintenance of international law and order to a policy of protecting their privileges through sordid bargains at the expense of weak powers. They are taking, as the Foreign Policy Bulletin put it, "the road back—to 1914." There has been a rapid development of this great power bargaining. Great Britain and Italy made a deal at the expense of Ethiopia and Spain. Great Britain and France reached a pact at the expense of Ethiopia, Spain, and perhaps Czecho-Slovakia. Germany and Italy bolstered their axis, undoubtedly at the expense of Czecho-Slovakia and Spain. The new "realism" alters the status of small states. They are regarded not so much as players in the game of international politics, but rather as the stakes of the game. As Chamberlain stated openly on February 22: "We must not try to delude small, weak nations into thinking that they will be protected by the League against aggression."

These "realistic" methods are in keeping with the ends in view. Secret, exclusive diplomacy takes the place of open, inclusive diplomacy. Two reasons may be cited. In the first place, the open forum of the League is an inconvenient place for discussing deals in the presence of the intended victims. In the second place, public debate gives undesirable publicity at home to policies of dubious popularity. The League has not been entirely discarded by the bargaining powers for this very reason. The stamp of League approval is sought as a means of popularizing the bargain policy. It may be that the effort of Halifax and Bonnet at Geneva to secure approval for the recognition of Italy's conquest of Ethiopia was primarily an attempt to placate public opinion at home. Recognition of an accomplished fact is not important by itself, except as it opens the way for loans to make the conquest profitable and thereby encourages aggression elsewhere; but it was certainly adding insult to injury to seek League approval for such recognition in view of the obligations of the League to Ethiopia, both under the Covenant and under the principle of non-recognition, unanimously adopted by the Assembly in March, 1932.

Decision on Ethiopia. On the agenda of the session were 18 items, a number of which were of

special importance politically. One of these, "the consequences arising out of the existing situation in Ethiopia," was placed on the agenda at the request of the British Government in a note dated April 9, which said:

His Majesty's Government in the United Kingdom have had under consideration the anomalous situation arising from the fact that many states members of the League, including no less than five of the states represented on the Council, recognize that the Italian Government exercise sovereignty over Ethiopia or have taken action implying such recognition, whereas other states members of the League have not done so. His Majesty's Government in the United Kingdom are of opinion that this situation should be clarified.

Ethiopia's exiled Emperor, Haile Selassie, joined the Ethiopian delegation at the Council meeting on May 12 and appealed against recognition of Italy's conquest of Ethiopia, asking that the matter be referred to the Assembly. But the judgment of the Council was that "It is for individual members to decide as they choose." Four members of the Council—Bolivia, China, New Zealand, and Soviet Russia—opposed the majority decision.

Refugees, etc. Also, at the request of the British Government, the Council considered the question of aid to political refugees and decided, following Russia's withdrawal of her objections to the inclusion of White Russians among those to be assisted, to establish "a single autonomous office to aid refugees of all nationalities and creeds" under a high commissioner.

Switzerland's request to be relieved of the obligation of enforcing League sanctions against aggressor nations was agreed to by the Council upon receiving "assurances that restoration of absolute neutrality would not interfere with the free working of the League in Swiss territory."

By a vote of 4 against 2, with 8 abstentions, the Council on May 13 rejected a resolution proposed by the Spanish delegate, Julio Alvarez del Vayo, that the Council carry out the Assembly's pledge of Oct. 2, 1937, to "consider ending the non-intervention policy" if "complete withdrawal of non-Spanish combatants" from Spain "cannot be obtained in the near future." The large number of abstentions were due to the fact that only two hours had been given for consideration of the resolution, which did not permit delegates to consult their Governments. According to Señor del Vayo, less than 6000 foreigners were fighting on the side of the Loyalists as compared to 100,000 Italians on the side of the Insurgents.

Concerning China's appeal for aid against Japanese aggression, the Council, with the Polish delegate alone abstaining, adopted a resolution in which the Council "earnestly urges League members to do their utmost to give effect to the recommendations contained in previous Assembly and Council resolutions in this matter to take into serious, sympathetic consideration the requests they may receive from the Chinese Government in conformity with the said resolutions"; expresses "sympathy with China in her heroic struggle for the maintenance of independence on territorial integrity, threatened by Japanese invasion, and in the suffering which is thereby inflicted on her people," and "recalls that the use of toxic gases is a method of war condemned by international law which cannot fail, should resort be had thereto, to meet with the reprobation of the civilized world and requests the governments of states which may be in a position to do so to communicate to the League any information they may obtain on the subject."

Chile's notice of withdrawal from the League of

Nations was announced by her representative at the final meeting on May 14; this action followed the Council's decision to refer the Chilean request for consideration of the subject of reform of the League Covenant to the September Assembly.

Assembly Session. The 19th ordinary session of the Assembly was held September 12 to September 30. Of the 54 States Members of the League, 49 were represented, namely: Afghanistan, South Africa, Albania, Argentina, Australia, Belgium, Bolivia, United Kingdom, Bulgaria, Canada, China, Colombia, Cuba, Czecho-Slovakia, Denmark, Dominican Republic, Ecuador, Egypt, Estonia, Finland, France, Greece, Haiti, Hungary, India, Iran, Iraq, Ireland, Latvia, Liberia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Panama, Peru, Poland, Portugal, Rumania, Siam, Spain, Sweden, Switzerland, Turkey, U.S.S.R., Uruguay, Yugoslavia. The delegates to the Assembly included two Prime Ministers (Ireland and Spain) and 18 Foreign Ministers (Denmark, Egypt, Estonia, Finland, France, Iran, Iraq, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, Poland, Rumania, Spain, Sweden, Turkey, U.S.S.R.). The session was opened by W. J. Jordan (New Zealand) as President of the Council. Eamon de Valera, Prime Minister of Ireland, was elected president of the Assembly. In adjourning the body, he said:

The 19th session of the Assembly of the League of Nations opened under threatening skies. When taking the Chair as President of the Assembly, I referred to the crisis, then becoming more acute every day, and dared express the hope and the prayer that the 19th session might close with immediate dangers past, and a beginning made towards a conference for peace based on justice, which the situation clearly called for and the peace-loving peoples everywhere earnestly desired.

As the session proceeded, events chased one another, and the nations of Europe were, it would appear, brought to the edge of the precipice. Is it, I wonder, a true summary of the history of those recent days to say that, having gazed over the brink, Europe shrank back appalled by the ghastly prospect of what it saw in the abyss? Be that correct or not, one thing at least is certain. The public opinion of the world stood against the making of war on a question which it believed to be capable of peaceful solution. All honor to those who in that conviction strove—as we now know, thank God, successfully—for such a solution.

While these events were taking place and these efforts were being made, we in this Assembly were performing the task which lay immediately to our hands. We can, I think, congratulate ourselves that our task has been successfully accomplished. A number of important decisions have been reached. We have added another successful session to the many previous such sessions of the Assembly, and have brought our measure of effort and achievement to the sum of those acts of State co-operation and collaboration which grows with the passing years.

There is, I think, a danger in times like these that the world at large may forget or overlook the useful and beneficial activities of the organs of the League in many fields. But, at the close of a session like this, in which we here have all been engaged in actual work upon them, I do not need to dwell at any length upon the nature, or the scope, or the value of the many services which the League of Nations renders and can render in increasing measure to all peoples. There is hardly a domain of human life or action in which the League does not take an interest and cannot play an effective part.

New Council Members. In opening the 103d session of the Council, its President, Dr. García Calderón, representative of Peru, addressed, on behalf of the Council, sincere wishes to the negotiators of order in Europe. He paid a tribute to Neville Chamberlain, Prime Minister of the United Kingdom. The President then welcomed the new members of the Council—the Dominican Republic, Greece, and Yugoslavia.

League Finances. The financial position of the League of Nations during the 12 months ending in September, continued, as in the preceding year, to

be satisfactory. This is shown by the fact that the financial year 1937 concluded with a surplus of 4,558,625 gold francs. The satisfactory position was due: (1) To an improvement in the payment of contributions which, taking into account payments of arrears, amounted in 1937 to 103.03 per cent of the total expenditure budget; 94.61 per cent of this figure represents contributions in respect of the current year and 8.42 per cent contributions in respect of previous years. (2) To profits arising from the difference between the expenditure budget, which is shown in Swiss francs, and the income budget which, since the devaluation of Swiss currency, continues to be shown in gold francs. These profits amount to 2,991,071 gold francs. (3) To economies effected by the Administration, amounting to 1,567,554 gold francs.

League of Nations Societies. The 22d Congress of the International Federation of League of Nations Societies was held from July 5 to 10 at Copenhagen. As usual, the Congress was divided into a number of committees for the discussion of questions falling into different categories. The main interest was concentrated upon the juridical and political questions. Here the discussions turned mainly upon the reform of the League Covenant, the smaller nations evincing a tendency to wish to contract out of the obligations entailed by the acceptance of collective security. Very considerable divergence of view was exhibited. A Danish representative put forward a doctrine described as neo-neutrality, the essence of which appeared to be that nations should not be bound by the Covenant to take action against an aggressor, unless certain conditions were satisfied. Among such conditions would be: (1) that intervention to restrain the aggressor would be likely to be effective; (2) that it would not be likely to extend the area of the conflict; (3) that whatever sanctions were involved should be economic and not military.

Those chiefly concerned to put forward this doctrine were obviously influenced by fear of Germany and expressed the view that the geographical situation of a nation must be taken into account when the question of its obligation to take part in sanctions was under discussion.

It was finally decided to circulate to the constituent bodies of the Federation a number of questions relative to the reform of the Covenant. Should it, for example, be weakened or strengthened? Should Article XVI be replaced by an optional Protocol? Should the League of Nations be so framed as to include nations whatever be their attitude to the League? It is hoped to give further consideration to this vexed question in the light of the answers received.

A resolution on Spain was passed pressing for an immediate armistice, denouncing the closing of the Pyrenees frontier without at the same time imposing control upon the ports, and urging that, pending an armistice, the Spanish Government should be allowed to import the necessary arms for its defence.

On China, a resolution was passed requiring members of the League to give financial assistance to China, to provide stores and drugs, and to take economic sanctions against Japan by an embargo upon Japanese products and refusing to supply war materials.

Another resolution pointed out that Czecho-Slovakia appeared to be threatened by economic and military aggression, and reminded League member states that under the Briand-Kellogg Pact they were required to take measures to safeguard



Hide World

YOUNG REFUGEES FIND HAVEN IN ENGLAND

The increasing influx of Central European refugees presented a difficult problem to the democratic countries of Western Europe in 1938. Above are German Jewish children in camp at Harwich, England



Brown Brothers

THE EVIAN CONFERENCE

Lord Winterton of Great Britain addressing the international conference held at Evian, France, July 6-15, 1938, which established the Intergovernmental Committee to aid the emigration of refugees from Germany and Austria

EUROPE.



Brown Brothers
PATRIARCH MIRON CRISTEA
 Premier of Rumania, appointed Feb. 10, 1938



Brown Brothers
PAUL-HENRI SPAAK
 Premier of Belgium, appointed May 15, 1938



Brown Brothers
DR. BÉLA IMRÉDY
 Premier of Hungary, appointed May 13, 1938



Brown Brothers
ANTANAS SMETONA
 President of Lithuania, re-elected Nov. 14, 1938



U. S. World
DR. DOUGLAS HYDE
 President of Ireland, assumed office June 25, 1938



Brown Brothers
GEN. ISMET INONU
 President of Turkey, elected Nov. 11, 1938

the security against aggression of all members of the League.

LEATHER. Continuing a trend that developed late in 1937, operations in the domestic leather and shoe industries were below those of the same period of the previous year. Official data of the U.S. Bureau of Foreign and Domestic Commerce showed some improvement in the third quarter of 1938, while trade sources advised that the better conditions continued during the final three months of the year. Because of the increased activity in the last six months of 1938, the position of the leather and shoe industries was not as unfavorable as was expected when operations for the first half of the year were recorded.

Inventories of leather and visible supplies of raw hides displayed a declining trend throughout 1938 according to the Tanners' Council of America. By the close of the year, total visible supplies of hides and leather reached the lowest level in a number of years. The following table gives estimated 1938 totals of leather production based on actual figures for the first 11 months. Comparison is made with 1937 totals.

LEATHER PRODUCTION (000 OMITTED)

	1938	1937
Cattle hide .....hides	18,900	22,380
Calf and kip .....skins	12,800	12,027
Goat and kid .....do.	31,285	46,554
Sheep and lamb .....do.	28,750	34,232

For 1938 the U.S. Bureau of Foreign and Domestic Commerce reported that exports of leather from the United States were valued at \$12,060,649 and leather manufactures, \$8,651,401; imports of leather were valued at \$7,205,529 and leather manufactures at \$8,282,173.

LEBANON, REPUBLIC OF. See SYRIA AND LEBANON.

LEDERER, GEORGE. An American theatrical manager, died in Jackson Heights, New York City, Oct. 8, 1938. Born in Wilkes-Barre, Pa., in 1861, he first became interested in the theater as a singer in a light opera company with which he went on tour. Subsequently he wrote stories for *The Boys' and Girls' Weekly* and *Frank Leslie's Weekly*; was dramatic critic of *The Morning Journal*; and wrote skits for variety theaters.

His first venture in theatrical management was in connection with Sydney Rosenfeld's play, *Florizel*, in 1878, which he took on tour. Thereafter (1883) he produced several musical plays which did not achieve any great success and shortly after organized, in Europe, the Herrmann Transatlantique Vaudeville Co., which he brought to America and presented at the leading theaters. Mr. Lederer claimed that he was the pioneer in America of high-class variety of "vaudeville" shows.

In 1893, with A. H. Canby, he became lessee of the Casino Theater, New York, and the next 10 years was one of the most brilliant periods in the history of musical comedy in the United States. He opened with *The Princess of Nicotine*, starring Lillian Russell whose manager he had become, and followed that with *Prince Kam*, *About Town*, *The Passing Show*, which made theatrical history in as much as it brought to the American stage for the first time the revue type of entertainment, and *The Little Trooper*. In 1894 they leased the Bijou Theater and produced *Miss Dynamite*.

In the following year they resumed the management of the Casino and produced *The Merry World*; *The Sphinx*; *In Gay New York*; *An American Beauty*; *The Whirl of the Town*; *The*

Belle of New York, Mr. Lederer's greatest success and which he produced in London in 1898; and *The Telephone Girl*. In 1898 as sole lessee of the theater he produced *In Gay Paree*, *The Jolly Musketeer*, *The Singing Girl*, *The Belle of Bohemia*, and *Floradora*. In the following year he became manager of the New York Theater, where he produced *The Man in the Moon*, and in 1903 he had under way two productions, *The Blonde in Black* at the Knickerbocker and *The Jersey Girl* at the Victoria.

Financial losses caused him to give up his theaters and he became manager of a production of *The Southerners* on an extended tour. He attempted a comeback in 1910 with *Madame Sherry*, which proved very successful and ran for four years, following it with *Mama's Baby Boy*, *The Charity Girl*, etc. He was again bankrupt in 1913, but subsequently formed a partnership with H. H. Frazee, producing *Angel Face* (1920), *The Girl in the Spotlight* (1920), and *Peaches* (1923). He became general manager for Sam H. Harris in 1928 and in 1931 produced *The Joy of Living* with G. F. Womrath. In later years he became interested in motion pictures, and in 1935 was heard on the radio in a reminiscent series entitled "Glamor, Gossip, and Greasepaint."

Mr. Lederer was credited with discovering many actors and actresses who later became stars, including Marie Dressler, Edna May, David Warfield, Eva Tanguay, Edna Wallace Hopper, Ina Claire, Jefferson de Angelis, and Cissie Loftus.

LEEWARD ISLANDS, BRITISH. A British West Indian colony consisting of the five presidencies of (1) Antigua, with Barbuda and Redonda; (2) St. Christopher (or St. Kitts), with Nevis and Anguilla; (3) Dominica; (4) Montserrat; (5) British Virgin Islands, with Sombrero. Total area, 726 square miles; population (Jan. 1, 1938), 142,063. The principal towns are St. John (capital), Basseterre, Roseau, Plymouth, Charlestown, and Road Town.

Production and Trade. The chief products are sugar and molasses (Antigua and St. Christopher), cotton (Montserrat, St. Christopher, Nevis, and Virgin Islands), limes and fruits (Dominica), tomatoes and onions (Montserrat), coconuts (Nevis), tobacco and cigars (Virgin Islands), salt (Anguilla and St. Christopher). Sea island cotton produced, 1937-38, was estimated at 1,830,000 lb. The export sugar quota for 1938-39 was set at 51,250 long tons. Tomato exports from Antigua for 1938 were estimated to total 5000 crates (of 20 lb.). In 1937 imports were valued at £746,720; exports, £831,436. Shipping entered and cleared during 1936 totaled 6,575,150 tons.

Government. For 1936 revenue totaled £276,069; expenditure, £281,808; public debt (Dec. 31, 1938), £332,871. A governor administers the central government consisting of a federal executive council, and a general legislative council of 20 members (10 official and 10 unofficial). Each presidency has its own executive and legislative councils except the Virgin Islands which has an executive council only. Governor and Commander-in-Chief, Sir G. J. Lethem (appointed October, 1935).

History. Late in 1938, it was announced that, because of delay in the preparation of the necessary local legislation, the transfer of Dominica to the Windward Islands group would not become effective until Jan. 1, 1940. See JAMAICA under History.

LEEWARD ISLANDS, FRENCH. See OCEANIA, FRENCH ESTABLISHMENTS IN.

LEGISLATION. See AUTOMOBILES; CHILD WELFARE; CRIME; FIRE PROTECTION; LABOR LEGISLATION; LAW; MINIMUM WAGE; REFERENDUM; TAXATION; UNITED STATES; WORKMEN'S COMPENSATION; and the articles on the separate States.

LEHIGH UNIVERSITY. A nonsectarian institution for the higher education of men in Bethlehem, Pa., founded in 1866. The University is divided into a college of arts and science, a college of business administration, a college of engineering, and a graduate school with courses leading to the Ph.D. degree. The enrollment for the autumn of 1938 was 2000. The enrollment for the summer session of 1938 was 660. The faculty numbered 205, including 15 persons on the administrative staff. The endowment amounted to \$6,084,123 and the total income for the year was \$1,655,633. There were 236,000 volumes in the library. During the past year a new wing was added to the Chemistry building and a new dormitory named the Charles Russ Richards House, housing 138 students was constructed. President Clement Clarence Williams, B.S., B.S. in C.E., C.E., LL.D., Eng. D.

LEHMANN-HAUPT, CARL FRIEDRICH. A German archaeologist and historian, died at Innsbruck, July 24, 1938. Born in Hamburg, Mar. 11, 1861, he was educated at the universities of Heidelberg, Leipzig, Göttingen (1883), Berlin (Ph.D., 1886), and Johns Hopkins. Appointed assistant at the Egyptian Institute of the Royal Museum, Berlin, in 1887, he did research work in England in 1882, 1886, and in 1890. He lectured on ancient history at the University of Berlin in 1893, made a research trip through Armenia during 1898-99; and was associate professor at Berlin, 1901-11. He then became Professor of Greek at the University of Liverpool, and at the beginning of the World War served as Director of the Prison Camp at Zossen. From 1915 to 1918 he was professor of ancient history at the University of Constantinople when he was appointed to that chair at the University of Innsbruck. He resigned in 1932.

In his special field of Armenian and Babylonian history and archaeology he wrote: *Das alt-babylonische Mass- und Gewichtssystem* (1893); *Zwei Hauptprobleme der altorientalischen Chronologie* (1898); *Materialien zur alten Geschichte Armeniens und Mesopotamiens* (1907); *Die historische Semiramis und ihre Zeit* (1910); *Israel, seine Geschichte im Rahmen der Weltgeschichte* (1911); *Solon, the Poet, the Merchant and the Statesman* (1912); *Geschichte des Altertums Orients* (1925); *Armenien einst und jetzt* (1926), and a work on *Corpus Inscriptionum Chaldaicarum* (1928; 1935).

LENGLEN, län-län', SUZANNE. A French tennis player, died at Paris, July 4, 1938. Born at Compiègne, France, May 24, 1899, she was educated at the Institut Massena in Nice. In 1913 she started on her road to tennis stardom by winning the singles championship of Picardy. In the next year she captured the world's hard-court singles and doubles titles at Paris.

Her rise was checked by the World War, but after the Armistice she soon regained her place in international tennis, by winning the tennis championships of France and England in 1919. In 1920 she won all the gold medals at the Antwerp Olympic Games. She captured the singles, doubles, and mixed doubles titles in France and England from 1919 to 1923 and again in 1925-26. Until she retired from amateur ranks in 1926 she had won every game in which she played but one. In 1924 illness kept her from competing.

One of the finest women tennis players in the

world, Mlle. Lenglen was never matched for the mechanical perfection of her game. She had a flawless ground stroke coupled with sound strategic technique, a fiery aggressiveness, and a flashing speed unparalleled by any other woman player.

A genius of the courts, she also had the temperament usually associated with that word. In 1920 when she was trailing the American champion, Mrs. Molla Mallory, at the end of the first set of their second-round match in her only bid for the American title, she walked off the court, claiming to be too ill to play. In 1926 she refused to play at a scheduled match at Wimbledon because of illness, and this caused such a furore that the French Government apologized to Queen Mary, who had been present, for her conduct.

In 1926 Mlle. Lenglen met Helen Wills, American tennis champion, in a long-heralded match at Cannes. The Frenchwoman was the victor 6-3, 8-6, and after this match she announced her retirement from amateur tennis. Under the auspices of Charles C. Pyle she toured the United States during 1926, giving exhibitions in the major cities of the country. After her return to France in 1927 she retired from competitive tennis. In 1936 she opened the Tennis School in Paris.

Mlle. Lenglen made several motion-picture tennis shorts, and was author of *Lawn Tennis, the Game of Nations* (1925); *Tennis by Simple Exercises*, with Margaret Morris (1937), and a novel, *The Love Game* (1926).

LEWISOHN, ADOLPH. An American financier and philanthropist, died at Upper Saranac Lake, N. Y., Aug. 17, 1938. Born in Hamburg, Germany, May 27, 1849, he was educated in that city and at the age of 15 entered his father's business. He came to the United States on Aug. 1, 1867, to join his brother, Leonard, in the metals business. They then formed the firm of Lewisoohn Brothers which engaged in general importing, and later dealt in metals, particularly in copper, lead, gold, and platinum. Pioneers in the Montana copper fields, they eventually developed smelters which became the foundation of their fortune. After the death of his brother, Adolph became the head of the business and subsequently the name of the firm was changed to Adolph Lewisoohn & Sons.

Honored as the first citizen of New York, Mr. Lewisoohn was active in its philanthropic and cultural life. To Jewish charities he was more than generous, devoting his time and energy and giving financial support to many undertakings, among which may be mentioned the Federation for the Support of Jewish Philanthropic Societies, Mount Sinai Pathological Laboratory and Mt. Sinai Hospital, and the Hebrew Sheltering Guardian Society. In 1914 he presented to the College of the City of New York, a rare library of 1500 German books and an athletic stadium, named in his honor, Lewisoohn Stadium. In 1917 he conceived the idea of park concerts throughout the summers. The first one was held on June 23, 1918, at the Stadium; though to continue the concerts, Mr. Lewisoohn was obliged to underwrite them each year. To the Brooklyn Museum he gave a collection of modern art known as the Adolph Lewisoohn Gift Collection. Other of his gifts were made to Dartmouth College, Yale University, Johns Hopkins University, and Columbia University School of Mines.

In 1912, Mr. Lewisoohn was appointed a member of a Commission on Industrial Relations by President Taft. He was interested in the improvement of prison conditions and was the president of the National Committee on Prisons and Prison Labor.

Also, he was one of the leaders of the National Thrift Week movement and of the Public Safety Traffic League.

LIBERIA. A Negro republic on the west coast of Africa between Sierra Leone and the French Ivory Coast. Area, about 43,000 square miles; population, estimated at from 1,000,000 to 2,500,000. Of the total population about 60,000 residing on the coast, including some 15,000 Afro-Americans, may be considered civilized. Capital, Monrovia (population about 10,000). There were about 7000 pupils attending 121 mission and 51 government schools in 1932. A Methodist and a government college are maintained at Monrovia and a Methodist agricultural and industrial institute at Kakata. English is the official language.

Production. The exploitation of the country's rich forest, agricultural, and mineral resources has barely begun. The Firestone Company has a 1,000,000-acre rubber concession which employed nearly 6000 persons in 1937. Native coffee, cacao, cotton, piassava fiber, palm oil, palm kernels, kola nuts, rice, and oil seeds are produced in small quantities. Mineral resources remain largely unsurveyed, but iron deposits are worked by natives and further iron and copper deposits were reported discovered in 1937.

Foreign Trade. Imports in 1937 were valued at 1,958,268 Liberian dollars (pegged at \$4.80 to the pound sterling) against \$1,673,776 in 1936; exports were \$1,991,161 (\$1,312,365 in 1936). The United States maintained first place in Liberian trade in 1937, followed by Germany, United Kingdom, the Netherlands, and Japan. Imports in 1937 included textile fibers and manufactures, \$402,767; metals and their manufactures, \$316,527; machinery and vehicles, \$224,511; rice, \$192,264. The chief exports were: Crude rubber, \$1,032,309; palm kernels, \$346,004; coffee, \$148,698; piassava, \$181,994; crude gold, \$65,063.

Finance. Budget receipts increased from \$782,746 in 1936 to \$1,006,036 in 1937. Estimated ordinary expenditure for 1937 was \$567,490. The external public debt on Dec. 31, 1936, was \$1,846,000 and the internal floating debt on Aug. 31, 1937, was \$384,916. Interest payments on outstanding bonds were suspended in 1932 but resumed on July 1, 1936. On Aug. 31, 1938, the total debt was \$1,943,794 (external, \$1,632,000). The 1939 budget estimated expenditures at \$993,000 and ordinary revenues at \$900,000.

Communications. There are no railways and only about 150 miles of roads suitable for light motor traffic. The number of automobiles in the country in 1937 was only 125. The rivers and, in the interior, porters offer the chief means of transportation. Monrovia was connected with Dakar, Senegal, and Pointe-Noire, French Equatorial Africa, by a weekly air service opened in 1937.

Government. The Constitution, modeled on that of the United States, vests executive power in a president, assisted by a cabinet of 8 members, and legislative power in an assembly of 2 houses—a Senate of 10 members and a House of Representatives of 21. Suffrage is restricted to Negroes owning land. The True Whig Party, dominated by a small oligarchy of Afro-American families at Monrovia, has controlled all branches of the government since 1878. President in 1938, Edwin Barclay, who was inaugurated for a second term (for eight years) Jan. 6, 1936. An opposition party called the Unit True Whig Party was organized in 1935 under the leadership of former President Charles King.

History. A treaty of friendship, commerce, and navigation between the United States and Liberia was signed at Monrovia Aug. 8, 1838, replacing the treaty of commerce and navigation in effect since Feb. 17, 1863. The new treaty provided for entry, travel, and residence of nationals of each country in the territories of the other; most-favored-nation treatment in customs matters; regulation of Liberian trade quotas and exchange control; and regulation of shipping.

The United States Minister to Liberia, Lester A. Walton, who returned to America on leave of absence early in 1938, reported in April to a group of American societies interested in Liberia that marked progress had been made by the Barclay Government to remedy the abuses and chaotic conditions that led to the withdrawal of recognition by the United States and Great Britain in 1930 and the intervention of the League of Nations. The United States resumed diplomatic relations in 1935 and Great Britain in 1936 after the Liberian Government agreed to carry out reforms and employed seven foreign experts, including five Americans, to assist in this work. The site of a new United States legation at Monrovia was dedicated October 31—the 75th anniversary of the initiation of American-Liberian treaty relations.

LIBRARY ASSOCIATION, AMERICAN. The official organization of librarians in the United States and Canada, founded for the purpose of promoting library service and librarianship. In 1876 its membership was 103; in 1938 it was more than 15,000. The activities of the association are carried on by its officers; by more than 70 committees and boards, comprising hundreds of voluntary workers, engaged in studying such problems as the extension of library service, library administration, special libraries such as those in hospitals, work with the blind and with the foreign born; and by the members of the headquarters staff, who numbered 70 in 1938.

The Association issues various books and pamphlets for libraries and in the interest of library progress and education generally. Among the 1938 publications were: *The Geography of Reading*, by Louis R. Wilson (published jointly with the University of Chicago Press) which represents years of study regarding the distribution of cultural resources; *Official Map Publications*, by Walter Thiele, an historical sketch and bibliographical handbook of current maps and mapping services of the United States and the more important Latin American and European countries; *Resources of Southern Libraries*, by Robert B. Downs, a survey of facilities for research in the libraries of 13 southern states; *Activity Book for School Libraries*, by Lucile F. Fargo, suggestions and devices for integrating the library with school activities; four indexes: *Subject Index to Readers*, by Eloise Rue, for the primary grades; *Vocations in Fiction*, by Mary R. Lingenfelter; *Vocations in Short Stories*, by Vera E. Morgan; and *Subject Index to High School Fiction*, by Jeanne Van Nostrand; *Experimenting Together—The Librarian and the Teacher of English*, by Frieda M. Heller and Lou L. LaBrant, a case study of integration in a progressive school; *Small Public Library Buildings*, by John Adams Lowe, principles, pictures, floor plans, and critical comment on recent structures; and *A.L.A. Catalog 1932-36*, by Marion Horton (ed.), a second five-year supplement to the association's standard buying guide.

The Association issues four periodicals: *Bulletin of the American Library Association*, a monthly

which includes the annual reports, the conference proceedings, and the yearly handbook; the *Book-list*, published semi-monthly as a guide to the selection and purchase of current books; the *Subscription Books Bulletin*, a quarterly which presents critical estimates of subscription books and sets sold currently by canvassing agents, and the new quarterly, *Journal of Documentary Reproduction*, a review of the application of photography and allied techniques to library, museum, and archival service.

At the 60th annual conference, held in Kansas City, Mo., June 13-18, 1938, with more than 2000 librarians present from not only the United States and Canada but Australia, Italy, Yugoslavia, Mexico, and South Africa, the Association presented three new awards for the first time.

Miss Mary U. Rothrock, supervisor of library service of the Tennessee Valley Authority, was presented with the Joseph W. Lippincott award for "the most outstanding contribution to librarianship" in 1935-36. Carleton B. Joeckel, professor, Graduate Library School, University of Chicago, received the James Terry White medal, given for "notable published professional writing" for his *Government of the American Public Library*.

The first Caldecott medal, awarded for the most distinguished American picture book for children published during the preceding year, was presented by the Section for Library Work with Children and the School Libraries Section of the Association to Dorothy P. Lathrop, for her illustrations of *Animals of the Bible*. The section also presented the sixteenth Newbery medal, which is awarded for the most distinguished contribution to children's literature published during the preceding year, to Kate Seredy, for *The White Stag*. Frederic G. Melcher, editor, *Publishers' Weekly*, is the donor of these two medals. Randolph Caldecott, for whom the medal is named, was a pioneer in book illustration for little children.

Proposed reorganization of the Association and a professional classification of its members were discussed at the Kansas City conference. A Rockefeller Foundation grant of \$5000 for preliminary work on a new *Union List of Serials* was announced and by unanimous consent, the Association conferred honorary membership on Ross Collins, representative in Congress from Mississippi, for his many services to libraries.

Officers elected for 1938-39 were: President, Milton J. Ferguson, chief librarian, Brooklyn Public Library; President-elect and first vice-president, Ralph Munn, Carnegie Library, Pittsburgh, Pennsylvania; second vice-president, Sarah B. Askew, State Public Library Commission, Trenton, New Jersey; treasurer, Matthew S. Dudgeon, Public Library, Milwaukee, Wisconsin.

During the midwinter meeting of the Association, held in Chicago, Dec. 27 to 30, 1937, and attended by approximately 700 librarians, the Executive Board acknowledged grants of \$4850 from the Carnegie Corporation of New York toward a supplement to the *List of Books for College Libraries*, \$2500 toward the Sarah C. N. Bogle Memorial Fund (to aid librarians to study abroad), and \$9000 for library fellowships in the United States and Canada. A vote of thanks was also given to the General Education Board for extending the time of the appropriation for co-operative cataloguing for two years, or until the end of December, 1939.

Solicitation of books for Chinese libraries was carried on by the A.L.A. during the fall and winter

of 1938 at the request of Dr. T. L. Yuan, chairman of the Executive Board of the Library Association of China, in Hong Kong. The volumes were forwarded by the International Exchange Service of the Smithsonian Institution in Washington to Dr. Yuan, who had agreed in advance to distribute them to those colleges and universities whose libraries had been destroyed by the Japanese invasions. The Grand Prix and a silver medal for library participation in the 1937 Paris Exposition were awarded the A.L.A., which is also co-operating in several other projects with libraries abroad.

LIBRARY ASSOCIATION. THE. An organization of libraries and librarians throughout the British commonwealth of nations, founded in 1877 and incorporated by Royal charter in 1898. Its primary objects are: To unite all persons engaged or interested in library work by holding conferences and meetings for the discussion of bibliographical questions and matters affecting libraries; to promote the better administration of libraries; to promote whatever may tend to the improvement of the position and qualifications of librarians; and to hold examinations in librarianship, and to issue certificates of efficiency. It maintains a professional register of more than 1100 qualified persons, classified as Fellows (F.L.A.) and Associates (A.L.A.); candidates for senior positions in libraries are selected from among those who have been elected to Fellowship or Associateship. The School of Librarianship at the University of London is conducted under the joint auspices of the University and of the Association. Among the Association's publications are: *The Library Association Record*; *The Library Assistant*; *The Library Association Year Book*; *The Year's Work in Librarianship*; and *The Subject Index to Periodicals*. The President elected for 1939 was Mr. Arundell Esdaile, M.A., F.L.A., Secretary of the British Museum. The Secretary is P. S. J. Welsford, F.C.L.S. Headquarters are at Chaucer House, Malet Place, London, W.C. 1.

LIBRARY PROGRESS. Several significant events have taken place during 1938 in the progress of libraries. The Library Service Division in the U.S. Office of Education, advocated by the American Library Association for several years (see 1936 and 1937 YEAR BOOK articles on *Library Progress*), began operations on Jan. 2, 1938, with Ralph M. Dunbar as chief and Edith Gantt and Nora Beust, specialists in public and school library fields, respectively. It is expected by the A.L.A. that over a period of years many aspects of library service will be greatly advanced by the existence and work of this new governmental agency. In February the report of President Roosevelt's Advisory Committee on Education was released, including, among other recommendations, Federal grants to the states for rural library service, beginning with \$2,000,000 in 1939-40 and increasing during a six-year experimental period to \$6,000,000. In April the Harrison-Thomas-Fletcher bill, embodying these recommendations, was introduced before Congress. Because its introduction was so late in the session, it was not voted upon by the last Congress but there is promise of early consideration at the 1939 session.

Several officers of the Federal government participated in a conference on rural library development called by the A.L.A. Library Extension Board in Washington last February. A corresponding regional conference was held in Kansas City immediately before the A.L.A. conference and was

attended by some 50 rural leaders representing a wide variety of interests and viewpoints.

Increased distribution of public documents to libraries was accomplished through the passage of congressional legislation recommended by the A.L.A. Public Documents Committee. Congress also passed a bill authorizing the retirement of Dr. Herbert Putnam, librarian of Congress since 1899, with the title of librarian emeritus in honor of his distinguished service.

The appointment of a national library consultant, Edward A. Chapman, on the staff of the Works Progress Administration in Washington, has facilitated WPA activities in and for libraries during the year. These have covered projects ranging from rural library service, bibliographical work, and bookbinding to the repair and construction of library buildings.

Latest complete circulation figures and statistics on the use of public libraries in the United States appeared in the 1935 YEAR BOOK, under LIBRARY PROGRESS. During the past year a decrease in the borrowing of books for home use was noticed even though the general rise in appropriations and expenditures has continued. The decrease in book circulation, mainly in fiction, does not indicate a drop in the use of libraries, since many report an increasing demand for information in special fields and increased use of reference rooms. The most recent library statistics available were published in the *Bulletin of the American Library Association* in February and April, 1938.

In Canada briefs were presented this year on library matters to the Royal Commission on Dominion-Provincial relations by the library associations of both British Columbia and Ontario. A library survey of the Province of Nova Scotia was published in January, followed by the establishment of the Nova Scotia Library Commission in the fall.

State Aid. In June, 1938, Louisiana was added to the list of states receiving state aid, by the appropriation of \$200,000 for grants for regional libraries and for enlarged activities of the state library commission. State aid campaigns are being planned in more than a dozen states for 1939. Due to increased state appropriations in five states, Louisiana, Georgia, Tennessee, Virginia, and North Carolina, school libraries have advanced considerably. The establishment during the year of approximately 50 new county libraries shows an increasing realization of the need for rural book service. State aid and WPA projects have been among the factors contributing to this increase. Out of 3100 counties in the United States, about 325 have county-wide library service. About 1000 counties are without public libraries.

Adult Education. Interest in giving more and better informal adult education service in public libraries showed an increase during the year, especially on the part of the smaller libraries. In some of the larger city library systems, readers' advisory service is now being offered through branch libraries. Special attention has also been focused during the year on remedial reading for adults having some form of reading difficulty, and on the public library's place in the preservation and distribution of the educational motion picture. Six state library associations, New Jersey, New York, North Carolina, Ohio, Pennsylvania, and Texas now have adult education committees to promote development of adult education service through local libraries.

Among studies and surveys being sponsored by

the A.L.A. Adult Education Board is one on *The Library as a Community Intelligence Center*, by John Chancellor, which will cover the library's self-education facilities, such as films, phonograph records, forums and educational groups, as well as the use of print. Also in preparation are *Types of Library Adult Education Service*, by John Chancellor, and *A Plan of Reading in Psychology*, by Marion E. Hawes. *Helping the Reader Toward Self-Education*, by John Chancellor, Miriam D. Tompkins, and Hazel I. Medway; *Books for Self-Development*, by Sigrid A. Edge, and *The Library and the Radio*, by Faith Holmes Hyers, were published this year.

Library Training and Personnel. During the year, co-operation with library schools and other training agencies, state surveys of library personnel and training agencies, and projects in the field of education for librarianship received special emphasis on the part of the A.L.A. Board of Education for Librarianship. Efforts to secure the wider adoption of certification of librarians, to aid in recruiting superior young people to the library profession, and to obtain more sources of scholarships and fellowships were continued. The board is attempting to discourage the unwise multiplication of library training agencies, believing that conditions point to the need for an increasingly high quality of professional education through the strengthening of the best of existing agencies and the limitation of students to those persons possessing superior qualifications for service as librarians.

The third annual 10-day summer institute given by the Graduate Library School, University of Chicago, was devoted in 1938 to the subject of *Current Issues in Library Administration*. For the first time, Columbia School of Library Service and the University of Buffalo offered courses in music library work and a pre-librarianship curriculum was inaugurated at the University of Wyoming and Simmons College. A library intern was appointed for the first time in the Tennessee Valley Authority.

Preparation of classification and pay plans for municipal public libraries, that will serve as the foundation upon which all other personnel work will develop, was the first project of the newly created A.L.A. Board on Salaries, Staff, and Tenure. This board has also given considerable time to the study of civil service, tenure of position, and exchanges.

Gifts, Grants, and Buildings. Many gifts of both money and books have been made to American libraries during the year. One of the largest was a grant of \$1,000,000 to the Joint University Libraries, Nashville, by the General Education Board, for a library building or endowment on condition that a similar amount be secured by Dec. 31, 1938. Mrs. Annie and Henry Pfeiffer of New York City will present MacMurry College, Jacksonville, Ill., with a new library building, providing that an endowment of \$100,000 is raised. The Rockefeller Foundation and an anonymous donor have each given \$100,000 to the University of Oregon for an addition to the Medical School Building in Portland. A new half-million-dollar memorial library is the gift of the late Mr. and Mrs. Lenox S. Rose to Drew University, Madison, N. J. Friedsam Library of St. Bonaventure College, St. Bonaventure, N. Y., was the recipient of a \$125,000 building from the late Colonel Michael Friedsam and Bryn Mawr College Library received \$100,000 for an addition from Dr. and Mrs. George Woodward of Chestnut Hill, in memory of their daughter, Quita

Woodward. A \$100,000 addition has also been started for the James V. Brown Library, Williamsport, Pa.

A photographic laboratory was made possible for the Library of Congress by a grant from the Rockefeller Foundation and at Sullivan Memorial Library, Temple University, Philadelphia, a new microphotography department was established with a gift from the Samuel I. Vogelsson Foundation. A supplementary grant of \$1500, from the Rockefeller Foundation, to that made for the A.L.A. microphotography demonstration at the Paris Exposition made possible a gift of equipment to co-operating agencies in England and France. The Foundation has also made a grant to the International Bureau of Education in Geneva, for a study of children's books in Latin America, and has continued its aid to the committee which issues the *Handbook of Latin-American Studies*.

The General Education Board made an additional grant of \$4600 to Fisk University, Atlanta University, Hampton Institute, and Prairie View State College for continuation, in the summer sessions of 1938 and 1939, of the program of instruction for Negro teacher-librarians begun in 1936. It also appropriated \$100,000 toward a permanent endowment of the Peabody Library School.

Among the grants made by the Carnegie Corporation were: \$150,000 for endowment of the Melvil Dewey Professorship of Library Service and \$100,000 for general purposes to Columbia School of Library Service; \$50,000 for support of research projects to the University of Chicago Graduate Library School; \$9000 for grants-in-aid awarded by the A.L.A. Committee on Fellowships and Scholarships to five applicants from the United States and two from Canada for investigation and research in graduate library schools; visitors' grants to seven librarians from Australia, England, Italy, Puerto Rico, and the United States; and \$25,000 to the A.L.A. for the purchase of books over a period of five years for the American Library in Paris.

Public Works Administration grants for buildings include those to the Virginia State Library, which it is estimated will cost about \$1,000,000; Oregon State Library, to cost about \$700,000; the University of Colorado Library, to cost about \$500,000, and Eastern Washington State College of Education, to cost about \$275,000. Late in 1937 the new University of Oregon Library, which cost about \$500,000, was completed with the aid of a PWA grant.

The new Illinois State Archives Building, which when fully equipped will cost over a million dollars, was occupied this year by the Archives Division of the Illinois State Library. This is one of three such buildings in the United States, the other two being the new National Archives Building in Washington, D. C., completed in 1937 at a cost of more than \$12,000,000, and the Maryland Hall of Records at Annapolis.

Citizens of St. Louis, Mo., headed by Dr. Meyer Wiener, raised \$35,000 for a library and furnishings for the use of the blind. This building, presented as a branch to the St. Louis Public Library, is understood to be the only separate library in the world for use by the blind.

Publications. Some other publications in addition to those mentioned under *Library Association, American*, were: Buswell, Guy T., *How Adults Read* (University of Chicago, 1937); Harrod, L. Montague, *Librarian's Glossary* (London, Grafton, 1938); Haygood, William C., *Who Uses the Pub-*

lic Library (University of Chicago, 1938); Hill, Ruth A., and DeBondeli, Elsa, comp. *Children's Books from Foreign Languages* (Wilson, 1937); Humble, Marion, *Rural America Reads: A Study of Rural Library Service* (American Association for Adult Education, 1938); Hyers, Faith Holmes, *The Library and the Radio* (University of Chicago, 1938); Ingles, May, and McCague, Anna, *Teaching the Use of Books and Libraries* (Wilson, rev. ed., 1937); *An Invitation to Read: The Use of the Book in Child Guidance*, a list of titles recommended by the Mayor's (F. H. LaGuardia) committee for the selection of suitable books for children in the courts; Jenkinson, Hilary, *Manual of Archive Administration* (London, Percy Lund, Humphries, 1937); Johnson, Alvin, *The Public Library—A People's University* (American Association for Adult Education, 1938); Kelley, Grace O., *The Classification of Books* (Wilson, 1937); Loizeaux, Marie D., *Publicity Primer: An ABC of "Telling All" about the Public Library* (Wilson, 1937); Lyon, Margaret C., *The Selection of Books for Adult Study Groups* (Columbia University, 1938); McCrum, Blanche P., *An Estimate of Standards for a College Library* (Washington and Lee University, 2d ed. rev., 1937); McPherson, Oscar H., *Study of Libraries in Schools of the Secondary Education Board* (Secondary Education Board, Milton, Mass.); Reece, Ernest J., and others, *School of Library Economy of Columbia College, 1887-1889; Documents for a History* (Columbia University, 1937); *Reorganization of a Large Public Library: Ten Year Report of the Enoch Pratt Free Library, 1926-35* (Baltimore, Enoch Pratt Free Library, 1937); Roupell, M. G., comp., *Union Catalogue of the Periodical Publications in the University Libraries of the British Isles* (London, National Central Library, 1937); Sayers, W. C. Berwick, *Brown's Manual of Library Economy* (London, Grafton, 1937); Shaw, Marian, ed. *Library Literature, 1937* (Wilson, 1938); Siefkes, Ruth L., Holtze, Belle, and Morse, C. K., *A Course in Methods for the Small Library* (University of Nebraska, 1937); Waples, Douglas, *People and Print: Social Aspects of Reading in the Depression* (University of Chicago, 1937); Wilson, Louis R., ed. *The Role of the Library in Adult Education* (University of Chicago, 1937).

LIBYA, lib'i-a. An Italian colony (Cyrenaica and Tripolitania) in North Africa. Area, 677,044 square miles; population (1936 census), 839,524, including 66,525 Europeans and 772,999 natives. The chief towns are on the coast, they are Tripoli (the capital), 98,861 inhabitants; Bengasi (Benghazi), 48,510; Misurata, 15,000; and Homs (Khoms), 31,000. In the interior there are important caravan halting places at Ghadames, Sinauen, Mizda, Murzuq (Murzuk), and Ghat.

Production and Trade. The chief agricultural products are barley, dates, olives, oranges, lemons, almonds, and vegetables. Other important products are salt, sponges, fish, and tobacco. Livestock in the colony (1936): 650,000 sheep, 380,000 goats, 55,000 cattle, 50,000 camels, and 42,000 donkeys, mules, and horses. In 1936 imports were valued at 622,976,000 lire; exports, 107,800,000 lire (lira averaged \$0.0729 for 1936; \$0.0526 for 1937).

Communications. In 1938 there were 147 miles of railway line, and over 8342 miles of highways including the new highway along the entire coast of Libya. There are many important caravan routes through the interior. Air communications include a daily service, Tripoli-Rome; a thrice-weekly service, Bengasi-Sirte-Tripoli; and a weekly service,

Bengasi-Cyrene (Cirene)-Derna (Derne)-Tobruk. During 1936, 3170 ships entered the ports of Lybia, landing 672,546 tons of freight and 124,471 passengers; 3161 ships left the ports with 179,360 tons of freight and 148,775 passengers.

Government. The budget for 1937-38 was balanced at 439,132,613 lire (for 1938-39, 462,345,471 lire). On Jan. 1, 1934, the colony was divided, for administrative and military purposes, into the four provinces of Tripoli, Misurata, Bengasi, and Derna; and into a military territory in the interior to the south with Hun as the capital, having jurisdiction over the southern areas of all the four provinces. At the end of October of 1938, the Fascist Grand Council, meeting in Rome, decreed the inclusion of the four provinces of Libya in the national territory of Italy. Governor-General, Air Marshal Italo Balbo (appointed, November, 1933). See ITALY under *History*.

LIECHTENSTEIN, lîk'ten-shtin. An independent principality between Switzerland and Austria. Area, 65 square miles; population (1936 estimate), 12,000. Vaduz (capital) had 1715 inhabitants in 1930. Corn, wine, fruit, wood, and marble are the chief products of the country. The main industries are cotton spinning and weaving, leather goods, pottery, and cattle rearing. The Swiss currency has been in use since February, 1921, and since January, 1924, Liechtenstein has been included in the Swiss Customs Union. Switzerland administers the posts and telegraphs, and has charge of the foreign interests of Liechtenstein.

In 1938 revenue was estimated at 2,187,800 francs; expenditure, 1,880,923 francs. The public debt on Dec. 31, 1936, amounted to 3,901,063 francs (Swiss franc averaged \$0.3019 for 1936). The constitution of Oct. 5, 1921, made the monarchy hereditary in the male line. It provided for a Diet of 15 members elected for four years by general and secret ballot. Regent, Francis Joseph (appointed Mar. 31, 1938); Administrator, Dr. Joseph Hoop (appointed Aug. 4, 1928).

On Mar. 31, 1938, the 84-year-old Prince Francis I (died July 25, 1938) abdicated in favor of his nephew, Prince Francis Joseph, whom he appointed regent. The growing strength of the Nazi movement as well as the Nazi agitation over the marriage of Francis I to Baroness Elsa Gutmann, who is of Jewish extraction, on July 22, 1929, were given as additional reasons for his abdication, aside from the fact that he felt too old to carry on his responsibilities. Prince Francis Joseph named several Nazis to cabinet portfolios, although he pledged the continued independence of Liechtenstein. It was feared that the Hitler Government would seek to annex it to Germany.

LIE DETECTOR. See MEDICAL JURISPRUDENCE; LAW.

LIFE INSURANCE. See INSURANCE.

LIGHTHOUSES. Further demands upon the activities of the Lighthouse Service, Department of Commerce, were made in the past year, including not only the maintenance of aids to navigation, but also keeping in service modern lighthouse tenders to serve off-shore lighthouses and lightships, and to constantly check the positions of buoys and signals in channels.

The total number of aids to navigation maintained by the Lighthouse Service at the close of the fiscal year June 30, 1938, was 28,758, a net increase of 652 over the previous year. Of the additional aids established, 405 were lighted aids, 54 were sound signals, and 232 were unlighted buoys and daymarks. Radiobeacon equipment was installed at

11 additional light stations. Of the new stations, 3 were on the Atlantic coast, 6 on the Great Lakes, and 2 on the Pacific coast. The grand total of all United States radiobeacons is now 133, which is approximately 30 per cent of the marine radiobeacons of the entire world. Radiobeacon signals were synchronized with sound-in-air fog signals, for distance-finding purposes, at 7 additional stations, there now being 91 stations having such synchronized signals. The first low-power, unattended "secondary" radio aid to navigation was established at St. Ignace, Mich., June 18, 1938. This radio aid, termed a "marker radiobeacon," operates continuously, without attendance, having automatic duplicate equipment.

The broadcasting of marine information by means of radiophones has been considerably extended during the year, following the experimental broadcasts made at Sault Ste. Marie, on the Great Lakes, in 1937. There are now five additional radiophone broadcasting stations on the Great Lakes, and such broadcasts are also made from Key West, Fla., and New Orleans, La. In addition to matter concerning navigational aids maintained by the Service, these broadcasts include information furnished through the co-operation of the U.S. Weather Bureau and the Hydrographic Office of the Navy Department. A further dissemination of information has been secured through the co-operation of the U.S. Coast Guard, several of the stations of which rebroadcast the material prepared by the Lighthouse Service.

Lightships were maintained on 30 stations during the year, and at the close of this period the fleet consisted of 42 ships. In addition to the regular station ships, 9 were held as relief ships and 3 in reserve. There were 58 lighthouse tenders in commission; contracts were awarded for the construction of three additional tenders.

Appropriations for the maintenance of the Lighthouse Service totaled \$11,376,000 for the fiscal year 1938. There was allotted, June 29, 1938, by the Public Works Administration, \$2,098,750, and subsequently an additional \$1,680,000 for the construction and reconditioning of lighthouse tenders and lightships.

LIGHTING. See ELECTRICAL ILLUMINATION.

LIGHTNING. See ELECTRICAL TRANSMISSION AND DISTRIBUTION.

LIMA CONFERENCE. See PAN AMERICAN CONFERENCE.

LIME. Shipments of lime in 1938 in the United States, according to preliminary figures furnished the U.S. Bureau of Mines by producers, decreased approximately 17 per cent, compared with 1937. Following the general trend of most industries in 1938, the demand for lime was poor during the first 8 or 9 months of the year. Increased activity in the chemical, metallurgical, and building industries in the latter part of the year created a more active demand for lime, but the increase in sales during this period was insufficient to make the total for 1938 equal to that of 1937. Sales for 1938 amounted to 3,424,000 short tons valued at \$24,153,000.

Lime sold during the past year for construction, estimated at 887,000 tons valued at \$7,385,000, decreased about 7 per cent in quantity and 10 per cent in value. The decline in sales for building purposes was less than for other major uses. Sales for agricultural purposes amounted to 356,000 tons valued at \$2,397,000, a decrease of 12 per cent in quantity and 13 per cent in value. So-called "chemical" lime (exclusive of dead-burned dolomite)—

used in the chemical, metallurgical, and other process industries—amounted to 1,824,000 tons valued at \$11,390,000. This represents a decrease of 15 per cent in quantity and 18 per cent in value for 1937. Over one-half of all the lime sold was included in this classification. Shipments of dead-burned dolomite suffered the greatest decline in 1938 compared with 1937—42 per cent in quantity and 43 per cent in value. Based on reports received the quantity estimated is 357,000 tons and the value \$2,981,000. Hydrated lime included in the total output amounted to 1,092,000 tons valued at \$8,640,000, a decrease of 16 per cent in both quantity and value. About one-half of the hydrated lime is used by the building trades, one-third for chemicals, and the remainder for agriculture.

Imports of lime as compiled from figures of the U.S. Bureau of Foreign and Domestic Commerce for 1938 totaled 13,635,842 lb. valued at \$66,203 compared with 17,575,565 lb. valued at \$90,605 in 1937. Exports amounted to 132,216 bbl. (of 200 lb.) valued at \$121,662 in 1938, and 113,028 bbl. valued at \$126,297 in 1937.

LINGUISTICS. See ANTHROPOLOGY.

LIONS CLUBS, INTERNATIONAL ASSOCIATION OF. An organization of business and professional men's clubs, formed in Chicago, Ill., in 1917 for the purpose of promoting good government and good citizenship, encouraging efficiency, and promoting high ethical standards in business and the professions. By the end of 1938 the Association had grown to 3152 clubs with a total of approximately 110,000 active members. The annual convention of the Association was held at Oakland, Calif., July 19 to 22, 1938. Officers elected were: President, Walter F. Dexter of Sacramento, Calif.; vice-presidents, Alexander T. Wells of New York City, Karl M. Sorrick of Jackson, Mich., and George R. Jordan of Dallas, Tex. The founder of the Association, Melvin Jones of Chicago, has been secretary-treasurer from the beginning. He is also editor of the official magazine, *The Lion*. Association Headquarters are at 332 South Michigan Ave., Chicago. The 1939 International Convention will be held at Pittsburgh, Pa., July 18 to 21.

LIPPE. See GERMANY.

LIQUOR TRAFFIC. Status of Prohibition. Dec. 5, 1938, marked the end of the fifth year of the new repeal era in the United States following the 13-year experiment with national prohibition. It had been argued by advocates of repeal that the rescinding of the prohibition law would bring in its wake definite economic and social benefits. Mrs. John S. Shephard, member of the New York State Liquor Authority, writing in the *New York Times Magazine*, Dec. 4, 1938, recalled what these outstanding promises had been and sought to evaluate the size of their realization in terms of the experiences of the past five years. She noted that advocates of repeal had pointed out

(1) that public revenues would be considerably increased as a result; (2) that the prohibition evils of illicit manufacture, bootlegging, and liquor racketeering would cease; (3) that the saloon would not return; (4) that the liquor industry would never regain its old sinister hold on politics; (5) that drunken driving would be reduced; (6) that youth would be rescued from the excessive drinking of the speakeasy era; (7) that respect for the law would be restored; (8) that temperance would be encouraged.

Obviously, accurate statistical measurements to substantiate or disprove these contentions were impossible, but Mrs. Shephard, on the basis of her long and intensive experience with the enforcement of the New York State law, was able to come to certain general conclusions which are of interest.

She was able to report that public authorities were receiving from the legal liquor traffic a very large direct revenue, which in 1937 came to more than \$1,000,000,000. Did this mean that Americans were drinking more or less than the pre-prohibition era? The figures indicated that the Americans were drinking less but were paying more for the privilege. Thus, the consumption of spirits fell from 2 gallons of spirits per person in 1916 to slightly more than 1 gallon in 1936. In the second place, there was no question that the attack on the bootlegging and racketeering aspects of the industry was meeting with substantial success. In 1930, after 10 years of prohibition, 25,000 stills were seized in all parts of the country. In striking contrast, the stills seized in the fifth year after repeal were 11,407. Also, the seizures were taking place, not in the great cities as had happened during prohibition, but in the Southern mountains, the area of operations of the small illicit distiller who had flourished in the pre-prohibition days. It was interesting to note too that the Coast Guard was reporting that liquor smuggling from the high seas had virtually disappeared.

About the return of the saloon, less certainty existed. The States increasingly were coming to grips with the social aspects of this problem through the growing weight placed upon off-premise rather than on-premise consumption. Of the 44 States which authorized the sale of hard liquor by the bottle for off-premise consumption, 15 allowed no hard liquor to be sold in hotels and restaurants or any other places where beer and wine or beer alone might be sold and consumed. Most States which gave on-premise licenses for liquor insisted that food should be sold where drinks were sold and that there should be visibility into the premises. Mrs. Shephard said, on this point:

These requirements helped to keep away the old saloon atmosphere, but the bars are still painfully reminiscent of the old days. While there are many drinking places in the land which can hardly be told from the saloon, yet there are many where the restaurant aspect does predominate. I feel that our one hope of preventing the return of the saloon lies in the food-sale provision of the law and in keeping these licensed places open to public view.

In one realm repeal was encountering real success and that was in the increasing severance of the connection between the liquor manufacturers and the saloonkeeper. This was notably so as a result of the vigilance of the Federal Alcohol Administration, which was successful not only in eliminating the so-called "tied" house but was also loosening the bond between manufacturer and retail distributor by limiting the credit period extended for the purchase of liquor and also the monopoly control of single distillers over individual saloons. Also, it was the belief of Mrs. Shephard that the liquor interests had not regained the hold they had on politics before prohibition in view of the appearance of forward-looking men in the industry. The same could not be said with an equal degree of confidence concerning interference in petty politics. Said Mrs. Shephard: "Enforcement in many communities is swayed by favoritism and graft and, because of local politics, is often lacking entirely. This arouses public resentment and increases the dry vote in many parts of the country."

It was impossible to test the validity of the belief that repeal was likely to end drunken driving because of the wide differences in method of reporting drunken-driving accidents and the different tests applied by States and cities. As to drinking in relation to health, however, reliable data were available. Census Bureau figures showed that deaths

from alcoholism rose under prohibition from 1 per 100,000 in 1920 to 4.3 in 1927, while in 1934 they fell to 3 and in 1936 to 2.9.

Mrs. Shephard could not report any tangible improvement along the lines of temperance. While she pointed out that many States were seeking by education to inculcate a temperance attitude, success was not evident because, on the one hand, of the pressure of total-abstinence groups and on the other hand because education among the adults was being thwarted by lack of funds and public indifference. However, the situation held out some hope for the future in view of the fact that the liquor industry itself was beginning to recognize the need of promoting temperance. This new note was beginning to appear in advertising.

Mrs. Shephard's conclusions may be quoted at length:

The answer as to whether all the promises made by the repealists have been fulfilled varies according to region. Under repeal we have 49 different systems of control. There are States with almost no restrictions on the buying of drinks. On the other hand, there are States where no one can purchase a drink without an individual permit. One has State sale of liquor; the next a liberal licensing system. In one no liquor at all may be sold by the drink; in another drinks may be sold 20 hours in the 24.

To estimate the success or the failure of repeal under these 49 different systems is not so easy as it was to judge the success or failure of one nation-wide system, prohibition. The verdict today must be sought in the States, not in the nation, for under repeal each State now makes its own liquor laws. But viewing the situation as a whole, a just conclusion seems to be that conditions after five years of repeal are definitely better than they were after 13 years of prohibition.

In considerable measure, Mr. W. S. Alexander, Administrator of the Federal Alcohol Administration, confirmed Mrs. Shephard's impressions. Keenly alert to the fact that repeal was still on trial and that the total-abstinence sentiment still played a very significant role in many communities, he was constantly seeking to improve the industry in its own interest. He pointed out that it was imperative that the liquor industry recognize that regulation had come to stay and that it was important that it join hands with every authority in keeping the business within the law. In an address delivered before a representative group in the industry, he declared that the liquor business was under constant surveillance and this frequently was a hostile one. Said he:

Many States have local option laws; other States are enacting them. Election after election is being held to determine if this community and that shall tolerate your business, and frequently the battle goes against you. My information is that since Repeal in seven thousand local option elections five thousand political units have gone dry. . . . In Pennsylvania you have lost 1000 voting units in two years.

Mr. Alexander called attention to the fact that unfair practices continued to prevail in the industry. The producer, or wholesaler, was offering to the retailer free merchandise rebates and other inducements to stock up with a particular brand of merchandise. Too frequently retailers were advertising too lavishly, notably in the use of outdoor electrical signs, to call attention of hostile groups to the existence of their business. Also, some retailers were permitting producers to utilize the entire retail store front with signs. The extension of generous terms of credit, as has already been pointed out, was bringing many retailers under direct control of special producers.

See GEORGIA.

Liquor Production. Figures compiled by the Federal Alcohol Administration showed that the production of whiskey, brandy, and rum for the calendar year 1937 and the first six months of 1938

showed a marked decrease. Whiskey production, which averaged more than 20 million gallons monthly in 1936 and 17,500,000 gallons monthly during the first six months of 1937, showed a decrease to an average of less than 9 million gallons per month during the last half of 1937 and during the first half of 1938. This lower rate of production was reflected to some extent in the accumulation of whiskey stocks in bonded warehouses, which at the end of June 30, 1938, aggregated more than 471 million gallons.

Scientific Study of the Drink Problem. In October it was announced that a new organization composed of nearly 100 distinguished scientists and educators from various parts of the country had been formed to make a "thorough, unbiased and strictly scientific investigation of the problems related to the control of alcoholic beverages and to seek solutions through a program of unprejudiced research and education." The organization was to be known as the Research Council on Problems of Alcohol and Dr. Karl M. Bowman of New York City was to be chairman of the 15-man executive committee. Insisting that repeal was not successful and that excesses and abuses were plainly evident, the new Research Council defined its field of action in the following platform: It would conduct research and present the facts in suitable form to interest groups and encourage intelligent discussion of the facts. It would not arrive at "conclusions based on assumptions or prejudiced opinion, engage in propaganda, lobby for liquor control laws or participate in political campaigns." It declared that a well-organized body of facts was needed in regard to (a) the effects of alcohol on the individual; (b) the effects of alcohol on society; (c) the effectiveness of various measures of industrial and legal control which have been attempted or which may be proposed. Insisting that education for temperance had ceased with repeal, the Council called for a new education concerning the problems of drink which was to be strictly scientific." Dr. Harry H. Moore, formerly Director of the Committee on the Costs of Medical Care, was chosen Director of the Council's activities with headquarters in New York.

LITERATURE, ENGLISH AND AMERICAN.

Biography. Among studies of American political figures were: *The Hidden Lincoln*, the Herndon papers edited by Emanuel Hertz; Carl Van Doren's *Benjamin Franklin*; Philip C. Jessup's *Elihu Root*; William Allen White's *A Puritan in Babylon* (Coolidge). Others were: *Jefferson Davis*, by Robert McElroy; *Thomas Paine*, by Frank Smith; *Cardozo and Frontiers of Legal Thinking*, by Beryl Harold Levy; *"Eagle Forgotten"* (John Peter Altgeld), by Harry Barnard. Vol. ii of *The Letters of Henry Adams, 1892-1918*, was edited by Worthington C. Ford.

Biographies of American literary figures included: *Mark Twain*, by Edgar Lee Masters; *Sailor on Horseback* (Jack London), by Irving Stone; *Edwin Arlington Robinson*, by Hermann Hagedorn; *Young Longfellow*, by Lawrence Thompson; *This Was a Poet* (Emily Dickinson), by George Frisbie Whicker; *Louisa May Alcott*, by Katherine Anthony. Two books on Walt Whitman were published: *Walt Whitman's Pose*, by Esther Shephard, and *Whitman*, by Newton Arvin. Autobiographies were: Jesse Stuart's *Beyond Dark Hills*; Harriet Monroe's *A Poet's Life*; Irwin Edman's *Philosopher's Holiday*; Logan Pearsall Smith's *Unforgotten Years*. *The Journals of Bronson Alcott* were edited by Odell Shepard.

Among other Americans were: Paul D. Moody's *My Father* (Dwight L. Moody); Ralph Barton Perry's *In the Spirit of William James*; Lincoln Ellsworth's *Beyond Horizons*; Charles Allen Smart's *R.F.D.*; Hugh Wilson's *The Education of a Diplomat*; Richard Byrd's *Alone*.

Books about British literary figures were: Alfred H. Bill's *Astrophel* (Sir Philip Sidney); Lodwick C. Hartley's *William Cowper*; William Powell Jones' *Thomas Gray*; Edith Finch's *Wilfred Scawen Blunt*; Lawrence Whistler's *Sir John Vanbrugh*; Boris Brasol's *Oscar Wilde*; R. Glynn Grylls' *Mary Shelley*; two books on Burns: John Lindsay's *The Ranting Dog* (*Immortal Memory*, the American title) and *Burns—By Himself*, edited by Keith Henderson; two books on Jane Austen: Mona Wilson's *Jane Austen and Some Contemporaries*, and Elizabeth Jenkins' *Jane Austen*; two books on D. H. Lawrence: Knud Merrild's *A Poet and Two Painters* and Hugh Kingsmill's *D. H. Lawrence*; William R. Rutland's *Thomas Hardy*; Sir Herbert Grierson's *Sir Walter Scott, Bart.* Among memoirs were: W. Somerset Maugham's *The Summing Up*; R. H. Mottram's *Autobiography with a Difference*; Lord Alfred Douglas' *Without Apology*; Ford Madox Ford's *Mightier than the Sword*; Shane Leslie's *The Film of Memory*. Memories of youth were recalled in Lord Dunsany's *Patches of Sunlight*; Humbert Wolfe's *The Upward Anguish*; Siegfried Sassoon's *The Old Century and Seven More Years*. *The Letters of Charles Dickens* were edited by Walter Dexter.

About British political figures: Mary Taylor Blauvelt's *Oliver Cromwell*; Mary Agnes Hamilton's *Arthur Henderson*; Sir Charles Petrie's *The Chamberlain Tradition*; Winston Churchill's *Malborough*, vol. vi, the last; Clara and Hardy Steeholm's *James I of England*; L. McNeill Weir's *Lossiemouth to No. 10* (J. Ramsay MacDonald).

About other British figures were: Robert Speaight's *Thomas Becket*; F. Winthrop Woodruff's *Roger Bacon*; two books about Wesley: Richard Pyke's *John Wesley Came This Way* and Leslie F. Church's *Knight of the Burning Heart*; W. B. Maxwell's *Time Gathered*; George Thomas' *My Mind a Kingdom*, the conquest over affliction; J. W. N. Sullivan's *Isaac Newton*. David Garnett edited *The Letters of T. E. Lawrence*.

Autobiographies of interesting women were: Margaret Sanger; Mary K. Simkhovitch's *Neighborhood*; Geraldine Farrar's *Such Sweet Compulsion*; Mary Sullivan's *My Double Life*, the story of a New York policewoman; Nathalie Sedgwick Colby's *Remembering*; Helen Keller's *Journal*. Biographies were: Lillian Wald, by R. L. Duffus, and Fanny Kemble by Margaret Armstrong.

A group of journalists' memoirs included: Frazier Hunt's *One American and His Attempt at Education*; Irene Kuhn's *Assigned to Adventure*; Douglas Reed's *Insanity Fair*, mostly about Germany; Carleton Beals' *Glass Houses*, mostly about Mexico; Mark Sullivan's *The Education of an American*; Isaac Marcossou's *Turbulent Years*; Stephen Bonsal's *Heyday in a Vanished World*. Candace Stone wrote *Dana* and "The Sun," and *The Letters of Lincoln Steffens* were edited by Ella Winters and Granville Hicks.

Among numerous medical memoirs were: Arthur E. Hertzler's *The Horse and Buggy Doctor*; William N. Macartney's *Fifty Years a Country Doctor*; William E. Aughinbaugh's *I Swear by Apollo*; R. McNair Wilson's *Doctor's Progress*.

Books about musicians included W. J. Turner's

Mozart; Henry Coates' *Palestrina*; Henry J. Wood's *My Life of Music*; Daniel Gregory Mason's *Music in My Time*. Three painters were Bernard Falk's *Turner the Painter*, Charles Poore's *Goya*, and Constance Rourke's *Charles Sheeler*.

Other biographies were: Carl Crow's *Master Kung* (Confucius); W. E. Woodward's *Lafayette*; Francis Watson's *Wallenstein*; Robert Berkov's *Strong Man of China* (Chiang Kai-shek); Enid Starkie's *Arthur Rimbaud*; Stanley Jackson's *Guy de Maupassant*. Two collections were John Middleton Murry's *Heaven and Earth* (American title, *Heroes of Thought*) and *Profiles from "The New Yorker."*

Criticism and the History of Literature. E. M. W. Tillyard published *Shakespeare's Lost Plays* and *The Miltonic Setting*. Other books on Shakespeare were Edgar J. Fripp's *Shakespeare, Man and Artist*, an analytical appreciation, and John Mair's *The Fourth Forger*, the Ireland forgeries.

Criticisms of English poetry were: Louis Untermeyer's *Play in Poetry*, four lectures on verbal play; Robert Hillyer's *First Principles of Verse*, a discussion of technique; Herbert Read's *Poetry and Anarchism*, a confession of faith in the poetic mind; William Tillotson's *English Pastoral Poetry*; Milton O. Percival's *William Blake's Circle of Destiny*, an interpretation of Blake's prophetic books; John Drinkwater's posthumous *English Poetry*, up to John Donne.

Three critical studies were John Crowe Ransom's *The World's Body*, Herbert Read's *Collected Essays in Literary Criticism*, and J. W. MacKail's *Studies in Humanism*. Other works were Frank Luther Mott's *A History of American Magazines 1865-1885*; *Seventeenth Century Studies Presented to Sir Herbert Grierson*; Osbert, Edith, and Sacheverell Sitwell's *Trio: Dissertations on Some Aspects of National Genius*, lectures by each on specialties; Rose Macaulay's *The Writings of E. M. Forster*.

Two collections of miscellaneous pieces by dramatic critics were *The Morning after the First Night*, by George Jean Nathan, and *Two on the Aisle*, by John Mason Brown. *The American Theater*, by John Anderson, was a history.

Drama. Thornton Wilder published the Pulitzer Prize play *Our Town*. Other single plays published were: *Susan and God*, by Rachel Crothers; *The Cradle Will Rock*, by Marc Blitzstein; *Oscar Wilde*, by Leslie and Sewell Stokes; *Bachelor Born*, by Ian Hay; *Robert's Wife*, by St. John Ervine; *The Flashing Stream*, by Charles Morgan; *On the Frontier*, a melodrama, by W. H. Auden and Christopher Isherwood. *On Borrowed Time*, by Paul Osborne, was an adaptation of the novel by Lawrence Edward Watkin; *Father Malachy's Miracle* was adapted by Brian Doherty from the novel by Bruce Marshall. *The Fifth Column and the First Forty-nine*, by Ernest Hemingway, contained a play and 49 of his short stories. *The King of Nowhere and Other Plays*, by James Bridie, included the title play, *The Anatomist*, and *The Last Trump*. *The Best Plays of 1937-38* was edited by Burns Mantle. See **DRAMA**.

Economics. Various economic panaceas were offered. Gilbert Seldes in *Your Money and Your Life* advocated middle-class common sense and liberalism, while David Cushman Coyle in *The American Way*, a prize essay, wanted orderly change and more taxes paid willingly. In *The Roads to a New America* Mr. Coyle also advocated

more government enterprise and expenditure, but Harry Scherman in *The Promises Men Live By* upheld that government in economics is always dishonest, and wanted only private transactions. Miriam Beard in *A History of the Business Man* added political, personal, and psychological factors to economics. A selection from research done by the Price Study Staff on how prices are determined was published in *Price and Price Policies*, by Walter Hamilton and others. John Daniels in *Co-operation: An American Way* traced the co-operative movement in America, while Maurice Pearlman discussed the economic life of the Jews in Palestine in *Collective Adventure*. J. H. Clapham published the third and last volume of *An Economic History of Modern Britain*.

Essays. E. V. Lucas' *Adventures and Misgivings* was in the tradition of the familiar essay. W. B. Yeats in *Essays 1931-36* and Albert Jay Nock in *Free Speech and Plain Language* discussed miscellaneous subjects. Edmund Wilson's *The Triple Thinkers* was about literature. William Ralph Inge's *Our Present Discontents* dealt with current topics. The humorous essay was represented by Robert Benchley's *After 1903, What?*; Ruth McKenney's *My Sister Eileen*, reminiscences of girlhood; Cornelia Otis Skinner's *Dithers and Jitters*; and Sally Benson's *Emily*, satiric character sketches of women.

Fine Arts. Ezra Pound's *Guide to Kulchur* discussed the arts. Two books on appreciation were R. W. Church's *An Essay on Critical Appreciation* and A. Philip McMahon's *The Art of Enjoying Art*. R. G. Collingwood's *The Principles of Art* connected art with language. Books on music were: Hugo Leichtentritt's *Music, History, and Ideas*, the relation of music to its environment; *The Oxford Companion to Music*, a handbook; Gerald Abraham's *A Hundred Years of Music*, since Beethoven; Lawrence Gilman's *Toscanini and Great Music*. On Painting: Henry Reitlinger's *From Hogarth to Keene*, story-telling pictures; Charles Marriot's *A Key to Modern Painting*, the relation of modern painting to the machine age; Walter Pach's *Querer Thing*, Painting, men and movements. Frederick Gibberd published *The Architecture of England from Norman Times to the Present Day*. Two works on the Baroque were Sacheverell Sitwell's *German Baroque Sculpture* and T. H. Fokker's *Roman Baroque Art*. John Masefield contributed the poems and Edward Seago the pictures to *Tribute to Ballet*.

History. Allan Nevins' *The Gateway to History* was an introduction to the study of history. Clare Brinton's *The Anatomy of Revolution* attempted to find common factors in the English, American, French, and Russian revolutions.

In American history appeared: *Indian Cavalcade* by Clark Wissler, and *The Apache Indians*, by Frank C. Lockwood. Colonial life was studied by Curtis P. Nettles in *The Roots of American Civilization* and by Thomas Jefferson Wertenbaker in *The Founding of American Civilization: The Middle Colonies*. Two incidents of the Revolution were treated in *Valley Forge*, by Harry Emerson Wildes, and in *March to Quebec*, the journals of Arnold's expedition edited by Kenneth Roberts. Herbert Agar's *The Pursuit of Happiness* was the story of the Democratic party from Jefferson to Franklin D. Roosevelt. A history of inventions was given by Roger Burlingame in *The March of the Iron Men*. Books on special periods included: *Ware Sherman* by Joseph LeConte, an American Civil War journal; *Adventures of America 1857-*

1900, by John A. Kouwenhoven, a pictorial record compiled from *Harper's Weekly*; *The Big Four*, by Oscar Lewis, the men who built the U.P. In *America Goes to War* Charles S. Tansill traced America's transition from neutrality to war, 1914-17. An important book was Matthew Josephson's *The Politicos: 1865-1896*, which showed the close ties between American industry and politics in the years following the Civil War.

Two state histories were: *Then Came Oil*, by C. B. Glasscock, Oklahoma; and C. P. Connolly's *The Devil Learns to Vote*, Montana. Two works added to the Rivers of America series were *Suwannee River*, by C. H. Matschat, and *Powder River*, by Struthers Burt. Frances Winwar published *Puritan City*, a history of Salem.

In British history appeared: *A People's History of England*, by A. L. Morton, a Marxist interpretation; *This Realm of England*, by Sir John Marriott, a constitutional history; *The Constitutional History of Medieval England*, by J. E. A. Jolliffe, from the English Settlement to 1485; *Wesley's England*, by J. H. Whitelaw, the social life of the 18th century; *The Age of Drake*, by James A. Williamson, a maritime history of the Elizabethan period; *Medieval Panorama*, by G. G. Coulton, the English scene from the conquest to the reformation; *The English Revolution*, by George Macaulay Trevelyan; *Building the British Empire*, by J. T. Adams, to the end of the first empire. History seen through individuals was given in J. L. Hammond's *Gladstone and the Irish Nation*; *Further Letters of Queen Victoria*, edited by Hector Bolitho; *The Letters of King George IV, 1812-1830*, vol. i, edited by A. Aspinwall; and *The Greville Memoirs, 1814-1860*, edited by Lytton Strachey and Roger Fulford.

In European history Charles Seignobos' *Rise of European Civilization* gave the middle-class point of view. Two medieval studies were *The Gateway to the Middle Ages*, by Eleanor Shepley Duckett, the 6th century, and *The Medieval Universities*, by Nathan Schnachner. French history included Geoffrey Bruun's *Europe and the French Imperium, 1799-1814*; Hilaire Belloc's *Monarchy*, a study of Louis XIV, and Nesta H. Webster's *Louis XVI and Marie Antoinette*, vol. ii. *The House of Guise*, by Henry Dwight Sedgwick, was confined to the 16th century. *Twenty Years Armistice*, by William Orton, covered the period 1918-1938. *From Tsardom to the Stalin Constitution*, by W. P. and Z. K. Coates, was written with sympathy for the Soviets. David Lloyd George published two volumes of *The Truth about the Peace Treaties*. Other parts of the world were represented in *The Pageant of Japanese History*, by Marion Way Dilts, and *Republican Hispanic America*, by Charles Edward Chapman.

Novels. The vogue for historical novels continued. The American revolution was the background for Esther Forbes' *The General's Lady*, Frank O. Hough's *Renown*, and Cyril Harris' *Trumpets of Dawn*. Novels about pioneering included Harold Sinclair's *American Years* (Illinois); Rose Wilder Lane's *Free Land* (Dakota); Ross McLaury Taylor's *Brazos* (the Southwest); George R. Stewart's *East of the Giants*. The Civil War continued to be a popular subject, as witness: Hervey Allen's *Action at Aquila*; Gwen Bristow's *The Handsome Road*; Laura Krey's . . . and *Tell of Time*, about reconstruction in Texas; Allen Tate's *The Fathers*, the years immediately preceding the Civil War.

British historical novels included: John Mase-

field's *Dead Ned*, an 18th-century sea story; Patrick Carleton's *Under the Hog*, vindicating Richard III; Evan John's *Crippled Splendour*, about James I of Scotland; D. L. Murray's *Commander of the Mists*, the "Forty-Five"; Clemence Dane's *The Moon Is Feminine*, Regency Brighton; Alfred T. Sheppard's *The Matins of Bruges*, the reign of Edward I; Jack Lindsay's *1649*; Patry Williams's *I Am Canute*, Anglo-Saxon times.

Other historical novels were: C. S. Forester's *Ship of the Line*, sea adventure in Napoleonic times; Vincent Sheean's *A Day of Battle*, Fontenoy; Charles Lorne's *Mexican Masquerade*, Maximilian and Carlotta; Rachel Field's *All This, and Heaven Too*, France and New England; Robert Graves' *Count Belisarius*, Justinian's general.

Novels based on literary figures included: Gwyn Jones' *Garland of Bays* (Robert Greene); E. Thornton Cook's *Speaking Dust* (the Carlyles); Helen Ashton's *William and Dorothy* (the Wordsworths); John Erskine's *The Start of the Road* (Whitman).

Novels about women were Josephine Lawrence's *Bow Down to Wood and Stone*; Pearl S. Buck's *The Proud Heart*; Margaret Ayer Barnes' *Wisdom's Gate*; Anne Parrish's *Mr. Despondency's Daughter*; Rhys Davies' *Jubilee Blues*; Myron Brinig's *May Flavin*; James Gray's *Wings of Great Desire*. Children were the subject of Marjorie Kennan Rawlings' *The Yearling*, Kathryn Hulme's *We Lived As Children*, and Leighton Barret's *Though Young*.

Poverty was the subject of Charles Curtis Munz' *Land Without Moses*, southern sharecroppers; Jim Phelan's *Ten-a-Penny People*, English poor; L. Stewart Boyd's *There's Always England*, about Scotland; Jack Jones' *Bidden to the Feast*, Wales; Joseph Vogel's *Man's Courage*, Americans on relief; Beatrice Bisno's *Tomorrow's Bread*.

The novelette form continued to be used, as in John O'Hara's *Hope of Heaven*; Edwin Lanham's *Another Ophelia*; H. G. Wells' *The Brothers*; Richard Warren Hatch's *The Fugitive*; Richard Wright's *Uncle Tom's Children*, four stories of race hatred; *The Flying Yorkshireman*, a group of five stories, by Eric Knight and others.

Outstanding first novels presented fresh material, as: Dorothy Baker's *Young Man with a Horn*, about swing music; A. I. Bezzerides' *Long Haul*, long-distance trucking; Wessel Smitter's *F.O.B. Detroit*, the Ford factory; W. L. White's *What People Said*; May Sarton's *The Single Hound*; Elizabeth Seifert's *Young Dr. Galahad*.

Among humorous books Darwin L. Teilhet's *Journey to the West* was a picaresque romance; Evelyn Waugh's *Scoop* was witty about Ethiopia; Angela Thirkell's *Pomfret Towers* was lightly comic; and T. S. Stribling's *These Bars of Flesh* was satiric.

Books by well-known authors included: Sinclair Lewis's *The Prodigious Parents*; William McFee's *Derelicts*; Elizabeth Madox Roberts' *Black Is My True Love's Hair*; Branch Cabell's *The King Was in His Counting House*; Sheila Kaye-Smith's *The Valiant Woman*; Hugh Walpole's *The Joyful Delaneys*; James T. Farrell's *No Star Is Lost*; Edith Wharton's unfinished *The Buccaneers*; Storm Jameson's *Here Comes a Candle*; H. G. Wells' *Apogee of Dolores*.

Leane Zugsmith in *The Summer Soldier* and John Hyde Preston in *The Liberals* scorned the pink liberal, while Charles Harrison in *Meet Me on the Barricades* was whimsical about revolution-

ary dreams. Recent events lent special interest to Sidney Meller's *Roots in the Sky*, Jewish immigrants 50 years ago; Brinckerhoff Jackson's *Saints in Summertime*, fascism in Central Europe; Upton Sinclair's *Little Steel*, today's labor battles. *Sleep in Peace*, by Phyllis Bentley, and *English Rue*, by Martin Hare, both gave a half century in the lives of two English families. G. B. Sterne in *The Ugly Dachshund* and Robert Nathan in *Journey of Tapiola* wrote lightly about dogs. Nathan's other book, *Winter in April*, Bessie Breuer's *The Daughter*, and Elizabeth Bowen's *Death of the Heart* were tragedies of girlhood.

Three novels about musicians were *No Victory for the Soldier*, by James Hill, *Concert Pitch*, by Elliot Paul, and *The Wrong World*, by Louis Paul. Howard Spring's *O Absalom* (American title, *My Son, My Son!*), G. E. Trevelyan's *William's Wife*, and Sarah Gertrude Millin's *What Hath a Man?* were tragedies of frustrated lives. Psychological thrillers included Graham Greene's *Brighton Rock*, Daphne du Maurier's *Rebecca*, Kay Boyle's *Monday Night*, and J. B. Priestley's *The Doomsday Men*. Clyde Brion Davis in *The Great American Novel* and Dorothy McCleary in *Paved with Good Intentions* wrote about thwarted literary ambitions.

Other novels included: *Old Haven*, by David Cornel DeJong, provincial Dutch life; *This Is Me, Kathie*, by Julia Truitt Yenni, a small Louisiana town; *Remember the End*, by Agnes Sligh Turnbull, the coal industry in Pennsylvania; *Testament*, by R. C. Hutchinson, the Russian revolution; *The Kents*, by LeGrand Cannon, a cog in American business; *The Noise of Their Wings*, by MacKinlay Kantor, a millionaire's obsession; *In Hazard*, by Richard Hughes, a hurricane at sea; *Hollow Sea*, by James Hanley, a troopship in wartime; *Nightingale Wood*, by Stella Gibbons; *Lifer*, by Jim Phelan, prison psychology; *Those Were the Days*, by Osbert Sitwell; *Late Harvest*, by George Blake, Scottish life; *National Provincial*, by Lettice Cooper, contemporary English politics.

Philosophy. *The Philosophy of Art*, by George Herbert Mead, was the expression of a pragmatist, while *The Realm of Truth*, book third of *Realms of Being*, by George Santayana, was materialistic and naturalistic. *Logic, the Theory of Inquiry*, by John Dewey, dealt with the relationship of logic and the scientific method. *Modes of Thought*, by Alfred North Whitehead, was a discussion of the thought processes of man. See PHILOSOPHY.

Poetry. Collections of poetry were: *Collected Poems*, by Robert Graves; *Collected Poems*, by Genevieve Taggard; *Collected Poems*, by E. E. Cummings; *The Complete Collected Poems of William Carlos Williams*; *The Selected Poetry of Robinson Jeffers*. Josephine Young Case's *At Midnight on the 31st of March* mixed the commonplace and the supernatural. Edwin Muir's *Journeys and Places* was metaphysical. Two poetic dramas were *The Herne's Egg*, by W. B. Yeats, and *Trial of a Judge*, a tragedy by Stephen Spender. Archibald MacLeish's *Land of the Free* was a collection of photographs of the American dispossessed illustrated by poetry. Other noteworthy publications were: *Memory and Other Poems*, by Walter de la Mare; *Memoir 1887-1937 and Other Poems*, by G. Rostrevor Hamilton; *Overtures to Death and Other Poems*, by C. Day Lewis; *The Earth Compels*, by Louis MacNeice; *Solitude*, a long poem by V. Sackville-West; *The Story of Lowry Maen*, a blank verse narrative by Padraic Colum; *Dead Reckoning*, by Kenneth Fearing; *The Fifth Decad*

of *Cantos*, by Ezra Pound; *Said before Sunset*, by Frederick Mortimer Clapp; *Natural History*, by Raymond Holden; *Bullinger Bound and Other Poems*, by Leonard Bacon. U.S. 1, by Muriel Rukeyser, was proletarian poetry, while *The Carnival*, by Frederick Prokosch, was romantic. *I'm a Stranger Here Myself*, by Ogden Nash, and *The Fox of Peapack*, by E. B. White, were humorous. Publications by young poets of promise were *The Five Fold Mesh*, by Ben Belitt, and *Christopher Columbus and Other Poems*, by Sidney Salt. Robert W. Nesser edited *American Naval Songs and Ballads*.

Politics. The rise of fascism attracted attention to the problems of democracy in America. John Strachey's *Hope in America* and Louis Adamic's *My America 1928-1938* were optimistic. Max Lerner's *It Is Later Than You Think* discussed the perpetual crisis of democracy. Jerome Frank's *Save America First* pleaded for greater American self-sufficiency, while Donald Davidson's *The Attack on Leviathan* pointed out the dangers of centralized government. Three books about the possibility of fascism in America were: *The Peril of Fascism*, by A. B. Magil and Henry Stevens; *The Defense of Democracy*, by F. Elwyn Jones; and *The Prospects of American Democracy*, by George S. Counts. Contemporary American political history was the subject of Louis M. Hacker's *American Problems of Today*, since the World War; Edward S. Corvin's *Court Over Constitution*, the growing power of the Supreme Court; James A. Farley's *Behind the Ballots*; *The Public Papers and Addresses of Franklin D. Roosevelt*, an indispensable source book for contemporary history, edited by Samuel I. Rosenman.

The political problems of Britain were discussed in R. W. Seton-Watson's *Britain and the Dictators*; H. J. Laski's *Parliamentary Government in England*; Robert Briffault's *The Decline and Fall of the British Empire*; *Arms and the Covenant* (American title, *While England Slept*), a collection of Winston Churchill's speeches. Compton Mackenzie's *The Windsor Tapestry* was a defense of Edward VIII.

Books about the European situation included Eugene Young's *Looking Behind the Censorships*; R. H. Bruce Lockhart's *Guns or Butter*, which found democracy at a low ebb; Geoffrey T. Garra's *Mussolini's Roman Empire*, an indictment of England's recent policy; Elizabeth Monroe's *The Mediterranean in Politics*; Robert Machray's *The Struggle for the Danube and the Little Entente 1929-1938*. Two books on Italy were *The Plough and the Sword*, agriculture from the viewpoint of the class struggle, and *Italy's Foreign and Colonial Policy 1914-1937*, by Maxwell H. H. Macartney and Paul Cremona. Russia was treated in Violet Conolly's *Soviet Tempo*, from the point of view of an economist, and in *Terror in Russia*, two opposing views by Upton Sinclair and Eugene Lyons.

The Orient: The Chinese communists and their army were discussed in Edgar Snow's *Red Star over China*, an important first-hand account, Agnes Smedley's *China Fights Back*, and Harry Gannes' *When China Unites*. Sir Eric Teichman's *China and the Nations* was a survey, while recent history was discussed in *China Fights for Her Life* by H. R. Elkins and Theon Wright. James A. B. Scherer's *Japan Defies the World* blamed Japan, but Willard Price's *Children of the Rising Sun* defended her. G. C. Allen's *Japan: The Hungry Guest* was a survey of Japan's political economy. A. Morgan Young's *Imperial Japan 1926-1938* surveyed domestic and international policies.

Other parts of the world: Lord Hailey's *An African Survey*, European imperialism; Carleton Beals' *The Coming Struggle for Latin America*, Fascist versus democratic countries; Marquis Childs' *This Is Democracy*, collective bargaining in Scandinavia; Douglas V. Duff's *Poor Knight's Saddle*, Jew and Arab in Palestine. Two surveys were *Foreign Affairs 1919-1937*, by E. L. Hasluck, and *Survey of International Affairs 1936*, by Arnold J. Toynbee and L. V. Boulter. *Bio-Politics*, by Morley Roberts, gave analogies between the biological and social and political fields.

Religion. Several religious books were concerned directly with a re-interpretation of the Bible, such as: *A Guide to Understanding the Bible*, by H. E. Fosdick; *The Eternal Gospel*, by Rufus M. Jones; *An Introduction to the New Testament*, by Kirsopp Lake and Silva Lake; *The First Epistle of Paul to the Corinthians*, by James Moffatt; *The Validity of the Gospel Record*, by Ernest Findlay Scott; *The Life of Christ*, by Hall Caine, which squashed many fallacies; *The Historical Background of the Bible*, by J. N. Schofield; and *The Apocrypha. An American Translation*, by Edgar J. Goodspeed. Other works on religion were: *War and the Christian*, by Charles E. Raven, a completely pacifist point of view; *In the Steps of St. Francis*, a new biography by Ernest Raymond; *The History of Israel*, by H. Wheeler Robinson; *St. Paul*, by Arthur Dudley Nock; *The Christian Hope of Immortality*, by A. E. Taylor; *The First Five Centuries of the Christian Church*, by James Moffatt; *Studies in the Philosophy of Religion*, by Archibald Allan Bowman; *Symbolism and Belief*, by Edwyn Bevan.

Science. The outstanding work in general science was Lancelot Hogben's *Science for the Citizen*, a thorough survey for the intelligent layman. Books about medicine were: David Dietz's *Medical Magic*, a popularization; William M. Malisoff's *The Span of Life*, which asserted chemistry may lengthen it; Paul DeKruif's *The Fight for Life*, dramatic moments in recent research; Ellsworth Huntington's *Season of Birth*; Louis Berman's *New Creations in Human Beings*, endocrinology; William Healy's *Personality in Formation and Action*, psychiatry.

About nature: W. C. Allee's *Social Life of Animals*, with applications to human affairs; Louis J. Halle's *Birds Against Man*; Brian Curtis's *The Life Story of the Fish*; Julie Closson Henly's *Little Lives*, insects.

Books about other sciences were: Carroll Lane Fenton's *The Amazing Earth*, geology for the layman; David Fairchild's *The World Is My Garden*, botany by the discoverer of new plants; Reginald C. Waterfield's *A Hundred Years of Astronomy*; Frank Waldrop and Joseph Boskin's *Television, a Struggle for Power*.

General works were: J. B. S. Haldane's *The Marxist Philosophy and the Sciences*, by a Marxian scientist; Mark Graubard's *Man the Slave and Master*, a combination of biology and sociology; *The People's Food*, by Sir William Crawford and H. Broadley, national habits in food consumption.

Short Stories. Two collections of stories about the American south were *Southways*, by Erskine Caldwell, stories with economic implications, and *The Unvanquished*, by William Faulkner, about the Sartoris family. Three collections of proletarian stories were *The Money's All Right*, by Leslie Halward; *The Way Things Are*, by Albert Maltz; and *The Cleft Stick*, by Walter Greenwood. Other noteworthy collections were: *The Long*

Valley, by John Steinbeck; *Life along the Passaic River*, by William Carlos Williams; *Faithful Stranger*, by Sheila Kaye-Smith; *The Trouble with Tigers*, by William Saroyan; *Twenty-four Tales*, by Gerald Bullett.

Sociology. Two important books were: *Power: A New Social Analysis*, by Bertrand Russell, who considered power the fundamental social motive; and *The Culture of Cities*, by Lewis Mumford, who discussed the place and the potentialities of the city in civilization. Biological and psychological studies of man included *Apes, Men, and Morons*, by Earnest Albert Hooton, and *Man against Himself*, by Karl Menninger, an analysis of the causes of suicide.

Books about unemployment and relief included: *America on Relief*, by Marie Dresden Lane and Francis Steigmuller, public relief since 1933; *British Unemployment Policy*, since 1930, by Roland C. Davison; *The Right to Work*, by Nels Anderson, advocating public works; *We Too Are the People*, by Louise Armstrong, methods of relief, with praise for the FRA.

On labor: *American Labor*, a history, by Herbert Harris; *The Labor Movement in America*, by Marjorie R. Clark and S. Fanny Simon; three histories of the C.I.O.: *Labor on the March*, by Edward Levinson; *The Story of the C.I.O.*, by Benjamin Stolberg; and *Labor's New Millions*, by Mary Heaton Vorse; *Sit Down with John L. Lewis*, by C. L. Sulzberger, a portrait of the C.I.O. leader; *Labor Cears*, by Harold Seidman, corruption in the labor movement; *Civil Liberties and Industrial Conflict*, by Roger Baldwin and Clarence B. Randall, lectures by men of opposite points of view.

Two works on housing were: *Housing Comes of Age*, by Michael W. Straus and Talbot Waggs, the work of the FHA, and *The Challenge of Housing*, by Langdon W. Post, mostly about New York City. Miscellaneous works were: *I Like America*, by Granville Hicks, a communist point of view; *A Southerner Discovers the South*, by Jonathan Daniels; *Suckers' Progress*, by Herbert Asbury, an informal history of gambling in America; *These Foreigners*, by William Seabrook, foreign groups in America; *The Law and Mr. Smith*, by Max Radin, a layman's guide to law; *Judge Lynch: His First Hundred Years*, by Frank Shay, a history of lynching in America; *Behold Our Land*, by Russell Lord, the problem of soil erosion; *The Press*, by Henry Wickham Steed, an historical survey; *The Tyranny of Words*, by Stuart Chase, semantics; *People and Print*, by Douglas Waples, social aspects of reading in the depression; *The Jewish Contribution to Civilization*, by Cecil Roth; *Three Guineas*, by Virginia Woolf, how women can help prevent war; *Chinese Women: Yesterday and Today*, by Florence Ayscough; *Marriage: Past and Present*, by Margaret Cole.

Travel. Additions were made to the series of guide books by the WPA writers' project: *New Orleans City Guide*, edited by Lyle Saxon; *New Hampshire*; *Connecticut*; *The Ocean Highway*, from New Jersey to Florida; *Iowa*; *Delaware*; and *New York Panorama*.

Margaret Halsey's *With Malice toward Some* wisecracked about England and the English. Books on other parts of Europe were: Sacheverell Sitwell's *Roumanian Journey*; Halliday Sutherland's *Lapland Journey*, mostly Finland; Oliver St. John Gogarty's *I Follow St. Patrick*, Ireland; Louis MacNeice's *I Crossed the Minch*, the Hebrides.

Of South and Central America: Negley Farson's

Transgressor in the Tropics; John W. Vandercook's *Caribbee Cruise*; Earl Parker Hanson's *Journey to Mandao*; Warwick M. Tompkins' *Fifty South to Fifty South*, around the Horn. About Africa and Asia: W. R. Leigh's *Frontiers of Enchantment*, an artist in Africa; Katherine Fowler-Lunn's *The Gold Missus*, a geologist in Sierra Leone; Herbert Ticky's *Tibetan Adventure*; Maurice Collis's *Lords of the Sunset*, the Shan states; H. V. Morton's *Through Lands of the Bible*; Ruth Harkness' *The Lady and the Panda*, western China. About North America: Walter Wilkinson's *Puppets through America*; Vera Brittain's *Thrice a Stranger*, three visits to America; Dorothy Childs Hognor's *Westward, High, Low, and Dry*, American deserts; Kenneth Roberts' *Trending into Maine*; William Beebe's *Zaca Adventure*, a zoological expedition to the west coast; Dana Lamb and June Cleveland's *Enchanted Vagabonds*, Lower California; William Oliver Stevens' *Old Williamsburg and Her Neighbors*. Other travel books were: F. W. Ommanney's *South Latitude*, a biologist in the Antarctic; Edward Shackleton's *Arctic Journeys*; Cecil Lewis's *The Trumpet Is Mine*, about Tahiti; Anne Morrow Lindbergh's *Listen! the Wind*, a flight from Africa to Brazil; John Dos Passos' *Journeys between Wars*, various parts of the world.

LITHOGRAPHS. See PRINTS.

LITHUANIA, lith'ü-ä'nī-ä. A Baltic republic, the independence of which was proclaimed Feb. 16, 1918. Provisional capital, Kaunas (Kovno). Vilna, transferred to Poland by the Council of Ambassadors in 1923, was still claimed by Lithuanians in 1938 as their true capital.

Area and Population. Including the Memel (Klaipėda) district of 1100 square miles, Lithuania has an area of 21,474 square miles and a population estimated on Jan. 1, 1938, at 2,549,668 (152,660 in Memel). The number of foreigners was 8773. About 80 per cent of the population is agricultural. Living births in 1937 numbered 56,393 (22.2 per 1000); deaths, 33,260 (13.1 per 1000); marriages, 34,863 (7.4 per 1000). Estimated populations of the chief cities on Jan. 1, 1938, were: Kaunas (Kovno), 108,198; Memel (Klaipėda), 38,927; Siauliai, 24,970; Panevėžys, 21,626.

Education and Religion. About 15 per cent of the population was illiterate at the end of 1937. Excluding Memel, Lithuania had 2331 elementary schools with 5258 teachers and nearly 300,000 pupils on Oct. 1, 1938. At the end of 1938 there were about 90 secondary schools, with 18,000 pupils. Attendance in high schools in 1936-37 was 17,732; in universities, 4007. At the 1923 census Roman Catholics formed 80.5 per cent of the population, Protestants and Calvinists, 9.5; Jews, 7.3; Greek Orthodox, 2.5. Protestants comprise 91.7 per cent of the Memel Territory's population.

Production. About 77 per cent of the working population is engaged in agriculture and 10 per cent in commerce, industry, and transportation. The land area in 1935 was divided as follows (in thousand acres): Arable, 6,666 (60.9 per cent); meadows, 1720; permanent pasture land, 1097; forests, 427; peat bogs and marshes, 336. Yields of the chief cereals in 1938 were (in metric tons): Wheat, 246,900 (220,700 in 1937); barley, 268,800 (274,000); rye, 626,100 (606,900); oats, 424,800 (387,800). The potato harvest in 1937 was 92,224,000 bu.; linseed, 1,401,000 bu.; flax, 69,081,000 lb. Livestock statistics for the end of 1938 showed 557,840 horses, 1,192,840 cattle, 1,149,470 swine, 618,980 sheep, and 4,592,720 fowls. The sea fisheries

in 1937 yielded 1,599,250 kilograms of fish valued at 466,000 lits. The principal industries are dairying, meat packing, flour milling, lumbering, brewing and distilling, textile manufacture, tanning, sugar refining, and the production of hardware and tobacco products. In July, 1938, there were 1441 industrial enterprises employing not less than five persons, with a total personnel of 40,818 including 35,063 hired workers.

Foreign Trade. Total imports in 1938 were valued at 223,686,000 lits (212,667,000 in 1937) and exports at 233,198,000 lits (208,325,000). Leading 1937 imports were, in order of value, iron and steel, machinery, coal and coke, cotton cloth, cotton yarn, wool yarn. The value of the chief 1937 exports was (in U.S. paper dollars): Butter, \$6,973,000; bacon, \$3,994,000; swine, \$2,753,000; flax fiber, \$2,513,000; wood pulp, \$2,498,000. The United Kingdom furnished 28 per cent of the 1937 imports; Germany, 21.8; U.S.S.R., 8.4; United States, 3.5. Of the exports, the United Kingdom took 46.5 per cent; Germany, 16.6; U.S.S.R., 5.3; United States, 3.3. United States trade figures for 1938 showed exports to Lithuania of \$699,423; imports from Lithuania, \$921,761.

Finance. Actual budget returns for 1937 showed total receipts of 310,400,000 lits (ordinary, 285,500,000) and total expenditures of 318,100,000 lits (ordinary, 249,000,000). The receipts were exclusive of withdrawals of 19,600,000 lits from the Treasury Reserve Fund. Budget estimates for 1938 balanced at 346,800,000 lits; for 1939, at 368,800,000 lits, the largest in the Republic's history. The public debt on Dec. 31, 1937, totaled 118,634,000 lits (internal, 40,095,000). The lit exchanged practically at par (\$0.1693) in 1936, 1937, and 1938.

Transportation. Lithuania in 1937 had 1486 miles of railway line, 19,633 miles of roads and highways (with 2031 automobiles), and 1606 miles of waterways. A new railway from Panevėžys to Joniškėlis (25 miles) was opened Dec. 3, 1938. During 1937 the railways carried 3,356,100 passengers and 2,167,100 metric tons of freight, the gross receipts totaling 31,257,200 lits. During the same year, 1414 vessels of 844,662 net registered tons entered the port of Memel.

Government. The democratic Constitution of Aug. 1, 1922, was suspended following the coup d'état of Dec. 17, 1926, which placed full power in the hands of a small nationalist intelligentsia, organized as the Tautininkai party (Nationalist Union). The Diet was dissolved Apr. 17, 1927. On Dec. 16, 1933, the Nationalist Union adopted fascism as its ruling principle. As of Feb. 6, 1936, all political organizations except the Nationalist Union were officially dissolved. Elections to Parliament were held on June 9-10, 1936, for the first time under the Nationalist Union dictatorship, the candidates being restricted to members of that party. The 49 members of the new Parliament convened Sept. 1, 1936, and began the task of framing a new constitution, which was not completed until 1938 (see *History*). President at the beginning of 1938, Antanas Smetona, who was elected by Parliament Dec. 19, 1926, and re-elected by a board of electors Dec. 11, 1932. Premier, Juozas Tubelis, heading a cabinet formed Sept. 6, 1936.

HISTORY

Internal Politics. The Parliament of Nationalist Union party members, convened in 1936 to enact a new constitution, completed its work early in 1938 and the new fundamental law went into

effect May 12. It gave legal sanction to the corporative state already largely molded by the Nationalist Union dictatorship. Under the new Constitution elections were held for a Parliament of 128 members. The new Parliament convened in November and on November 14 re-elected Lithuania's 64-year-old President, Antanas Smetona, for another seven-year term. He was the only candidate considered.

A number of cabinet changes occurred during the year as a result of internal and external tensions, but without broadening the base of the government by giving portfolios to the dissolved opposition parties. Premier Juozas Tubelis and his entire cabinet resigned on March 24 following Lithuania's capitulation to Poland's ultimatum (see below). A new ministry was formed under the Rev. V. Mironas, chief chaplain of the army and one of the three leaders of the Nationalist Union. Effective October 1 Prime Minister Mironas assumed the Agriculture portfolio in addition to his other duties. The Mironas Cabinet was reconstructed December 5 in order to improve Polish-Lithuanian relations and offer stronger resistance to German pressure with regard to Memel. Juozas Urbysys succeeded Stasys Lozoraitis as Foreign Minister. Other changes in the cabinet made Brig.-Gen. Kazys Musteikis War Minister, Jonas Gudauskis Minister of Justice, Juozas Skaisgirius Minister of Agriculture, and Kazys Germanas Minister of Communications. The new Cabinet on December 29 approved a new Neutrality Law which placed in force measures for the strict observance of neutrality in any European conflict, similar to neutrality measures already adopted by Estonia and Latvia.

The government's pro-Polish and anti-German policy aroused the adherents of former Premier Augustinas Voldemaras, the strongly anti-Polish leader who was sentenced to 12 years at hard labor for an attempted anti-Government coup in 1934. Disorderly demonstrations against the government broke out in Kaunas early in December and on December 11 the regime imposed modified martial law on the capital and surrounding district. Persons causing political disturbances were threatened with exile or imprisonment.

The 20th anniversary of the restoration of Lithuanian independence was celebrated by military parades and other ceremonies on Sept. 8, 1938. The draft of a new land law, modeled after that in effect in Germany, was submitted to Parliament late in 1938 by the cabinet. It prohibited the subdivision of small holdings among heirs and authorized the state to take land from an owner who proved incompetent to work it.

Poland's Ultimatum. Unsuccessful in its repeated efforts to bring about a Polish-Lithuanian rapprochement on the basis of existing frontiers (see 1937 YEAR BOOK, p. 418), Poland early in 1938 resorted to more forceful measures. While Europe was absorbed in the German annexation of Austria, Poland seized the opportunity presented by the shooting of a Polish soldier on the Lithuanian side of the frontier on March 11 to present an ultimatum to Lithuania demanding the restoration of diplomatic relations before March 31. On the following day some 80,000 Polish troops began to concentrate on the Lithuanian frontier. The frontier had been closed since Oct. 10, 1920, when the Polish General Zeligowski, without authorization from his government, invaded Lithuania and seized one-third of her territory, including Vilna, the capital city. This territory was subsequently confirmed to Poland by the Conference of Ambassadors.

sadors. But Lithuania refused to accept the decision, severed diplomatic relations, closed the frontier to traffic of every kind, and refused to grant any rights to the Polish minority in Lithuania. This situation had existed for 18 years despite Polish protests and overtures and the efforts of the League of Nations to effect a reconciliation.

Threatened with invasion by a Polish force four times the size of the Lithuanian army, the government at Kaunas was forced to accept the Polish demands on March 19. It had appealed in vain to the Soviet Union for aid and Lithuania's partners in the Baltic Entente—Latvia and Estonia—urged acceptance of the ultimatum. On March 21 a Polish diplomatic representative was sent to Kaunas to arrange for the exchange of permanent envoys, which followed before the end of the month. Under the pressure exerted by the Polish forces on the frontier, a Polish-Lithuanian agreement for the resumption of postal, highway, and aerial communications was reached on March 26 and arrangements for rail connections followed.

This forced capitulation was unanimously approved by the Lithuanian Parliament but caused deep resentment among the Lithuanian people and an intensification of nationalism. The Tubelis Cabinet was forced to resign and the new ministry soon afterwards issued a decree requiring all publications to follow the Lithuanian spelling of place names. Polish newspapers issued in Lithuania suspended publication for three days in protest against this order, and then resumed the Polish spellings. Despite Polish protests, the new Lithuanian Constitution of May 12 contained the clause from the former Constitution designating Vilna as the "lawful capital of Lithuania." Negotiations for a Polish-Lithuanian commercial treaty, opened in July, soon collapsed under the continued hostility of the two countries on political issues. The Kaunas Government refused Polish requests that minority rights be granted the Polish minority in Lithuania.

The partition of Czecho-Slovakia in September and the subsequent rapid development of the agitation among the Germans of Memel for reincorporation in the Reich led the Lithuanian authorities to reverse their anti-Polish foreign policy late in October. They had been frightened by repeated rumors of a Polish-German deal whereby Poland would cede the Polish corridor to Germany in return for German support of Poland's annexation of Memel and possibly all of Lithuania. Following a conference at Kaunas on October 20 of Lithuanian Ministers from the various European capitals, it was reported that the government had decided to grant special rights to the Polish minority, promote closer commercial relations with Poland, and, by implication, recognize Poland's ownership of Vilna. This was followed on November 21 by a Polish-Lithuanian agreement to present press and radio news about one another in a "good neighbor" spirit.

On December 22 a comprehensive Polish-Lithuanian trade agreement was signed at Kaunas. It provided for increased and equalized trade, and a system of reciprocal transit by which Polish timber and other goods were to be shipped through Memel via water or rail. It also regulated commercial travelers, certificates of origin, and navigation.

Nazi Agitation in Memel. The Nazi agitation in Memel for immediate complete autonomy for the German majority of that territory and eventual reincorporation in the Reich moved toward a climax in 1938. This coincided with the growing belief that Hitler had marked out Memel as the next

German-speaking region to be annexed following the partition of Czecho-Slovakia. The danger of a Nazi diplomatic-military coup, coupled with demonstrated unwillingness of the Soviet Union, Britain, and France to intervene in defense of the small nations, produced a reversal in Lithuanian policy toward the Memel question during the year similar to that announced with respect to Poland and Vilna.

The German-dominated Memel Diet on April 12 passed a resolution demanding termination of martial law, in effect in Memel as well as in the rest of Lithuania since the Nationalist Union dictatorship was established in 1926. It called for the withdrawal of the Lithuanian "safety police" from Memel and for complete liberty to carry into effect Nazi ideology in the territory. At the same time the action of the Lithuanian Governor of Memel, Juozas Kubilius, in vetoing certain laws passed by the Diet, was attacked as contrary to Memel's autonomous rights.

The Lithuanian Government on April 13 rejected the demand for immediate abrogation of martial law but indicated that the state of war might be modified following passage of projected laws concerning the safety of the state. The growing tension in Memel flared up in a two-hour riot between Germans and Lithuanians on June 28 in which one person was killed and about 50 injured. Following the simultaneous outbreak of German and Polish press campaigns against Lithuania, the Kaunas Government on October 20 indicated its decision to moderate the bills for security of the state, which had been adopted in principle by the Lithuanian Parliament.

The Memel Germans, contending that the precautionary measures provided in the bills violated the Memel Statute, called a special protest meeting of the Memel Diet on October 26. With Nazi adherents demonstrating outside, the German leaders in the Diet demanded full executive and police powers within the territory for the Memel Directorate (government). Meanwhile, Memel Nazis, meeting at Koenigsberg, East Prussia, with Nazi representatives from Danzig and Berlin, were reported to have drawn up a list of demands for presentation to the Lithuanian Government. They included appointment of a German as head of the Memel Directorate, introduction of the German legal system in Memel including the Nuremberg anti-Jewish laws, complete freedom for Nazi political organizations in Memel, and self-government for the Memel Germans similar to that in effect in Danzig (q.v.). These demands were supported by the German press and by the German Minister at Kaunas.

As a result of these representations martial law in Memel and all Lithuania was ended on November 1, being replaced by the civilian law in force prior to the establishment of the dictatorship in 1926. The Lithuanian Government also restored to Dr. Ernst Neumann, the Nazi leader in Memel, and other Nazis the civil rights withdrawn when they were sentenced for political activity in 1935. They were thus able to stand for election to the Memel Diet in the election held December 11. The voting gave the German party 2,093,466 votes, or 87.3 per cent of the total, while Lithuanian candidates polled 266,485, or 12.7 per cent. The Germans elected 25 members of the Memel Diet and the Lithuanians four. Herr Neumann immediately announced that the Memel Germans would "try by all means to establish connection with our German

brothers across the river and expand our movement and the National Socialist idea."

The agitation for reunion with the Reich increased in intensity after the election. On December 12 the Memel Directory issued a decree depriving the Lithuanian State police of all authority in the Territory. In view of the menacing attitude of the German Government, President Smetona expressed willingness to negotiate a settlement of the Memel question. At the same time an appeal for British and French support was sent to London and Paris, but Anglo-French representations were rebuffed in Berlin (see *GERMANY under History*). At the year end, it seemed certain that the occupation of Memel by German troops was impending.

LITTLE ENTENTE. The political and military combination formed by Czecho-Slovakia, Rumania, and Yugoslavia in 1920 and 1921 in defense of their frontiers as established by the World War peace treaties. They concluded bilateral treaties providing military guarantees against aggression by Hungary. Their collaboration in defense of the territorial status quo was formalized and extended to economic and financial matters by a series of treaties signed in 1929, 1930, and 1933. These established a Permanent Council and provided for a concerted foreign policy based on the principles of the League of Nations, the Kellogg-Briand Pact, the General Act of Arbitration of 1924, and the Locarno Treaties. Each state agreed not to make outside political commitments without the previous consent of the other members—a provision annulled in 1936—and accepted a mutual system of conciliation and arbitration of their disputes. In 1925 France concluded a treaty with Czecho-Slovakia providing for mutual aid in case either was attacked. France also negotiated pacts of non-aggression and consultation with Rumania and Yugoslavia. In 1934 Rumania and Yugoslavia became members of the Balkan Entente (q.v.).

The Italo-German agreement for collaboration in European affairs concluded in 1936 was followed by strenuous efforts to detach Yugoslavia and Rumania from Czecho-Slovakia. The Little Entente alliances served to restrain Hungary somewhat during the partition of Czecho-Slovakia by Germany and Poland in September-October, 1938, but with the establishment of German domination in what was left of Czecho-Slovakia, there remained of the Little Entente for effective purposes only the agreement between Rumania and Yugoslavia to aid one another if either was attacked by Hungary. See *CZECHO-SLOVAKIA, HUNGARY, RUMANIA, and YUGOSLAVIA under History*.

LIVESTOCK. Plentiful feed supplies in 1938 aided the continuance of recovery of the livestock industry begun last year. The devastating droughts of 1934 and 1936 made necessary the reduction of livestock numbers to a minimum for continuance of the herds and flocks. Hog, sheep, and poultry numbers were increased some in 1937, but cattle and horses are slower to respond to favorable conditions. The beginning of a cycle of increased cattle production was pronounced in 1938 with the saving of unusually large percentages of heifer calves to furnish additional breeding animals. Despite the reduced acreage of grain crops in line with the conservation program, which resulted in a 2 per cent lower acreage than last year, the total supply, including a large carryover from 1937 of corn, oats, barley, and grain sorghum at the end of the crop year, was estimated at about 111,000,000 tons. This was about 3 per cent larger than the average for

the period 1928-32. The supply per animal was greater than at any time for more than 12 years. The expansion in livestock numbers helped maintain an active demand for feed grains.

An increase of 1 per cent in cattle numbers to about 66,500,000 was estimated during the year. The increase in numbers occurred largely west of the Mississippi River, the area where reductions since 1934 were most drastic.

Federally inspected slaughter of cattle and calves in 1938 was about 15,000,000 head, which was about 1,000,000 head less than 1937. Barring the recurrence of a series of drought years, the U.S. Bureau of Agricultural Economics predicted that cattle numbers will tend to expand for several years and that a new cattle-production cycle was starting. To make this possible, cattle slaughtering may continue low in 1939.

The 1938 pig crop of 71,088,000 was about 15 per cent larger than the pig crop of 1937, but still 11 per cent under the five-year average for 1929-33. Indications for farrowing in the spring of 1939 were 21 per cent larger than in the spring of 1938. With the abundant feed supplies of 1938 and the favorable relation of feed prices to pork, if the corn crop in 1939 is good, the U.S. Bureau of Agricultural Economics estimated that the number of pigs raised in 1940 may reach the level of the five years before the 1934 drought.

The increased hog production, coupled with favorable feed prices, resulted in a heavier pork production in 1938. During the marketing year, which ended Sept. 30, 1938, there were slaughtered under Federal inspection over 6,000,000,000 lb. of dressed pork, as contrasted with 5,500,000,000 lb. in the preceding year. The 1938 production was only about 75 per cent of the average of 8,000,000,000 lb. of pork produced during the five years, 1928 to 1933. With a higher average dressed weight of pigs in 1938, lard production of 1,002,000,000 lb. was about 13 per cent heavier than in 1937, although nearly 40 per cent under the average lard production of 1,630,000,000 lb. in the five years prior to 1934.

Despite declining hog prices toward the latter part of the year, an increasing corn-hog ratio resulted from the heavy corn crop and declining feed prices. In November, 1938, 100 lb. of pork would purchase 18.2 bu. of No. 3 yellow corn, the highest corn-hog ratio since June, 1926.

In the spring, stocks of pork and lard in storage of about 700,000,000 lb. were nearly one-third smaller than in the preceding year. However, storage demand for hog products continued weak through the year and on Nov. 1, 1938, pork stocks in storage of 252,000,000 lb. were even smaller than the very small stocks of 1937 and 40 per cent smaller than the five-year average, 1929-33, on that date.

The numbers of sheep on feed on Jan. 1, 1938, were estimated at 6,066,000 head, about 11 per cent greater than last year, and the largest number of lambs on feed on January 1 on record. The 1938 lamb crop of 32,221,000 head was 5 per cent larger than in 1937 and the largest lamb crop on record. This resulted in part from a small increase in the number of breeding ewes, but mainly from the largest lambing percentage of any of the 15 years of record. The early lamb crop was at least 15 per cent larger than the small early lamb crop of 1937.

These situations resulted in heavy slaughtering of lamb. In 1938 there were slaughtered under Federal inspection 18,060,136 head, as contrasted with 17,270,140 in 1937.

In the 1937-38 season, many rather heavy losses

were encountered in lamb-feeding operations. In spite of this experience abundant feed at low prices and favorable feeder-lamb prices as compared with feeder cattle encouraged considerable lamb feeding. However, the numbers fed in the corn belt and western states were less than last year. See VETERINARY MEDICINE.

Although the numbers of horses on farms have been decreasing for several years, increases were noted in the numbers of stallions and jacks licensed for public service, suggesting probabilities for some increases in horse production.

The Institute of American Meat Packers estimated the per capita meat consumption in the United States as 128 lb. in 1938, an increase of three and one-half pounds over last year.

International Conditions. The livestock industry in the United States was distinctly benefited by the trade agreements negotiated during 1938, particularly that with the United Kingdom. On account of a shortage of pork in the United Kingdom, import quotas for cured and frozen pork were increased at several periods during the year. The cured pork quota for the United States totaled nearly 48,000,000 lb., which was similar to 1937, but the frozen pork quota was over 20,000,000 as contrasted with about 15,000,000 lb. in 1937. Further, the cured-pork quota from the United States was filled for the first time since 1934.

By the terms of a new trade agreement effective Jan. 1, 1938, the duty of 10 per cent ad valorem on lard imports into Great Britain from the United States was removed and the quota on imports of ham from this country was increased to at least 56,000,000 lb., with certain provisions for further increases. Since 1934, the annual quota for ham and bacon imports from the United States has varied from 47,000,000 to 49,000,000 lb. For many years Great Britain has been the most important outlet for United States lard.

With the favorable conditions and heavy production of pork products in the United States in 1938, and declines in hog slaughter in the important hog-producing countries of western and central Europe, exports of pork, excluding lard, were about 95,000,000 lb. About 200,000,000 lb. of lard, totaling approximately 20 per cent of the production, were exported from the United States during the year.

Under the terms of a trade agreement with Czecho-Slovakia, the United States was assured an annual quota of at least 12,346,000 lb. of rendered lard and raw hog fat. Since 1931 there has been competition between Denmark, Netherlands, and the Danubian countries with the United States for the Czecho-Slovakian markets for hog fats.

To serve as a stimulant to hog production, the British Government guaranteed minimum prices for bacon-type hogs to producers, and a subsidy to bacon factories. Contracts will be made through the Pig Marketing Board between producers and the Bacon Marketing Board, bacon prices being based on feed prices. The total number of hogs in the United Kingdom on June 1 was placed at 5,343,000, but guaranteed bacon prices are limited to only 2,100,000, with provision for increases to 2,500,000 in three years. The guaranteed price does not apply to fresh pork. Under conditions existing during 1938 with low feed prices, it was more profitable to feed for fresh pork production.

Hog numbers in Germany, as indicated by the census of Sept. 3, 1938, were reduced about 2,000,000 head as compared with the corresponding date of 1937, when 25,393,000 head were reported. The French Government encouraged pork and lard pro-

duction by fixing a subsidy on Apr. 16, 1938, of 2.8 cents per pound on export lard and 2.1 cents per pound on salt pork for export.

Early in 1938, demands for live hogs in Denmark were such that provisions were made to import 100,000 head from Sweden and Norway beginning March 5. The Swedish Government maintains livestock production at levels to meet uniform marketing requirements in England and Germany. It was felt that the Danish demand would dislocate the established equilibrium of supply and demand in an undesirable manner, in its effect on domestic supplies and ability to fill the British bacon quota. Therefore, an embargo was placed on live hog exports from Sweden.

Improved feeding conditions for beef cattle in the United States, and increased beef production, caused a reduction of about 30 per cent in the imports of live and dressed beef, as compared with 1937 when imports were estimated at 336,386,000 lb.

Exports of refrigerated beef from Uruguay, totaling over 160,000,000 lb. in 1938, were more than 30 per cent greater than in 1937. Over half of the exports were to the United Kingdom, with the balance going principally to continental Europe. The United States, which is the principal market for canned beef from Uruguay, received about 75,000,000 lb. However, this constituted a reduction of about 15 per cent from 1937.

Live cattle imports into the United States from Canada decreased nearly 70 per cent as compared with 1937. Imports of slaughter cattle from Mexico were comparable to previous years, but imports of feeder cattle were increased more than 30 per cent.

Although livestock numbers on farms and held by the Government in the Soviet Union were reported heavy, a serious drought causing reduced production of feed, poor pastures, and hay crops was expected to necessitate reduction in livestock numbers.

Research. The available space will only permit reference to a few investigations of livestock problems which are suggestive of the comprehensive nature of research in this field, and attempts to solve practical problems not only at agricultural experiment stations in the United States, but in other countries as well.

Interest continued on the feeding value of pastures and roughages and improved methods of preserving hay and silages (see DAIRYING, p. 203). The Michigan Agricultural Experiment Station found that during curing, alfalfa hay lost about half of the carotene (vitamin A) present in the green alfalfa. The Texas Agricultural Experiment Station studied the vitamin A in stored mixed feeds to which fish oils had been added, and found that from 70 to 100 per cent of the vitamin disappeared in four weeks' storage at 7° to 28° C. The loss of the vitamin was delayed during the first two weeks by the addition of .1 per cent hydroquinone. It was recommended that feeds mixed with a vitamin A supplement be stored not longer than 10 days if the vitamin A potency is to be maintained.

Deficiencies of minerals were found to be responsible for an increasing number of malnutrition problems in livestock. Severe anemia occurring in breeding ewes in Western Australia was found to be due to a depletion of copper. A new vitamin known as K was discovered at Washington University, St. Louis, which prevented a type of anemia in chickens. Recovery within three days followed the administration of small quantities of vitamin K or alfalfa meal in the ration to deficient birds.

Following closely on similar reports in some parts of the United States, cobalt deficiencies in the soils in areas of Denmark were associated with the so-called "wasting disease." Sheep suffering from bush sickness and Morton Mains disease in New Zealand were cured by drenching them with small amounts of cobalt, or by making a cobaltized salt lick available.

A comparison of different breeds and crosses of pigs for bacon export from Australia to England showed that breed alone is insufficient for guaranteeing desirable type bacon pigs. Type within the breed is the important factor, and the selection of a strain capable of producing a large proportion of pigs uniform in conformation and complying with present-day market classes is essential for success. The School of Agriculture at Cambridge, England, found, that with good stock, properly fed and managed, there was no incompatibility between rapid-growth rate and good quality in pigs of different breeds.

The Low Temperature Research Station of the British Food Investigation Board found that a carbon dioxide medium delayed the development of mold and slime on meat stored at chilling temperatures. As an outgrowth of these studies and further investigations of the effect of carbon dioxide on the quality and chemical changes in the meat, the transportation of chilled beef in a carbon dioxide atmosphere from Australia and New Zealand to Great Britain was carried out on a commercial basis.

Improvements in methods of artificial insemination of livestock were being perfected, especially in Russia, Canada, Denmark, and at the California, Minnesota, Missouri, and New Jersey Agricultural Experiment Stations, and the U.S. Department of Agriculture. Progress has been such that co-operative associations have been organized among dairy cattle breeders in New Jersey and New York for artificial insemination of their herds. Selected bulls are used and a paid full-time veterinarian does the insemination. Progress has been made in the preservation of semen so that it is being shipped various distances experimentally. Ewes in Poland have been impregnated by semen shipped from England, and ewes at Moscow, Idaho, were impregnated with semen shipped from Dubois, Idaho, and Beltsville, Maryland. Similar studies were conducted with other classes of animals.

A regional co-operative poultry research laboratory was established by the U.S. Department of Agriculture at East Lansing, Mich., under the terms of the Bankhead-Jones Act. The initial problem was concerned with the development of effective control measures for fowl paralysis, a disease that has been widespread on commercial poultry farms over much of the country. The laboratory work was to be directed jointly by the U.S. Department of Agriculture and 25 State Agricultural Experiment Stations. Attempts will be made to find the causative agent and control for the disease and to breed disease-resistant strains.

The Fourth International Animal Breeding Congress is to be held Aug. 8-11, 1939, at Zurich, Switzerland, where opportunity will be afforded for a mutual interchange of ideas by scientists and breeders on the more recent advances in research and experiences in animal breeding.

Extensive plans were being formulated throughout the year for the Seventh World Poultry Congress to be held in Cleveland from July 28 to Aug. 7, 1939.

Changes in Personnel. Dr. F. B. Mumford, a

well-known leader in livestock research, and Dean of the Missouri College of Agriculture and Director of the Agricultural Experiment Station for many years, retired on Sept. 1, 1938. Prof. J. W. Wilson, Director of the South Dakota Agricultural Experiment Station, and head of the Animal Husbandry Department for 36 years, was retired and made emeritus professor of animal husbandry.

After 35 years of continuous service, Prof. George Humphrey was, by request, relieved of the chairmanship of the Animal Husbandry Department of the University of Wisconsin to be permitted to devote more time to phases of animal production in which he is especially interested. Dr. A. E. Darlow was appointed chairman of the department, and Dr. G. Bohstedt was placed in charge of livestock research work.

E. G. Ritzman, Professor of Animal Husbandry at the New Hampshire Experiment Station, was also appointed research associate in animal nutrition in the Carnegie Institute. Dr. Mary Juhn, of the University of Chicago, was appointed Research Associate Professor in poultry husbandry at the University of Maryland. Dr. F. H. Leinbach, Professor of Animal Husbandry at the Colorado State College, and J. B. Outhouse were appointed as Professor and Assistant, respectively, in Animal Husbandry at the University of Maryland, the former to succeed Prof. K. A. Clark, who resigned. Dr. C. H. Kick, Associate Animal Husbandman at the Ohio Agricultural Experiment Station, succeeded Dr. Leinbach at Colorado. Dr. W. E. Carroll, head of the Animal Husbandry Department in the Utah Agricultural College, resigned to accept a position in the Animal Husbandry Department at the University of Illinois. Prof. H. J. Gramlich, head of the Animal Husbandry Department of the University of Nebraska, was appointed Secretary of the American Shorthorn Breeders Association on November 1; and H. J. Brant, formerly of the University of Wisconsin, was elected Secretary of the Belgian Horse Breeders Association.

J. E. Nordby, Professor of Animal Husbandry at the Idaho University, was appointed Director of the U.S.D.A. Regional Sheep-Breeding Laboratory at Dubois, Idaho. Dr. J. Holmes Martin, Professor of Poultry Husbandry at the University of Kentucky, and Dr. N. F. Waters, Professor of Poultry Husbandry of Iowa State University, were appointed Director and geneticist, respectively, of the U.S.D.A. Regional Poultry Laboratory at East Lansing, Mich., the appointments being effective Jan. 1, 1939. Earl Krantz, in charge of horse work in the U.S. Bureau of Animal Industry, resigned on Oct. 15, 1938. Dr. R. M. Fraps was appointed Senior Physiologist in the U.S. Department of Agriculture, Bureau of Animal Industry, August 1.

Necrology. Dean and Director H. W. Mumford, of the University of Illinois and the State Experiment Station, died on May 31, 1938. Dean Mumford was a well-known leader in livestock research. Prof. M. W. Harper, Professor of Animal Husbandry and in charge of teaching and research with horses in Cornell University since 1909, died on May 9, 1938.

Bibliography. Recent publications representative of the literature on various phases of the livestock industry are: *The American Society of Animal Production: Record of Proceedings of the Thirtieth Annual Meeting, November 26-28, 1937* (Amer. Soc. Anim. Prod. Proc. (1937), pp. 394); *Animal Breeding Plans*, J. L. Lush (Ames, Iowa: Collegiate Press, Inc. (1938), 4 ed. rev. pp. 366); *Principles of Feeding Farm Animals*, S. Bull and

W. E. Carroll (New York: Macmillan Co. (1937), rev. ed., pp. XI + 395); *Livestock Judging Handbook*, J. E. Nordby and W. M. Beeson (Danville, Ill., Interstate, 1937); *The Physiology of Domestic Animals*, H. H. Dukes (Ithaca, N. Y.: Comstock Pub. Co. (1937), 4 ed. rev., pp. XIV + 695); *Thoroughbred Racing Stock and Its Ancestors*, Lady J. A. D. M. Wentworth (London, Allen & Unwin, 1938); *The Colorado Range Cattle Industry*, O. B. Peake (Glendale, Calif.: Arthur H. Clark Co. (1937), pp. 357); *Correlation of Body Measurements of Slaughter Steers with Rate and Efficiency of Gain and with Certain Carcass Characteristics*, W. H. Black, B. Knapp, Jr., and A. C. Cook (U.S.D.A. Jour. Agr. Res. [U.S.], 56 (1938), No. 6, pp. 465-472); *Effect of Supplementing Winter and Summer Range on Gains of Steers in the Northern Great Plains*, W. H. Black and V. I. Clark (U.S. Dept. Agr., Tech. Bul. 628 (1938), pp. 15); *Productive Sheep Husbandry*, W. C. Coffey (W. G. Kammlade, Philadelphia, Lippincott (1937), ed. 2, rev.); *Recent Changes in Sheep Breeding in the Arable Areas, I, II*, R. P. Askew (Jour. Min. Agr. [Gt. Brit.], 44 (1937), Nos. 5, pp. 450-457; 6, pp. 562-571); *Das lymphgefäßsystem des schweines. Überarbeitet von H. Grau*, H. Baum (Berlin, Parey, 1938); *The National Poultry Improvement Plan* (U.S. Dept. Agr., Misc. Pub. 300 (1938), pp. 23); *Battery Brooding*, M. H. Arndt (New York: Orange Judd, New ed. (1937), 47 Ar62, rev. ed.); *Reference Book of the Meat Packing Industry* (Chicago, Ill.: Institute of American Meat Packers (1938), pp. 64); *Poultry Husbandry*, M. A. Jull (New York: McGraw-Hill Book Co., Inc., 1938, 2 ed., pp. 548).

LOMBOK. See NETHERLANDS INDIES.

LOS ANGELES. See AQUEDUCTS.

LOUISIANA. Area and Population. Area, 48,506 square miles; included (1930) water, 3097 square miles. Population: Apr. 1, 1930 (census), 2,101,593; July 1, 1937 (Federal estimate), 2,132,000; 1920 (census), 1,798,509. New Orleans had (1930) 458,762 inhabitants; Baton Rouge, the capital, 30,729.

Agriculture. Acreage, production, and value of the chief crops of Louisiana, for 1938 and 1937, appear in the accompanying table.

Crops	Year	Acreage	Prod. Bu.	Value
Cotton	1938	1,224,000	676,000 *	\$28,730,000
	1937	1,569,000	1,104,000 *	46,352,000
Sugar cane ..	1938	270,000	6,237,000 *	15,805,000
	1937	254,000	5,258,000 *	15,301,000
Corn	1938	1,620,000	26,730,000	14,969,000
	1937	1,422,000	24,885,000	16,424,000
Rice	1938	494,000	20,748,000	12,449,000
	1937	517,000	20,680,000	14,269,000
Sweet potatoes	1938	99,000	6,930,000	4,504,000
	1937	90,000	6,570,000	4,533,000
Hay (tame) .	1938	299,000	333,000 *	3,263,000
	1937	263,000	321,000 *	3,210,000
Potatoes	1938	43,000	2,752,000	1,651,000
	1937	44,000	2,728,000	1,773,000

* Bales. * Tons.

Mineral Production. The \$153,367,213 attained by the yearly total of production of native minerals in Louisiana in 1936 was made up to the extent of nine-tenths by the output of petroleum and natural gas; sulphur supplied much of the remainder. In 1937 the rise of the yield of petroleum continued, though less rapidly; production increased to 90,510,000 bbl. for 1937, from 80,491,000 (value \$85,600,000) for 1936. This gain, due to higher output from the Gulf Coast, was limited by a decline of production from the State's portion of

the Rodessa field. Fully a dozen more of the typical salt-dome fields of the coastal area, at depths of 8000 feet or more, were discovered. The production of natural gas was augmented by numerous new wells in known territory and by some discoveries elsewhere; it attained 339 billion cu. ft. (1937), or about 15 per cent more than the total of 290,151 million cu. ft. (value \$53,641,000) for 1936. More than half of the natural gas obtained in 1937 was put into pipe lines serving distant consumers. Production of sulphur made a moderate increase to 342,230 long tons (1937), from 333,475 tons (value \$5,980,101) for 1936. The producers of salt shipped 974,403 short tons (1937), as against 918,414 tons (1936); in value, \$2,898,826, as against \$2,436,971.

Finance. Louisiana's State expenditures in the year ended Dec. 31, 1937, as reported by the U.S. Bureau of the Census, were: For maintaining and operating governmental departments, \$47,000,120 (of which \$3,997,034 was for highways, \$5,306,346 for charities, and \$11,869,582 for local education); for interest on debt, \$6,032,223; for capital outlay, \$14,215,551. Revenues were \$78,198,585. Of these, property taxes furnished \$7,715,248; income taxes, \$4,855,042; sales taxes, \$22,979,716 (including tax on gasoline, \$11,154,134); departmental earnings, \$3,448,749; sale of licenses, \$12,099,202; unemployment compensation, \$7,560,338; Federal or other grants-in-aid, \$8,390,386. Funded debt outstanding on Dec. 31, 1937, totaled \$126,473,591. Net of sinking-fund assets, the debt was \$126,324,740. On an assessed valuation of \$1,338,882,600 the State levied in the year ad-valorem taxes of \$7,698,575.

The State conducted two public enterprises not included in the figures above. The Port of New Orleans, the greater of the two, expended, in the year, \$4,233,272; earned \$2,811,414; and received from the State \$1,003,790, in addition to \$775,000 from the New Orleans Levee Board.

Education. Louisiana's inhabitants of school age, as reckoned in 1935, numbered 619,475; of these, 382,711 were whites and 236,764 were Negroes. Enrollments in public schools, for the academic year 1937-38, totaled 462,069 (294,192 white and 167,877 colored). They comprised 375,326 elementary enrollments (219,568 white and 155,758 colored) and 86,743 in high schools (74,624 white and 12,119 colored). In addition to these, there were 10,594 enrollments (6397 white and 4197 colored) in a system of public evening schools and 60,898 (44,909 white and 15,989 colored) in other than public schools. The year's expenditure for public-school education totaled \$31,157,149, of which payments for current operation took \$19,973,969. Teachers numbered 13,999 (10,160 white and 3839 colored). Their average salary for the year was \$967.06 (\$1146.09 for whites and \$493.22 for colored teachers). Louisiana authorized in 1938 an issue of \$6,000,000 of bonds for means to aid the construction of improvements to the public schools.

Charities and Corrections. Through its Department of Public Welfare the State provided toward the support of needy persons in divers groups not in institutions. Through its Board of Charities and Corrections it maintained a central authority over institutions for the care and custody of persons. The Department of Public Welfare acted for the State in the distribution of old-age assistance, public maintenance for children of destitute families, public support for the needy blind, general poor-aid, and temporary compensation to persons thrown out of employment. The Board of Charities and Corrections, composed of the Governor, ex officio, and four appointed members, with

an executive secretary (Dr. I. Boyd Wenger), supervised all penal and corrective institutions, State or municipal, and the State mental hospitals. The State institutions had separate individual governing boards. These institutions and their populations as reported late in 1938 were: State Industrial School for Girls, Alexandria, 80; Louisiana Training Institute (for boys), Monroe, 150; East Louisiana State Hospital (mental), Jackson, 3956; Central Louisiana State Hospital (mental), Pineville, 2671; State Colony and Training School, Alexandria, 1001; State Penitentiary, Angola, 3500.

Legislation. The Legislature met in May in regular session. In addition to the biennial appropriations it considered taxation designed to provide more amply for the distributions of money to the needy under the system of social security. See CHILD LABOR; MINIMUM WAGE.

Political and Other Events. In the hands of Governor Leche, Mayor Maestri of New Orleans, and one or two other former lieutenants of the late Huey Long, the political dynasty that he had founded remained in firm control of all branches of the State government. Aggressive crusading against wealth, such as Long had carried on, was not resumed, and the groups against which Long had prevailed kept quiet. Thus the year passed without any return of the strife characteristic of Long's regime. State Senator Noe, not at the time wholly in harmony with the political heads, introduced in the Legislature some bills judged to be of a factional character, but in the main, Long's political successors kept in harmony.

The C.I.O., however, braved the authorities in an effort to organize industrial unions in New Orleans. Meeting with opposition in June, to a strike among drivers of taxicabs, the C.I.O. appealed for aid from the Federal District Court, alleging that the police had beaten labor organizers, conveyed them out of the city, and threatened them with harm in case of their return. Governor Leche, in August, displayed pro-labor sympathies by serving coffee and sandwiches at Hammond to striking employees of the Hammond box factory. A tornado at Rodessa (February 18) killed 25 persons and caused damage amounting to \$500,000.

Approved by popular vote, a State constitutional amendment lowering the severance tax on sulphur to \$1.03 a ton, from \$2, stimulated sulphur-mining.

Elections. The voters (November 8) re-elected U.S. Senator Overton and the eight incumbent Democratic Representatives and adopted amendments, affecting taxation, to the State constitution.

Officers. Louisiana's chief officers serving in 1938 were: Governor, Richard W. Leche (Dem.); Lieutenant-Governor, Earl K. Long; Secretary of State, E. A. Conway; Treasurer, A. P. Tugwell; Auditor, L. B. Baynard; Attorney-General, G. L. Porterie; Superintendent of Education, T. H. Harris.

Judiciary. Supreme Court: Chief Justice, Charles A. O'Neill; Associate Justices, John B. Fournet, A. T. Higgins, W. G. Rogers, John R. Land, Fred M. Odom, A. L. Ponder, Jr.

LOYALTY ISLANDS. See NEW CALEDONIA.

LÜBECK. See GERMANY.

LOUDLOW WAR REFERENDUM. See UNITED STATES under Congress.

LUMBER. See FORESTS.

LUTHERAN CHURCH. A church that expresses itself in groups of religious bodies and synods that receive and hold the canonical Holy Scriptures of the Old and New Testaments as the

inspired Word of God and the only infallible rule and standard of faith and practice, and that declare the unaltered Augsburg Confession to be a correct exposition of the faith and doctrine of the Evangelical Lutheran Church. The membership of the church, while found chiefly in central and northern Europe and in the United States and Canada, is distributed throughout the world, there being in 1938 a total of about 84,000,000 members in 75,000 congregations, served by more than 50,000 pastors.

In the United States, as the result of mergers and the formation of federations, the Lutheran Church expresses itself in practically a threefold equal division in the United Lutheran Church in America, the American Lutheran Conference (consisting of the American Lutheran Church, the Augustana Synod, the Norwegian Lutheran Church, the Lutheran Free Church, and the United Danish Church), and the Synodical Conference (consisting of the Missouri Synod, the Joint Wisconsin Synod, the Slovak Synod, the Norwegian Synod, and the Negro Missions).

Definite trends looking toward the spiritual deepening of its membership are recorded in the year 1938. In the United Lutheran Church under the direction of the Board of American Missions a great promotional campaign was carried through. One of the primary purposes of this campaign was to intensify and deepen the spiritual life of the whole church. Through publicity, through motion pictures, through sectional meetings and pastors' institutes, the message and program of the church was forcibly brought to the attention of its entire constituency.

Similarly the Norwegian Lutheran Church of America undertook a five-year special program, known as "The March of Faith," in preparation for the celebration of its centennial in 1943. Emphasizing the spiritual as of primary importance, the Norwegian Lutheran Church has moved out into a great program of evangelistic and financial expansion.

Other indications of spiritual deepening are to be noted in the fact that the Preaching Mission inaugurated by the American Lutheran Conference in 1937 is to be continued at the urgent request of those constituencies which were benefited by it.

The year 1938 also marks a definite advance with respect to better understanding among the Lutheran bodies of the United States. The reports of the respective commissions which had been appointed previously were made to the conventions of the United Lutheran Church, the American Lutheran Church, the Missouri Synod, and the American Lutheran Conference, with the result that the cause of Lutheran co-operation and unity was advanced. Resolutions were passed in each instance authorizing the continuation of these negotiations and the vigorous prosecution of effort to reach a better understanding. In the case of the Missouri Synod and the American Lutheran Church resolutions were passed by their respective conventions declaring that doctrinal agreement had been reached. This trend toward a better understanding among the Lutherans of America is the natural corollary of the spiritual deepening which is in evidence all along the line.

The outstanding event among Lutherans in America in 1938 was the Tercentenary Celebration of the founding of New Sweden on the banks of the Delaware in 1638. This, in reality, marks the beginning of organized Lutheranism in America, for the Swedes who came to settle in that early colony brought Lutheran pastors with them and

built churches. In addition to the civic and patriotic celebrations that were held at Wilmington and Philadelphia, a great Lutheran celebration of the event was held in Convention Hall, Philadelphia, on Tuesday, June 28, at which time representatives of the Swedish Government and of the Church of Sweden presented greetings to the Lutheran Church of America.

Another event indicating the trend toward greater solidarity among Lutherans was the merger of four synods belonging to the United Lutheran Church in Pennsylvania. The merging bodies were the East and West Pennsylvania, the Allegheny, and the Susquehanna Synods, which now form the Central Pennsylvania Synod, with 118,000 communicant members.

The statistics for the Lutherans having headquarters in the United States for 1937-38 are as follows: Pastors, 12,925; congregations, 19,738; baptized membership, 5,114,250; confirmed membership, 3,481,950; church schools, 21,407; officers and teachers, 175,422; scholars, 1,932,089; valuation of church property, \$366,883,568; congregational expenses, \$37,607,602; benevolence, \$8,308,682; total expenditures, \$45,916,284.

The annual meeting of the Executive Committee of the Lutheran World Convention was held in Uppsala, Sweden, May 21-25, 1938. The final program of the world assembly which is to be held in Philadelphia in 1940 was adopted. The chief theme of the 1940 Convention will be "The Church Today." This subject is to be considered under three heads: "The Church, the Word, and the Sacraments," "The Church and Other Churches," "The Church in the World." Three commissions were appointed to study these three subjects. The American Commission, which has been designated to prepare the topic "The Church in the World," consists of Dr. W. H. Greever, chairman, New York, N. Y.; Dr. E. E. Fischer, Philadelphia, Pa.; Dr. T. F. Gullixson, St. Paul, Minn.; Dr. B. M. Christensen, Minneapolis, Minn.; Dr. Conrad Bergendoff, Rock Island, Ill.; and Prof. E. C. Fendt, Columbus, O.

In preparation for the 1940 Convention, Dr. Hanns Lilje, Berlin, General Secretary, visited the United States, representing the Convention in many Lutheran centers. Archbishop Erling Eidem, Uppsala, Sweden, was appointed a member of the Executive Committee in place of Dr. Per Pehrsson, retired.

The headquarters of the National Lutheran Council are at 39 East 35th St., New York, N. Y., the executive director being the Rev. Ralph H. Long, D.D.

LUXEMBURG, lük'sem-bürg. A grand duchy adjoining southeast Belgium. Area, 999 square miles; population (Jan. 1, 1936), 296,776 compared with 299,993 (1931 census). In 1936 there were 4515 births, 3433 deaths, and 2374 marriages. Luxembourg (capital) had 57,996 inhabitants in 1936. Other towns are Esch-Alzette, the center of the mining district, 27,517; Differdange, 15,945; Dudelange, 13,572.

Production and Trade. Agriculture is carried on by approximately 32 per cent of the population, the principal crops being potatoes and oats. Livestock in the country (Jan. 1, 1935): 17,036 horses, 102,720 cattle, 163,337 swine, 7246 sheep, and 4391 goats. In 1937 the mining and metallurgical industries produced (in metric tons): Iron ore, 2,350,000 (metal content of ore); pig iron and ferroalloys, 2,513,000; steel, 2,511,000; basic slag, 544,000. Trade figures are included with those of Belgium

by reason of the Belgo-Luxembourg Economic Union which came into force on May 1, 1922. In 1937 there were 2636 miles of roads and 338 miles of railway line.

Government. For 1937 revenue was estimated at 327,705,146 francs; expenditure, 326,835,846 francs; total public debt (Dec. 31, 1936), 655,136,452 francs (franc averaged \$0.0405 for 1937). Executive power rests with the Grand Duchess who also holds the right to organize the government. Legislative power rests with the Grand Duchess and with the Chamber of Deputies (lower chamber) of 55 members (in 1937: Catholics, 25; Laborites, 18; Radical Liberals, 6; Independents, 3; Democrats, 3) elected for 6 years (one-half being renewed every 3 years). There is an upper chamber called the Council of State consisting of 15 members chosen for life by the sovereign. Ruler, Grand Duchess Charlotte (succeeded, Jan. 9, 1919).

History. A decree of Oct. 17, 1938, provides for the progressive reduction of hours of work to 40 per week in certain industries classified as dangerous, unhealthy, or particularly disagreeable.

LYNCHINGS. During 1938 Congress took no action on the pending Wagner-Van Nuys-Gavagan bill, of which much was heard during 1937. It is interesting to note, although the fact may or may not have been coincidental, that while Congress continued in session no lynchings occurred in the country. From June 10 to November 21, however, seven further lynchings were added to the list, making a total of authenticated lynchings since 1882 of 5120. The 1938 atrocities took place in the deep South with Negroes the victims in every case. Four occurred in Mississippi, one in Georgia, one in Florida, and one in Louisiana. The circumstances attending the lynchings were as follows: One man was beaten to death because of a trivial debt; two men were killed and burned because of murders they had committed; one man was shot and killed by a mob hunting suspects in the killing of a white man; one man, accused of assault upon a white woman, was taken from the custody of a peace officer and shot and killed; one man, suspected of slaying a white man, was hanged and burned; one man, on the charge of a 74-year-old white woman that she had been attacked and robbed, was trailed for several hours with bloodhounds by a mob of 200 white men and hanged. See UNITED STATES under *Congress*.

The Virginia Situation. Attention was called in the 1937 NEW INTERNATIONAL YEAR BOOK, p. 425, to the fact that an unusual situation arose when a group of employees on strike in Covington, Va., in July of 1937, were thrown into jail as a result of the invocation of the State Anti-Lynching Law. Tried on the charge "of assault and battery while a member of a mob," a number of participants in a textile strike were found guilty and sentenced to jail terms ranging from 3 years to 9 months. When it became common knowledge that the convicted persons had been tried under the State's Anti-Lynch Law, a storm of protest spread over the State, and although 16 defendants had been initially indicted, the prosecutions of 12 of them were subsequently dropped. While the convicted workers were in jail on contempt charges preferred by the local judge on the ground that they had violated an injunction issued by him against picketing, the Virginia legislature, as a result of public pressure, passed amendments to the Anti-Lynching Law in April, 1938. These provided that participants in disorders on picket lines should be amenable to the general law, rather than to the

law against lynching. In other words, if pickets committed a simple assault, as was the case at Covington, they were to be prosecuted for assault and battery and subjected to a maximum penalty of 12 months. As matters turned out in the Covington cases, the maximum terms served by any of the strikers was less than seven weeks; but there is no question that had not disapproval immediately been expressed, the strikers might have remained in jail for a long time under the initial sentences meted out. As Virginius Dabney, writing in the *New Republic* of Apr. 27, 1938, pointed out: "The cases served to illustrate, among other things, the importance of making anti-lynching statutes, whether state or federal, inapplicable to persons involved in labor disputes."

MACAO, *ma-kä'ô*. A colony of Portugal in South China. Total area, including the nearby islands of Taipa and Colôane, 7 square miles; population (1936 estimate), 170,000 compared with (1927 census) 157,175, of whom 3846 were Portuguese, 152,738 were Chinese, and 591 were various nationalities. Trade, mostly of a transit nature, was largely in the hands of the Chinese. In 1937 there were 66 miles of roads. In 1935 imports were valued at 19,621,058 patacas; exports, 10,336,460 patacas (approximate value of the pataca is \$0.48). In 1936, 2193 vessels (1,500,050 tons) entered and cleared the ports. In 1938 revenue was estimated to total 5,351,909 Macao dollars; expenditure, 5,157,879 Macao dollars (approximate value of Macao dollar is \$3.25); public debt (Dec. 31, 1937), 8,520,078 escudos (escudo averaged \$0.0448 for 1937). Macao was selected as an auxiliary airport to Hong Kong, where conditions are not always favorable, in the transpacific service of Pan American Airways. On Sept. 16, 1937, Macao was selected for the creation of a naval base by the Portuguese Admiralty. Portugal holds Macao by reason of the treaty with China of Dec. 1, 1887. The colony is administered by a governor.

MACAULAY, GENEVIEVE GARVAN BRADY (MRS. WILLIAM J. BABINGTON MACAULAY). An American philanthropist, died in Rome, Italy, Nov. 24, 1938. Born in Hartford, Conn., Apr. 11, 1884, she was educated at the College of the Sacred Heart, Manhattanville, in New York and abroad. On Aug. 11, 1906, she was married to Nicholas F. Brady of Albany, N. Y., who died on Mar. 27, 1930.

Mrs. Brady was known throughout the world for her philanthropies and welfare activities, and with her husband, she made many contributions to the Catholic Church, principally for charitable and educational purposes. For her share in these many activities, Pope Pius XI made her a Papal Duchess, the highest papal honor that can be conferred upon a woman. The Bradys donated funds to the Society of Jesus for the construction of the St. Isaac Jogues Novitiate at Wernersville, Pa., and in 1937 Mrs. Brady gave to that order her estate, *Inisfada*, at Manhasset, L. I., at which many important personages had been entertained. In this same year she gave to Georgetown University her notable collection of the writings and letters of Mark Twain.

The founder of the Carroll Club for Girls in New York City in honor of her mother, Mrs. Brady served as its president, and also gave to the Club a summer camp at Pawling, N. Y. Her interest in the Girl Scouts of America led to her election as chairman of the national board in 1928 to succeed Mrs. Herbert Hoover, and also to membership in the World Committee. To the Manhattan Council of Girl Scouts she gave a summer camp at Brewster

Falls, N. Y., which was named in her honor, Camp Genevieve Brady. In 1932 she organized the National Women's Committee of the Welfare and Relief Mobilization to aid in relieving severe distress throughout the country in the winter of 1932-33.

For her many benefactions to the Roman Catholic Church Mrs. Brady was made a Dame of Malta, a Dame of the Holy Sepulchre, and had received the Cross Pro Ecclesia et Pontifice from Pope Pius XI. In 1934 she received the Laetare Medal of the University of Notre Dame and the honorary degree of doctor of laws from Georgetown University. Also, in recognition of her many benevolences to the poor of France and for her contributions toward the Madame Curie Radium Fund she was honored by France and in 1928 she received the Order of the Crown of Belgium for her many gifts to Belgian girls.

On Mar. 6, 1937, Mrs. Brady was married to William J. Babington Macaulay, Irish Free State Minister to the Vatican, and thereafter, except for visits to the United States, she resided in Rome.

MCDUGALL, WILLIAM. A British psychologist, died at Durham, North Carolina, Nov. 28, 1938. Born in Lancashire, England, in 1871, he was educated at Owens College, Manchester, St. Thomas Hospital, London, Cambridge University (M.B.), and Oxford University (M.A.). He was a fellow of St. John's College, Cambridge (1898), a reader at University College, London (1902), a reader in mental philosophy (1904), and a fellow (1912) at Corpus Christi College, Oxford. In 1920 he came to the United States to become professor of psychology at Harvard University, where he remained until 1927 when he became head of the department of psychology at Duke University in Durham. One of the leading exponents of social psychology, his researches dealt particularly with abnormal and aboriginal psychology and problems of character, ethics, and economics. Also he was one of the leaders in the field of psychical research and served as president of both the British and American Societies. The British Society conferred upon him the degree of D.Sc.

Co-editor with Dr. J. B. Rhine of *The Journal of Parapsychology* from 1937, Dr. McDougall was the author of many books that expounded his theories of psychology. These included: *Physiological Psychology* (1905), a standard textbook in colleges in the United States and England; *Social Psychology* (1908), one of the most widely read textbooks in psychology; *Pagan Tribes of Borneo* (1911), which brought him recognition in the field of anthropology and election to the Royal Society; *Psychology* (1912); *Body and Mind* (1912); *Group Mind* (1920); *National Welfare and National Decay* (1921); *Is America Safe for Democracy?* (1921); *Outline of Psychology* (1923); *Ethics and Some Modern World Problems* (1924); *The Indestructible Union* (1925); *Outline of Abnormal Psychology* (1926); *Janus* (1927); *Character and the Conduct of Life* (1927); *Modern Materialism and Emergent Evolution* (1929); *World Chaos—the Responsibility of Science* (1931); *Energies of Men* (1933); *Religion and the Sciences of Life* (1934); *The Frontiers of Psychology* (1935); and *Psychoanalysis and Social Psychology* (1936).

McGILL UNIVERSITY. A coeducational institution of higher learning in Montreal, Que., Canada, founded in 1821. The enrollment for the 1938-39 session was as follows: Degree students, arts and science, 1073; commerce, 199; engineering, 419; architecture, 20; medicine, 457; dentistry,

59; law, 59; library science, 14; graduate studies, 212; music, 8; diploma students, 76; partial students, 234. At Macdonald College, an affiliated college at Sainte Anne de Bellevue, there were 90 degree students enrolled in the faculty of agriculture; 108 degree students in the school of household science; 38 diploma students in agriculture; 19 in household science; and 151 in the school for teachers. The registration in the French summer school for 1938 was 103. The number of members on the teaching staff was 519. The endowment amounted to \$20,419,455, while the income for 1937-38 was \$2,330,845. The library contained 385,210 volumes. Principal and Vice-Chancellor, Lewis W. Douglas.

McINTYRE, O(SCAR) O(DD). An American columnist, died in New York City, Feb. 14, 1938. Born in Plattsburg, Mo., Feb. 18, 1884, he went to live with his grandmother in Gallipolis, Ohio, at an early age. After attending the local schools and Bartlett's College in Cincinnati for a time, he became a reporter on the *Gallipolis News*, and in 1902 transferred to the *Gallipolis Journal*. Subsequently he was feature writer of the *East Liverpool (O.) Tribune* (1904-05), political writer, and later managing editor, on the *Dayton Herald* (1906), and telegraph editor, city editor, and assistant managing editor of the *Cincinnati Post* (1907-11).

In 1912 he came to New York to become associate editor on *Hampton's Magazine*, of which Ray Long, formerly editor of the *Post*, was editor. This venture was short-lived, and he then joined the *New York Evening Mail* as dramatic editor. He held this position but a short time, and out of a job, he had a nervous breakdown. His illness left him with a dislike of crowds and buildings, and having inherited a small sum of money, McIntyre decided to try his hand at writing a column about New York. He sent it out to several newspapers and finally it was accepted by the Bridgeport (Conn.) *Post*. In two years it was accepted by 26 papers.

Acting as press agent for the Hotel Majestic, where he lived, and issuing his syndicated column, he augmented his income by acting as press agent for various individuals, and in 1919 became associated with Florenz Ziegfeld in this capacity. This association lasted until 1922, when the McNaught Syndicate purchased his column for distribution. Subsequently it appeared in the Hearst newspapers, in New York in *The New York Journal and American*, and at his death, it appeared regularly in 580 newspapers.

Mr. McIntyre's New York was freely imaginative for he invested even the most prosaic of its attractions with glamor and excitement, but to those who lived outside of the City this was the "real" New York of their dreams. He was much attached to his dogs, and made many friends throughout the country through his frequent writings about them in his column.

Besides contributing to the *Cosmopolitan Magazine*, the *American Magazine*, and the original *Life*, he published his favorite columns and magazine articles in *White Light Nights* (1924); *Twenty Three Selected Stories* (1929); *Another Odd Book* (1931), and *The Big Town* (1935).

MACKAY, CLARENCE H(UNGERFORD). An American capitalist, died in New York, Nov. 12, 1938. Born in San Francisco, Apr. 17, 1874, the son of John W. Mackay, he was educated privately and at Vaugirard College, Paris, and at Beaumont College, Windsor, England. He returned to the

United States in 1892 and two years later entered the Commercial Cable and Postal Telegraph Cos. to learn the business. He was elected president of the American Forcite Powder Co. in 1896 but retired in 1899. Elected a director of the Commercial Cable and Postal Telegraph Cos. on Feb. 25, 1896, he was made vice-president on Jan. 21, 1897, in which position he obtained administrative control of their operation.

In October, 1902, after the death of his father, Mr. Mackay was elected president of these companies as well as of the Commercial Pacific Cable Co., which was then at work on the laying of the transpacific cable begun by John Mackay in 1901. It was completed under the younger Mackay's direction in 1904 at a cost of \$9,000,000. During the World War Mr. Mackay was removed as the executive of these companies when they were put under government control, and he was not restored to control until Aug. 1, 1919. In 1928 the International Telephone and Telegraph Co. was merged with the Mackay interests to form the Postal Telegraph and Cable Co., which combine merged telegraph, radio, cable, and telephone systems under one head. Mr. Mackay was appointed chairman of the board of this organization, and held that position at his death, and was also president of the Mackay Radio and Telegraph Co.

With his mother, Mr. Mackay gave a School of Mines, as well as other gifts, to the University of Nevada in memory of his father, and established a professorship of electrical engineering at the University of California. To the U.S. Army Air Corps in 1912 he presented the Mackay Trophy, and during the World War he established, with his mother, the Mackay-Roosevelt Hospital Unit. During 1907-08 he was treasurer of the Lincoln Farm Association. He was chairman of the board of St. Vincent's Hospital in New York, and for his many contributions to the Catholic Church he was made a Knight of St. Gregory in 1916 and a Knight of Malta, the highest Papal honor, in 1931. Mr. Mackay's home at Roslyn, L. I., was noted for its art treasures, many of which he was forced to sell during the depression, and for his collection of armor. He was a trustee of the Metropolitan Museum of Art and one of the sponsors of the Museum's free symphony concerts; chairman of the board of directors of the Philharmonic Society of New York, and a director of the Metropolitan Opera Co. In 1926 he received the gold medal of the National Institute of Social Sciences.

MACKENZIE, DISTRICT OF. See NORTHWEST TERRITORIES (CANADA).

MADAGASCAR. A French island colony in the Indian Ocean. Area, 241,094 square miles; population (1936 census), 3,797,936 (including that of the Comoro Islands). Chief towns (with 1936 populations in parentheses): Tananarive, the capital (119,823); Majunga (23,684); Tamatave (21,421); Antsirabe (18,215); Tulear (15,180); Diégo Suarez (12,237); Mananjary (11,426); Fianarantsoa (14,740). Education is compulsory in the primary schools. In 1936 there were 210,973 pupils enrolled in the 1643 schools of all kinds.

Production and Trade. The main agricultural products (with 1937-38 production figures, in metric tons) were maize (80,000), rice (644,000), potatoes (36,000), coffee (30,000), sugar (12,800), tobacco (6300), groundnuts (8200), copra (1200). Other products were vanilla, cacao, tapioca, manioc, and lima beans. On Jan. 1, 1937, there were 6,000,000 cattle in the colony. The forests are rich in cabinet woods, beeswax, raffia, resins, gums, and rubber.

Mineral production for 1936 was valued at Fr24,-184,773 of which graphite (2356 tons) accounted for Fr9,391,843; mica (410 tons), Fr5,189,999; phosphates (5348 tons), Fr668,000; precious stones, Fr336,000 (Franc averaged \$0.0611 for 1936; \$0.0405 for 1937). In 1937 imports were valued at \$22,010,000; exports, \$32,338,000.

Communications. On Jan. 1, 1937, there were 15,756 miles of highways suitable for motor traffic in the dry season. Railway lines had a total length of 534 miles. In addition there was an automobile service with a network of routes totaling more than 1375 miles. A regular air service connects Tananarive with Paris, France. During 1936, 7703 vessels aggregating 3,899,546 tons cleared the ports.

Government. The budget estimates for 1936 balanced at Fr268,846,000; the railway budget was Fr28,450,000. On Dec. 31, 1935, the contracted debt of the colony was Fr608,252,635. The government is administered by a governor-general, who is aided by a consultative council. An economic and financial delegation, consisting of 30 French citizens and 24 natives, meets once a year to examine budget proposals and questions of a general economic nature. In their relations with the government the natives are represented by chiefs. Governor-General, Léon Cayla (appointed Feb. 10, 1930).

Comoro Islands. An archipelago, comprising the islands of Mayotte, Anjouan, Grande Comore, and Moheli, forming a region under the general government of Madagascar. The chief imports were cotton fabrics, metals, and rice; the chief exports, sugar, copra, sisal, and vanilla. Area, about 800 square miles; population (1936), 128,608. Capital, Zandzi.

MADEIRA, *ma-dē'ra*; *Port.* *mā-dā'ra*. A group of islands (Madeira, Porto Santo, and three uninhabited islands) in the Atlantic Ocean, west of Morocco. The group is known as the district of Funchal and is considered an integral part of Portugal. Area, 314 square miles; population (1930 census), 211,601. Capital, Funchal (on the island of Madeira). In 1937 the production of wine was estimated to total 2,985,132 gallons. In 1936 a total of 41,724 tourists en transit stopped at Madeira, with an estimated expenditure of 4,172,400 escudos, and 4136 tourists temporarily resided there, with an estimated expenditure of 4,136,000 escudos. In 1937 there were 160 miles of roads.

MADOERA. See NETHERLANDS INDIES.

MAHÉ. See FRENCH INDIA.

MAINE. *Area and Population.* Area, 33,040 square miles; this included, in 1930, water, 3145 square miles. Population by census of Apr. 1, 1930, 797,423; by Federal estimate for July 1, 1937, 856,000; by census of 1920, 768,014. Portland had (1930) 70,810 inhabitants; Augusta, the capital, 17,198.

Agriculture. Acreage, production, and value of the chief crops of Maine, for 1938 and 1937, appear in the accompanying table.

<i>Crop</i>	<i>Year</i>	<i>Acreage</i>	<i>Prod. Bu.</i>	<i>Value</i>
Potatoes	1938	165,000	39,600,000	\$21,780,000
	1937	170,000	47,600,000	17,612,000
Hay (tame) . . .	1938	1,004,000	935,000*	7,574,000
	1937	1,147,000	769,000*	7,594,000
Oats	1938	114,000	3,876,000	1,589,000
	1937	113,000	3,955,000	1,819,000
Apples	1938	.....	858,000	944,000
	1937	.....	1,147,000	1,124,000

* Tons.

Finance. Maine's State expenditures in the year ended June 30, 1937, as reported by the U.S. Bureau of the Census, were: For maintaining and

operating governmental departments, \$21,230,023 (of which \$2,147,148 was for local education); for interest on debt, \$1,175,082; for capital outlay, \$5,612,327. Revenues were \$29,518,827. Of these, property taxes furnished \$5,275,558; sales taxes, \$6,134,783 (chiefly the tax on gasoline, \$5,269,-331); departmental earnings, \$2,993,443; sale of licenses, \$6,405,643; unemployment compensation, \$1,871,986; Federal or other grants-in-aid, \$4,873,-746. Funded debt outstanding on June 30, 1937, totaled \$30,056,300. Net of sinking-fund assets, the debt was \$29,969,380. On an assessed valuation of \$661,209,219 the State levied for the year ended June 30, 1938, ad-valorem taxes of \$4,929,480.

The State's alcoholic monopoly expended in the fiscal year \$4,258,804 and received \$5,568,422, not included in any sums above.

Education. Aided by an increase in the appropriation for the State's equalization fund, the towns of Maine were in many cases able in 1938 to lengthen the yearly period of operation of their public schools, to increase teachers' salaries, and to increase their supplies of library books and other equipment.

Political and Other Events. Maine as a whole was less extensively concerned with Federal undertakings and policies than it had been for some years previous. The year passed without essential economic, social, or political change. About 12,000 persons received old-age assistance. Despite high expenditure, the State budget was balanced.

Gov. Lewis O. Barrows (Rep.) was re-elected (September 12), defeating former Governor Louis J. Brann (Dem.) by a vote of about 9 to 8, proportionately somewhat more Republican than the vote that had beaten Brann for Senator in 1936. The three Republican U.S. Representatives were re-elected. In the campaign for Governor, Barrows declared that the question was, "whether Maine is going to have a New Deal kind of Government," and championed the negative; Brann declared for getting all possible money from the Federal Government and blamed Barrows for failing to take full advantage of Federal proffers. All three Republican Representatives had the endorsement of the organization supporting the Townsend plan for higher pensions to the elderly, and two of them actively advocated the plan.

Kennebunkport rejected at a town meeting in March, a proposal to resume its ancient name of Arundel.

Officers. The chief officers of Maine serving in 1938 were: Governor, Lewis O. Barrows (Rep.); Secretary of State, Frederick Robie; Treasurer, Belmont A. Smith; Auditor, Elbert D. Hayford; Attorney-General, Franz U. Burkett; Commissioner of Education, Bertram E. Packard.

Judiciary. Supreme Judicial Court: Chief Justice, Charles J. Dunn; Associate Justices, Charles P. Barnes, James H. Hudson, Harry Manser, Guy H. Sturgis, Sidney St. F. Thaxter.

MAINE, UNIVERSITY OF. A coeducational State institution of higher learning at Orono, founded in 1865. The enrollment for the fall of 1938 was 1876, of whom 1399 were men and 477 were women. The teaching members of the faculty number 171. The productive funds amounted to \$982,828 and the income for the year was \$1,704,114. The library has 129,000 volumes. The enrollment at the 1938 summer session, including the University's Biological station on Frenchman's Bay at Lamoiné, was 648. President, Arthur A. Hauck, Ph.D.

MALACCA. See STRAITS SETTLEMENTS.

MALAY STATES. See BRITISH MALAYA; FEDERATED MALAY STATES; UNFEDERATED MALAY STATES; STRAITS SETTLEMENTS; BRITISH NORTH BORNEO; BRUNEI; SARAWAK.

MALDIVÉ ARCHIPELAGO. See CEYLON.
MALONEY ACT. See FINANCIAL REVIEW.

MALTA. A British crown colony in the Mediterranean, 58 miles south of Sicily, consisting of the islands of Malta (95 sq. mi.), Gozo (26 sq. mi.), and Comino (1 sq. mi.). Total area, 122 square miles; civil population (Jan. 1, 1937), 262,165, compared with 241,621 (1931 census). During 1936 there were 8875 births, 4617 deaths, 1878 marriages. There were 35,197 pupils in the 302 schools of all kinds and 197 students in the university at the beginning of the school year 1936-37. Valetta, the capital, had 22,779 inhabitants in 1931. Maltese and English are the official languages. Malta is the headquarters of the British Mediterranean Fleet, and is an important link in British Imperial communications.

Production and Trade. Wheat, barley, potatoes, onions, beans, cumin, tomatoes, and grapes were the principal agricultural products: figs and honey are plentiful. Lace, cotton, filigree, beer, cigarettes, wine, and canned tomatoes are produced. Livestock in the colony (Jan. 1, 1937): 9247 horses, mules, and asses, 3823 cattle, 15,030 sheep, 33,707 goats. The fish catch (1936-37) amounted to 1200 tons valued at £76,000. In 1937 imports totaled £4,019,089; exports, including re-exports, £694,597. Vessels entered the ports during 1937 totaled 2507 and aggregated 4,395,908 tons. During 1937-38, 70,853 tourists visited Malta (116,925 in 1936-37).

Government. For 1937-38 revenue totaled £1,301,858; expenditure, £1,349,297. Estimated revenue for 1938-39 was £1,423,556, and estimated expenditure was £1,422,521. The Letters Patent of Aug. 12, 1936, revoking the Malta Constitution Letters Patent of 1921 (as amended in 1933, 1934, and 1936), were proclaimed in Malta on Sept. 2, 1936. They provide for an executive council of 8 members (5 ex officio and not less than 3 nominated by the governor). On July 29, 1938, it was announced that the British government intended to submit to the King draft Letters Patent for a new constitution for Malta, providing for a council of government consisting of 8 official and 2 unofficial members nominated by the governor, and 10 elected members. Governor and Commander-in-Chief, Gen. Sir Charles Bonham-Carter; Lieutenant-Governor, John A. Hunter.

History. The British Secretary for War visited Malta on Apr. 16, 1938, and inspected the fortifications. Malcolm MacDonald, the British Colonial Secretary, arrived in Malta on August 8 after having been to Palestine. He proposed to study local reaction to the new constitution (see under *Government*, above) which will restore partial self-government to Malta in 1939. During October, 1938, it was reported that there were deficiencies in the supply of gas masks and bomb-proof shelters for the civilian population, which contrasted sharply with the elaborate preparations made by the military authorities for the protection of the wives and children of the armed forces.

MAMMALS. See ZOOLOGY.

MAN, EARLY. See ANTHROPOLOGY.

MANADO. See NETHERLANDS INDIES.

MANCHOUKUO, mǎn'jō'kwō'. A state established under Japanese protection Mar. 1, 1932, at first comprising the former Chinese provinces of Fengtien, Kirin, and Heilungkiang in Manchuria

and in 1933 extended to include Jehol in Inner Mongolia. Capital, Hsinking (formerly Changchun). Ruler in 1938, Emperor Kangtē, who was enthroned Mar. 1, 1934.

Area and Population. Including the South Manchuria Railway Zone under direct Japanese jurisdiction but excluding Kwantung (q.v.), the area of Manchoukuo is estimated by Japanese sources at 503,013 square miles. Excluding both the Kwantung Leased Territory and the South Manchuria Railway Zone, the population at the end of 1936 was estimated at 35,337,980 (34,200,923 on Dec. 31, 1935). The racial classification of the 1936 population was: Manchurians, 34,217,512 (all Chinese except about 900,000 Mongols); Koreans, 863,957; Japanese, 189,508; aliens, 67,003. The population of the South Manchuria Railway Zone at the end of 1935 was 501,396. During 1936, 360,000 Chinese entered Manchoukuo and 380,000 left. Korean immigration was limited to 10,000 annually.

Estimated populations of the chief cities on Dec. 31, 1935, were: Hsinking, 248,426 (excluding 63,095 in South Manchuria Railway Zone); Mukden, 443,229 (excluding 84,012 in S.M.R. Zone); Harbin, 458,379; Kirin, 128,754; Yingkou, 123,536; Tsitsihar, 96,652; Antung, 89,185 (excluding 77,053 in S.M.R. Zone); Chinchou, 87,695; Chengte, 46,951; Fushun, 41,656 (excluding 43,515 in S.M.R. Zone).

Education. The school enrollment for 1936 was: 960,600 pupils in 13,100 primary schools, 32,900 in 178 middle schools, 7600 in 80 normal schools, 8270 in 51 vocational schools, 1500 in 7 higher grade and technical schools, and 1987 students in 7 universities and colleges.

Production. Agriculture directly employs about 85 per cent of the population. The area under cultivation in 1937 was 33,619,170 acres and the yields of the chief crops were (in 1000 metric tons): Soybeans, 4121; other beans, 315; kaoliang, 3995; millet, 3163; corn, 2084; wheat, 1034; rice, 648; other crops, 1034; total, 16,394. The production of ginned cotton increased from 1369 metric tons in 1932 to 19,650 tons in 1937. Livestock in 1935 included 1,570,000 cattle, 753,000 mules, 1,998,000 horses, 394,000 donkeys, 5,350,000 swine, and 2,208,000 sheep. Over one-third of the total area is forested and lumbering is an important industry. Mineral and metallurgical output for 1936 was (in metric tons): Coal, 12,020,000; iron ore, 1,300,000 (metal content); pig iron and ferro-alloys, 647,000; steel, 344,000; magnesite, 231,000. Oil from shale, gold, and other minerals are produced. A state gold refinery was opened at Mukden Sept. 16, 1938. The value of gold production in 1937 was about 12,000,000 yen.

Flour milling and the manufacture of soybean oil and cake are long-established industries. Many additional industries were inaugurated under Japanese auspices after 1932. During 1938 a number of machine shops, metal foundries, and munitions works were opened at Mukden and other points.

Foreign Trade. Imports in 1937 were valued at 887,412,000 Manchoukuo yuan (691,830,000 in 1936) and exports at 645,298,000 yuan (602,759,000 in 1936). The value of the chief exports in 1937 was (in 1000 yuan): Soybeans, 226,076; bean cake, 62,336; coal, 35,610; bean oil, 25,343; peanuts, 16,370; millet, 14,197; iron, steel, and their manufactures, 13,350; other beans, 12,542. The value of the principal imports was (in 1000 yuan): Iron and steel, 76,429; machinery and tools, 65,901; automobiles and vessels, 46,406; bleached or dyed cotton cloths, 44,436; unbleached cotton cloths, 42,771;

cotton, raw, 32,202; silk, 30,646; electrical supplies, 26,502; paper, 24,865; sugar, 21,293. Japan took 321,511,000 yuan (49.8 per cent) of the 1937 exports; China, 113,753,000 yuan (17.6); Germany, 59,052,000 yuan (9.1); United States, 18,674,000 yuan (2.9). Of the 1937 imports, Japan supplied 666,270,000 yuan (75.1 per cent); United States, 57,523,000 yuan (6.5); British India, 45,624,000 yuan (5.1); China, 39,324,000 yuan (4.4).

Finance. The general accounts budget for the calendar year 1938 placed estimated receipts and expenditures at 304,555,000 yuan each. Actual general accounts revenues in 1937 amounted to 191,000,000 yuan (ordinary, 187,000,000; extraordinary, 4,000,000), compared with the budget estimate of 248,098,760 yuan.

The special accounts budget estimates for 1938 placed revenues at 1,128,936,828 yuan, including loans of 366,916,000 yuan, and expenditures at 1,088,572,518 yuan. The public debt on Aug. 31, 1935, was 176,720,000 yuan. In addition there were outstanding foreign loans contracted by former Manchurian governments totaling 1,668,624,973 yuan. The Manchoukuo yuan was pegged to the Japanese yen at the rate of one yuan for one yen on Oct. 28, 1935. The yen exchanged at an average of \$0.2879 in 1937; \$0.2845 in 1938.

Transportation, etc. The Manchoukuo state railways, with 5081 miles of line in 1937, and the South Manchuria Railway, with 702 miles of line, are operated jointly by the South Manchuria Railway Co., in which the Japanese Government has a controlling interest. The company also operated the North Chosen Railways (214 miles) in Korea. All of these lines in the fiscal year ended Mar. 31, 1938, carried 17,520,000 passengers, and 25,130,000 metric tons of freight. Completion of the Chengteh-Kupeikow railway in 1938 provided a second route from Manchoukuo to Peiping via the capital of Jehol Province. The operating income was 151,053,000 yen, expenditures, 61,340,000 yen, and profits, 89,713,000 yen. A large network of commercial and military highways have been constructed under Japanese direction. Air lines connect the principal cities with those of Korea and Japan. The Sungari River is an important artery of traffic in the north. Construction of a new port at Hulutao in Lienshan Bay near Chinchow was partially completed in 1938 and steamship services to Japanese ports were opened, permitting direct shipments of coal from the Fushun mines to Japan.

Government. Under the Constitution of Mar. 1, 1934, as amended July 1, 1937, Manchoukuo is a monarchy in which the Emperor exercises both executive and legislative powers, the latter being subject to the approval of the Legislative Council, an advisory body appointed by the Emperor. There is also a Privy Council of five members; a State Council, or cabinet, of six departments; and a General Affairs Board, attached to the State Council, which supervises budgets and national policies. A Planning Council is under the direct control of the Prime Minister.

Actual power rested in the hands of the Japanese Ambassador to Manchoukuo, who was also commander-in-chief of the Japanese and Manchoukuoan troops in Manchoukuo and Governor of Kwantung (q.v.). Japanese Ambassador in 1938, Gen. Kenkichi Uyeda. Prime Minister, Marshal Chang Ching-hui, whose cabinet was reorganized May 7, 1937.

HISTORY

Economic Trends. The transformation of Manchoukuo into a military, political, and eco-

nomic appendage of Japan continued at a rapid pace throughout 1938. Non-Japanese foreigners were progressively excluded from economic, professional, cultural, and religious activities. A growing proportion of Manchoukuo's internal and external trade was diverted to Japan through Manchoukuo state monopolies, embargoes on exports, trade quotas, tariff manipulations, exchange restrictions, and discriminations of various kinds against non-Japanese traders. The second five-year plan for industrial development, inaugurated in 1937, was revised during 1938 to bolster Japan's military campaigns in China and to prepare for the expected conflict with the Soviet Union. Capital was diverted increasingly into heavy industries and the manufacture of munitions and armaments, leaving a shortage of consumers' goods that caused a sharp rise in prices. The government fixed prices for wheat and flour to check profiteering.

On August 10 the Central Bank of Manchou assumed exclusive control of the buying and selling of foreign exchange for the purpose of segregating a maximum of foreign exchange to finance the development of heavy industries, of Japan's local munitions plants, and of war purchases. Licenses for imports from non-Japanese sources were drastically curtailed. A four-year program for the development of the Japanese Empire, Manchoukuo, and North China as a single economic bloc was launched shortly afterward.

Foreign Agreements. The diversion of Japanese and local Manchurian capital into war industries was due in part to the failure of Japanese efforts to raise loans in the United States and Great Britain for the development of Manchoukuoan industries. Some progress was made, however, in opening foreign markets for Manchoukuo's exports. On May 12, 1938, Germany concluded a treaty with Manchoukuo establishing diplomatic, consular, and commercial relations and thus formalizing Germany's previous tacit recognition of Manchoukuo as an independent state. Later Manchoukuo's barter agreement with Germany was extended to the end of May, 1941. In revised form, it provided for the annual purchase by Germany of beans, vegetable oils, and pig bristles to the value of 100,000,000 yen against an equivalent in foreign exchange and German goods.

On Sept. 1, 1938, a trade agreement between Italy, Japan, and Manchoukuo was ratified under which Italy was to supply products valued at 90,000,000 lire to Japan and 60,000,000 lire to Manchoukuo in return for Manchoukuoan products worth 120,000,000 lire (oil seeds, soybean oil, pepper oil, pig bristles, wild silk, magnesia) and Japanese products valued at 30,000,000 lire. Previously an Italian economic mission had visited Manchoukuo. Poland also made overtures toward recognition of Manchoukuo and the establishment of trade relations.

War Preparations. In preparation for war with the Soviet Union Japanese military authorities rushed the construction of strategic highways and railways and of fortifications at vital points along Manchoukuo-Soviet frontiers. Great quantities of military equipment and supplies were accumulated and an army of between 300,000 and 400,000 picked Japanese troops was maintained in Manchoukuo. Some of these troops concentrated their efforts upon the eradication of banditry, which the Japanese charged was supported and encouraged by Soviet agents. In the spring of 1938 Japanese sources estimated that anti-Japanese bandit and guerrilla bands had been reduced from about 350,-

000 men in January, 1932, to about 10,000, confined largely to mountainous districts along the lower Sungari River and the Manchoukuo-Korean-Siberian borders. In November foreign missionaries and Japanese news sources reported that Chinese Communists had won control of several isolated regions of Manchoukuo north of Harbin and north-west of Tsitsihar. The Japanese countered these moves by military expeditions and an intensive anti-Communist propaganda.

Late in April the Japanese authorities nipped in the bud a widespread conspiracy among Manchoukuoan army officers for an anti-Japanese rising. More than 40 of the conspirators were condemned to death by court-martial and a number of Japanese officers were imprisoned for permitting the plot to develop to a dangerous stage. Between 50 and 100 Japanese military planes were destroyed in a fire at the Mukden airport and oil tanks at Dairen were set ablaze just prior to the arrest of the conspirators. The bulk of the Manchoukuoan populace, enjoying prosperity resulting from the war boom, was reported acquiescent to Japanese control but not co-operative.

Japan brought pressure upon the Soviet Union to accede to Japanese demands for fishery rights in Soviet waters and for other concessions by causing the Manchoukuoan Government on March 17 to withhold the final installment of 5,981,625 yuan on the purchase price of the Chinese Eastern Railway. Meanwhile, there were sporadic clashes at various points along the Manchoukuoan-Soviet frontier, which culminated in July and August in the fighting for the heights of Changkufeng that brought Japan and the Soviet Union to the verge of a general war.

The Changkufeng Clash. On July 11 Soviet troops occupied the Changkufeng heights on the Soviet-Manchoukuo-Korean frontier a few miles inland from the head of the strategically important Possiet Bay. There they erected defense works dominating the railway line connecting the Northern Korean ports of Rashin and Yuki with the Manchurian railway network. Soon afterward Japan protested to Moscow that the Soviet troops were on the Manchoukuoan side of the frontier and demanded their withdrawal. Foreign Minister Litvinov replied that the Changkufeng heights were Soviet territory according to the Chino-Russian Treaty of Peking (1861) and the supplementary Hunchung Agreement of 1886. The war scare spread by the Japanese and Soviet press died down immediately after July 21 when the Soviet Foreign Minister sharply rebuffed the Japanese Ambassador's threat of forceful action.

Then on July 29 a large force of Japanese army regulars attacked the Soviet defense works and by July 31 occupied the disputed heights along a 4-mile front. The Russians immediately rushed troop reinforcements, airplanes, tanks, and heavy artillery to the fighting zone and counter-attacked. After heavy fighting, accompanied by Soviet air raids on towns in Northern Korea and Manchoukuo behind the Japanese lines, the Soviet First (Maritime) Army by August 10 apparently regained a considerable part of the Changkufeng heights.

Japan had meanwhile transferred considerable bodies of troops from North China and sounded out Germany as to the possibility of military aid in the event of a Japanese-Soviet war. The German Government apparently made no commitments and the Japanese decided that the time was not opportune for the long-expected showdown with Russia. Ac-

cordingly a Japanese-Russian armistice was concluded at Moscow shortly before midnight on August 10 and went into effect at noon (Changkufeng time) the following day. Under the agreement both sides were to hold the positions occupied at midnight of August 10. The disputed sector of the frontier was to be delimited by a mixed commission formed of two Soviet and two Japanese-Manchoukuoan representatives.

The composition of the commission represented an important concession by Japan, which had previously held out for equal representation for Manchoukuo in any Soviet-Japanese-Manchoukuoan negotiations. The Japanese, however, refused to accept a neutral arbitrator on the boundary commission or to sign an agreement and map showing the existing positions of the Japanese and Soviet troops. Casualties on both sides during the fighting at Changkufeng were estimated at between 1500 and 2000. An uneasy truce, marked by occasional minor clashes, reigned over the frontier during the remainder of the year.

See CHINA, JAPAN, and UNION OF SOVIET SOCIALIST REPUBLICS under *History*.

MANDATED TERRITORIES. See CAMEROON, FRENCH; CAMEROONS, BRITISH; JAPANESE PACIFIC ISLANDS; NAURU; NEW GUINEA; PALESTINE; RUANDA-URUNDI under CONGO, BELGIAN; SAMOA, WESTERN; SOUTH-WEST AFRICA; SYRIA AND LEBANON; TANGANYIKA; TOGOLAND. See also LEAGUE OF NATIONS; FRANCE, GERMANY, and GREAT BRITAIN under *History*.

MANITOBA, mǎn'ī-tō'ba. A prairie province in west-central Canada. Area, 246,512 square miles; population (June 1, 1938, estimate), 720,000 compared with 711,216 (1936 census). During 1936 there were 12,855 births (18.1 per 1000), 6219 deaths (8.7 per 1000), and 5756 marriages (8.1 per 1000). Chief towns (1936 population figures in parentheses): Winnipeg, the capital (215,814), Brandon (16,461), St. Boniface (16,275), Portage la Prairie (6538), and Transcona (5578). In 1936 there were 166,396 pupils enrolled in schools of all kinds, including 4915 in the universities and colleges.

Production. The gross value of agricultural production for 1937 was estimated at \$121,253,000 (\$77,659,000 in 1936) of which field crops represented \$90,930,000 (\$50,401,000 in 1936). Other important items making up the 1936 total of agricultural production were dairy products, \$11,631,000; farm animals, \$9,068,000; poultry and eggs, \$3,629,000. Livestock (June 1, 1937): 324,700 horses, 847,000 cattle (including 390,400 milch cows), 216,200 sheep, 228,900 swine, and 4,333,000 poultry. Fur production for the year ended June 30, 1936, totaled 379,191 pelts valued at \$1,291,854. The output of the forests in 1936 equaled 67,224 M cu. ft. valued at \$2,426,001. In 1937 the fish catch was valued at \$1,796,012.

Mineral production for 1937 was valued at \$15,751,645 of which gold (157,949 fine oz.) accounted for \$5,526,636; copper (44,920,835 lb.), \$5,874,747; zinc (36,221,314 lb.), \$1,775,569; silver (905,179 fine oz.), \$406,253; cadmium (164,223 lb.), \$269,326. In 1936, from the 1011 manufacturing plants, with a total of 22,507 workers, the net value of products was \$45,015,577 (central electric stations, and dyeing, cleaning, and laundry work ceased to be regarded as "manufacturing" industries for 1936).

Government. For the year ended Apr. 30, 1938, revenue totaled \$16,932,889; expenditure, \$16,427,700; bonded debt, \$127,493,497. The government is

administered by a lieutenant-governor (appointed by the governor-general in council) and he is advised by a ministry of 8 members who are members of the legislative assembly of 55 members elected for a term of 5 years by popular vote of the people. Manitoba is represented in the Dominion parliament at Ottawa by 6 Senators (appointed for life) and 17 members in the House of Commons. Lieutenant-Governor, William J. Tupper (appointed Nov. 17, 1934); Premier, John Bracken. See CANADA.

MANUFACTURED GAS. See GAS.

MANUFACTURING. See BUSINESS REVIEW.

MARIANA (LADRONE) ISLANDS. See JAPANESE PACIFIC ISLANDS.

MARIE. Dowager Queen of Rumania and widow of King Ferdinand, died at Sinaia, Rumania, July 18, 1938. Born at Eastwell Park, Kent, England, Oct. 29, 1875, the daughter of the Duke of Edinburgh and the Grand Duchess Marie of Russia, and granddaughter of Queen Victoria and of Czar Alexander III, she was educated privately, and on Jan. 10, 1893, was married to Prince Ferdinand of Hohenzollern-Sigmaringen, at Sigmaringen, Germany.

On the death of King Charles, uncle of Ferdinand, on Oct. 10, 1914, Ferdinand ascended the throne, but the World War prevented his coronation, and he was not crowned until Oct. 15, 1922. After accession to the throne, the Queen exercised a strong influence upon the course of Rumanian and Balkan politics, and she was frequently credited with bringing Rumania into the World War on the side of the Allies. During the parlous war times, the Queen endeared herself to the people of her adopted country by her charitable and social work.

In 1926 it was announced that the Queen would make an extended tour of the United States and Canada, and many rumors arose concerning the purpose of the visit, the most common being that she came to raise a huge American loan for Rumania, but subsequent events failed to bear this out. She arrived in the United States on Oct. 18, 1926, accompanied by her daughter, Ileana, and her son, Nicholas, and amid a fanfare of publicity started on her journey. It was marred by bickering among her official party and hostile demonstrations in the large cities, and the Queen's prestige was considered lowered both at home and abroad. The trip was halted by the illness of King Ferdinand and the Queen and her entourage sailed from New York on Nov. 24, 1926.

King Ferdinand died on July 20, 1927, and, Prince Carol having renounced his rights of succession in 1925 and his son, Michael, being made heir, a Regency was appointed to rule until Michael should attain his majority. The Queen thereupon retired to private life, although it was claimed that she was disappointed at not being named sole regent. In 1929, when one of the members of the Regency died, she attempted to regain her former political influence, but the Premier did not present her name to Parliament as a candidate. After Carol returned to Rumania and was proclaimed King in 1930, the Queen continued to live a more or less retired life.

Marie was one of the most beautiful and talented women of her generation and was one of the most popular of royal rulers. She was often referred to as the "Mother-in-law of the Balkans," her children having married as follows: Carol, Princess Helen of Greece in 1921 (divorced, 1928); Marie, King Alexander of Yugoslavia (assassinated in 1934) in

1922; and Elizabeth, Prince George (King George II) of Greece in 1921 (divorced, 1935).

In 1934 the first volume of the Queen's memoirs appeared under the title of *The Story of My Life*, and in 1935 the second volume was published. Previously she had written a play, *The Lily of Life* (1913, produced in Paris in 1920); *My Country* (1916); *Stealers of Light* (1916); *Ilderim* (1925), and *The Mask*, a novel (1935), and during her American visit she wrote a syndicated column for the newspapers. In 1918 she was made an honorary member of the French Academy of Fine Arts.

MARIETTA COLLEGE. A nonsectarian coeducational institution at Marietta, O., chartered in 1797. The total registration for the autumn term of 1938 was 405, of whom 241 were men and 164 women. The 1938 summer school enrollment was 15. The faculty numbered 37. The endowment amounted to \$1,329,936 and the income for the year was \$135,056. The library contained 113,147 volumes. During 1938 the college raised \$368,417 of a \$1,500,000 endowment. President, Harry Kelso Eversull, D.D.

MARIISK AUTONOMOUS SOVIET SOCIALIST REPUBLIC. See RUSSIAN SOVIET FEDERATED SOCIALIST REPUBLIC.

MARINE DISASTERS. Although several vessels were damaged by storms and groundings, yet the loss of life was fortunately small. One of the nearest approaches to a heavy loss was the collision in a fog of the *Mandalay*, an excursion vessel, with the steamship *Acadia* in New York harbor, May 28. The *Mandalay* sunk in a few minutes after being struck, yet not a life was lost. Another accident which might have developed very seriously was an explosion which started a fire on the Hamburg-American liner, *Deutschland*, bound for New York, when about 200 miles southeast of Cape Race, Newfoundland, on October 25. SOS calls were sent out, but the fire, although a serious one, was under control in a few hours, and the *Deutschland* proceeded on to New York without assistance. Major marine disasters were the following:

January 15. During heavy storms in Great Britain, the coastal steamships *Glan Rhys* and *Lochshira* were lost with all on board. A total of 22 perished on the former.

February 13. The ferryboat *Rodney* capsized in Sydney Harbor, Australia, with 8 known drowned and 12 missing. The accident occurred when 150 passengers rushed to the side to view the sailing of the U.S. cruiser *Louisville*.

February 15. In a storm on the Mediterranean, the Italian S.S. *Janicolo* was feared lost with all on board.

March. The freighter *Anglo-Australian* disappeared in mid-Atlantic while on a voyage from England to Vancouver, B. C. Although reported on March 14 off the Azores, no trace of her was found.

June 2. At Maghagha, Upper Egypt, 30 drowned as a river boat capsized.

August 1. In an explosion on the Italian cruiser *Quarto* at Majorca, 15 sailors were killed and 20 wounded.

August 5. At Quarteira Beach, Portugal, a motorboat crash killed 29.

August 12. At Surat, India, a festival boat capsized in the Tapi River; 45 lost.

September 29. The British trawler *San Sebastien* struck a reef at Bjoernde, south of Spitsbergen. The crew of 15 perished.

MARITIME COMMISSION. See UNITED STATES under Administration.

MARITIME LABOR BOARD. See LABOR ARBITRATION.

MARITIME PROVINCES. The Canadian provinces of NEW BRUNSWICK, NOVA SCOTIA, and PRINCE EDWARD ISLAND (qq.v.).

MARITIME WORKERS. See MINIMUM WAGE.

MARQUESAS ISLANDS. See OCEANIA, FRENCH ESTABLISHMENTS IN.

MARQUETTE UNIVERSITY. An institution of higher education for men and women, under Roman Catholic direction, in Milwaukee, Wis., organized as a college in 1881 and chartered as a university in 1907. The total enrollment for the autumn of 1938 was 4003. The registration for the 1938 summer session was 864. The faculty numbered 392. Endowment funds amounted to \$2,510,713. The income for the year was \$1,323,230, which included the value of the services rendered gratis by the Jesuits in 1937-38. The library contained 90,740 volumes. President, The Rev. Raphael C. McCarthy, S.J., Ph.D.

MARSHALL ISLANDS. See JAPANESE PACIFIC ISLANDS.

MARTINIQUE, mār'ti-nēk'. A French West Indian colony. Area, 385 square miles; population (1936 census), 246,712. Capital, Fort-de-France; had 43,338 inhabitants in 1931. The production of chief crops, in metric tons, was: Sugar, 51,500 (1937-38 estimate); bananas, 25,176 (1936); cacao, 46 (exports, 1936). Other products are rum, pineapples, coffee, and tobacco. In 1937 the estimated value of merchandise imports (in old U.S. gold dollars) was \$6,600,000 (1936, \$5,500,000); exports, \$8,000,000 (1936, \$6,800,000). In 1936, 723 vessels entered and 718 vessels cleared Martinique ports. In 1937 there were 479 miles of roads. For 1936 the budget was balanced at 96,515,000 francs (franc averaged \$0.0611 for 1936). Government is under a governor assisted by an executive council, an elected general council, and elected municipal councils. It is represented by one senator and two deputies in the French parliament.

MARYLAND. Area and Population. Area, 12,327 square miles; included (1930) water, 2386 square miles. Population: Apr. 1, 1930 (census), 1,631,526; July 1, 1937 (Federal estimate), 1,679,000; 1920 (census), 1,449,661. Baltimore had (1930) 804,874 inhabitants; Annapolis, the capital, 12,531.

Agriculture. Acreage, production, and value of the chief crops of Maryland, for 1938 and 1937, appear in the accompanying table.

Crops	Year	Acreage	Prod. Bu.	Value
Corn	1938	501,000	18,537,000	\$10,195,000
	1937	516,000	18,576,000	11,331,000
Wheat	1938	471,000	9,420,000	5,935,000
	1937	476,000	9,044,000	9,225,000
Tobacco	1938	37,500	29,250,000 ^a	5,850,000
	1937	35,000	23,450,000 ^a	4,104,000
Hay (tame)	1938	382,000	543,000	5,104,000
	1937	385,000	518,000 ^b	6,009,000
Potatoes	1938	26,000	2,990,000	1,794,000
	1937	30,000	3,480,000	2,123,000

^a Pounds. ^b Tons.

Mineral Production. Coal mines in Maryland dug 1,570,000 net tons of coal in 1937, as against 1,703,589 (value \$3,351,000) in 1936. Coal from other States was brought in, and with it were made 1,513,752 net tons of coke (1937), as against 1,217,039 tons in 1936. Much of this coke went into making iron from imported ores.

Finance. Maryland's State expenditures in the year ended Sept. 30, 1937, as reported by the U.S. Bureau of the Census, were: For maintaining and operating governmental departments, \$28,426,967 (of which \$4,248,074 was for highways, \$6,581,972 was for charities, and \$4,366,230 was for local education); for interest on debt, \$1,911,646; for capital outlay, \$7,226,104. Revenues were \$48,778,527. Of these, property taxes furnished \$5,975,489; sales taxes, \$12,125,942 (including tax on gasoline, \$7,539,492); departmental earnings, \$4,211,818;

sale of licenses, \$9,689,609; unemployment compensation, \$6,907,061; Federal or other grants-in-aid, \$6,426,285. Funded debt outstanding on June 30, 1937, totaled \$52,004,400. Net of sinking-fund assets, the debt was \$50,787,303. On an assessed valuation of \$2,650,729,847 the State levied in the year ad-valorem taxes of \$5,494,031.

Education. After studying the subject of salaries in Maryland's public-school system, a committee of county superintendents recommended in 1938 that the Legislature revise the law as to minimum salaries, so as to vary the minima in accordance with teachers' training and experience, rather than according to the positions held.

Charities and Corrections. The Board of State Aid and Charities was in 1938 Maryland's chief administrative authority for the divers sorts of public support of the needy, for the State's subsidies to numerous hospitals, homes for the aged and for children, and other institutions and agencies. It also dealt with the State's yearly grants to 11 places of higher education. The institutions directly maintained by the State for the care and custody of persons (mental hospitals, sanatoria for the tuberculous, correctional institutions, a school for the feeble-minded, a school for the deaf, and the University Hospital) were run on separate budgets.

The cost of public non-institutional support for the needy in Maryland ran, during the year ended with Sept. 30, 1938, at an average somewhat over \$2,000,000 a month, exclusive of the temporary support for persons thrown out of employment, or unemployment compensation. The Federal Government paid about two-thirds of the monthly total, in the form of wages from the Works Progress Administration and maintenance of individuals in the Civilian Conservation Corps. The remaining third, which came to \$8,358,169 for the year (exclusive of the administrative expense), consisted of old-age assistance, support for children in needy families, and maintenance for the needy blind, all three of which were defrayed in part by the Federal Government, and of general poor-aid, for which counties or other local units paid. In September, 1938, the "families" receiving either general poor-aid, or support for elderly, minor, or blind indigents, or a combination of such forms of public support numbered 29,492. The State paid during the year, toward such support and for administrative costs, \$3,169,783; localities, \$3,109,322; and the Federal Government, \$2,891,564.

Political and Other Events. The movement to bridge tidal waters that cut the State's communications was advanced by assurance from the Federal Administration of readiness to provide money for some of the proposed work. President Roosevelt, on his speaking tour against Senator Tydings, in an address (September 4) near Morgantown, declared in particular that the projected bridge over the Potomac estuary, leading into Virginia, was both desirable for civil purposes and also a military necessity for the defense of Chesapeake Bay. He said that the bridge must be built "as fast as we can do it." A proposed bridge over the Susquehanna at Havre de Grace, gained approval for a grant of \$2,167,000 from the PWA late in September.

The Federal Government arranged to acquire from the Baltimore & Ohio Railway for \$2,000,000 the old Chesapeake & Ohio Canal, following the Potomac from Cumberland to Washington. It was to be maintained as a national monument.

Elections. Millard E. Tydings (Dem.) was re-

elected U.S. Senator at the general election (November 8), defeating Oscar Leser (Rep.). Six Democrats were elected to the Federal House of Representatives. Herbert R. O'Connor (Dem.) was elected Governor, defeating Gov. Harry W. Nice (Rep.), who sought re-election.

The re-election of Tydings followed his renomination (September 12) after a primary campaign made dramatic and singular by President Roosevelt's visiting the State to speak against Tydings, his fellow-Democrat. The President's address on Labor Day, at Denton, said that he proposed to keep the Democratic party liberal, praised Representative David J. Lewis, Tydings's opponent at the primary, and without mention of Tydings, drew a comparison between liberalism and conservatism, unfavorable to the latter.

Officers. The chief officers of Maryland serving in 1938 were: Governor, Harry W. Nice (Rep.); Secretary of State, E. Ray Jones; Treasurer, Hooper S. Miles; Auditor, James L. Benson; Comptroller, William S. Gordy, Jr.; Attorney-General, Herbert R. O'Connor; Superintendent of Schools, Albert S. Cook.

Judiciary. Court of Appeals: Chief Judge, Carroll T. Bond; Associate Judges, Benjamin A. Johnson, T. Scott Offutt, William Mason Shehan, Francis N. Parke, Hammond Urner, Walter J. Mitchell, D. Lindley Sloan.

MARYLAND, UNIVERSITY OF. A coeducational State institution of higher learning at College Park and Baltimore, Md., founded in 1807. The enrollment for the autumn term of 1938 was 4144. The 1938 summer school had an attendance of 1492. The faculty numbered 673. The total income from appropriations and other receipts for the year ended Sept. 30, 1938, amounted to \$3,732,000. The library contained 122,000 volumes. A large construction program, aggregating more than \$2,000,000, was under way. President, H. Clifton Byrd.

MASSACHUSETTS. Area and Population. Area, 8266 square miles; included (1930) water, 227 square miles. Population: Apr. 1, 1930 (census), 4,249,614; July 1, 1937 (Federal estimate), 4,426,000; 1920 (census), 3,852,356. Boston, the capital, had (1930) 781,188 inhabitants; Worcester, 195,311; Springfield, 149,900.

Agriculture. Acreage, production, and value of the chief crops of Massachusetts, for 1938 and 1937, appear in the accompanying table.

Crop	Year	Acreage	Prod. Bu	Value
Hay (tame)	1938	391,000	575,000 ^a	\$8,338,000
	1937	395,000	584,000 ^a	8,994,000
Cranberries	1938	13,700	300,000 ^b	3,150,000
	1937	13,700	565,000 ^b	4,520,000
Apples	1938	.....	2,524,000	2,650,000
	1937	.....	3,465,000	3,257,000
Potatoes	1938	15,700	2,041,000	1,531,000
	1937	16,700	2,254,000	1,600,000
Tobacco	1938	5,900	6,702,000 ^c	1,419,000
	1937	5,900	6,702,000 ^c	2,197,000
Corn	1938	39,000	1,482,000	1,052,000
	1937	40,000	1,640,000	1,410,000

^a Tons. ^b Barrels. ^c Pounds.

Education. Enrollments of pupils in the public schools in the academic year 1937-38 numbered 729,849; membership in the schools averaged 697,541 pupils. The enrollment comprised 444,950 in the elementary group, 108,241 in junior high schools, and 176,658 in high schools. The year's expenditure for public-school education, \$70,639,812 for support and \$2,377,468 for outlay, totaled \$73,017,280. Teachers, principals, and superintendents numbered 26,148; their estimated average salary for the year was \$1933.

Enactments in Massachusetts in 1938 admitted to participation in provisions of the system of retirement those teachers who were employed on part time; made additional provision for training adults in the duties of citizenship; furnished encouragement for public-school instruction in lip-reading; and required high schools and teachers' colleges to give courses on the State constitution.

Charities and Corrections. The task of restoring the State's administration of its mental hospitals to a suitable basis, after the disclosures and controversies of 1937, was hindered by Governor Hurley's political preoccupations and difficulties. The resignation of Commissioner Williams of the Department of Mental Diseases, which Hurley undertook to force in 1937, was not obtained for nearly a year. Eventually the Department was re-named and reorganized as the Department of Mental Health, headed by Dr. Clifton T. Perkins as Commissioner, and charged with supervision of the State and other mental hospitals. The 12 State mental hospitals had (July 27) 20,884 inmates; the Monson State Hospital, for epileptics, 1545; the three State schools for mental defectives, 5283.

Persons in the State's penal and reformatory institutions (November 1) numbered 4304; these institutions were the State Prison, at Charlestown; State Prison Colony, Norfolk; Reformatory, Concord; Reformatory for Women, Framingham; and State Farm, Bridgewater. The Governor's appointment of Dr. P. J. Jakmauh as Commissioner of Health was opposed by a committee of the Massachusetts Civic League, which demanded that someone with fuller special training for the task be named; this department had among its duties jurisdiction over four sanatoria for tuberculosis and a hospital for cancer.

The Department of Public Welfare (Walter V. McCarthy, Commissioner) supervised the aid given to divers needy groups through the localities, and the care of persons, numbering about 4200, in the State infirmary, Massachusetts Hospital School, Lyman School for Boys, Industrial School for Boys, and Industrial School for Girls.

Legislation. The General Court convened in regular annual session at the beginning of January and adjourned on August 24. The session outlasted any other up to that time. Governor Hurley contributed to its length in an effort to extract from it a great appropriation that he called necessary for additional support to the indigent in a situation that he described as an emergency. Hurley first asked the Legislature to provide, through the issuance of bonds, \$23,625,000 to be spent in the construction or improvement of State hospitals for the mentally afflicted, for road work, and for other purposes. Republican legislators, unwilling to put so great a sum in the Governor's hands shortly before his campaign for re-election, on a plea of emergency that did not carry conviction beyond the bounds of his own party, blocked the proposal. The Governor asked again, reducing the total of the demand to \$15,000,000, but again without result. In a third effort, made in June, he sought only \$9,000,000, with no more success. The Legislature, by way of compromise, thrice passed legislation to distribute among the cities and towns \$5,000,000 from the balance of the highway fund. Hurley, insisting on his proposal, vetoed this legislation twice; as the session could not terminate until he prorogued it, he kept it in existence for about six weeks beyond the time needed for other measures. Eventually he permitted the \$5,000,000 allocation to go through.

The appropriations, though less than the total that the Governor demanded, ran unusually high. Their total was reported somewhat to exceed \$77,000,000 for the new fiscal year. They included about \$22,000,000 for the expenditure of the State's Department of Public Works. The levy of the State's tax on property for the year was made \$17,000,000, exceeding that for the year before by some \$3,000,000.

Other acts of the session authorized all cities except Boston to decide by referendum whether they severally wanted local government by city managers and councils chosen on the plan of proportional representation; sent to Congress a memorial in favor of the Townsend plan for higher public support to the elderly; imposed a surtax at the rate of 10 per cent of the State's tax on incomes; provided for verification of voting lists throughout the State; authorized Boston to issue \$9,000,000 in bonds, wherewith to retire floating debt due to tax delinquencies and other bad bills; outlawed breach of promise to marry as a ground for lawsuits; provided for the teaching of the Italian language, where requested by parents of 25 pupils in any high school having 150 registered pupils; authorized Boston to grant policemen one day off in every seven; did away, for one year, with the employees' contributions to the State fund for unemployment compensation; and authorized the local creation of housing authorities to supervise the building of better housing in slums, thus rendering the State hospitable to an anticipated \$31,700,000 of Federal financing for such enterprises. An effort to repeal the act requiring of teachers an oath of loyalty was defeated. See CHILD LABOR.

Political and Other Events. Massachusetts was one of the 21 States that put into effect in January the payment of unemployment compensation to persons thrown out of work. The time being one of widespread industrial inactivity, about 117,000 persons registered as applicants for such payments in the first five days of the year. Payments began at the end of the month, out of an accumulated fund of about \$40,000,000 held for the State by the Federal Government. The total number of persons eligible at the time was put near 123,000.

Dr. David L. Williams, State Commissioner of Mental Diseases, who had been incapacitated by illness for several months after Governor Hurley sought his resignation early in 1937, and against whom proceedings had been put off, accused Lieutenant-Governor Kelly (March 7) of having assaulted him, shortly before his illness, in the previous May; Kelly denied the accusation and offered an alibi. Chairman Moynihan of the Commission on Administration and Finance, conducting an investigation of the State hospitals at the Governor's direction, reported unfavorably on the Medfield Hospital (April 7). Governor Hurley had repeated difficulties with the Executive Council over its refusals to confirm certain of his appointments. This, combined with his failure to obtain from the Legislature his demand for a large sum to be dispensed on public works by his administration, impaired his strength as a candidate for re-election. The State's Supreme Judicial Court upheld (January 17) the validity of the Governor's course in attaching his declaration, when approving the act abolishing the State's pre-primary conventions, that this act was an emergency measure; the effect of the decision was to defeat a Republican effort to bring the act before the voters,

for their disposal, by process of referendum. Another decision of this court upheld (May 26) the State's law against contraceptives as prohibiting their prescription by physicians, whatever the circumstances of the individual patient's case.

Events in Boston. Mayor Maurice J. Tobin took office in Boston at the beginning of January. He promptly began cutting down the expenditure of the municipality, in the effort to relieve the community of excessive taxation. Though the Mayor's authority extended scarcely to half of the yearly total of the city's disbursements, Tobin effected considerable reduction in that total. Retrenchments in his first few months of office included: A reduction of the Mayor's and certain other of the higher officials' salaries; the adoption of a substantially lower budget than that for the year before, despite a heavy allowance for purposes of public welfare; a reduction at the rate of about \$1,000,000 a year in current purchases of such material as supplies and automobiles; the closing of two municipal branch hospitals and a reduced service on a ferry to East Boston; and the rejection of a project for a new city hall, for which a grant of \$1,125,000, or 40 per cent, from the PWA had been expected. The city obtained from the Legislature authority for an extension of the subway on Huntington Avenue. The pending trial of Edmund L. Dolan and others on charges of corrupt transactions with the Legal Securities Corporation while Dolan was City Treasurer was interrupted by detectives' information that some of the defendants had conspired to buy the voices of 16 persons on the jury list; Dolan and two others were sentenced in May, upon this accusation, to two years' imprisonment in the Suffolk County jail, for contempt of court. See WATERWORKS AND WATER PURIFICATION.

September Hurricane and Floods. The New England hurricane (September 21) swept northward through the eastern part of the State. Its center traveled over Rhode Island before reaching Massachusetts; for this reason only a small stretch of coast east of the Rhode Island line suffered disastrous effects comparable with those in the neighbor State. More than 500 seashore cottages were reported to have been destroyed on Cape Cod; deaths estimated well above 50 occurred along the shore from Fall River to Chatham. About 165 persons were thought to have lost their lives in all the State and offshore. Inland, deaths resulted in some number from falling trees, roofs, bricks, and live wires. Cities and towns in the storm's track quite generally were deprived for a time of electric current, telephones, and the use of some highways and railroads. Damage to property attained a heavy total, supposedly in excess of \$100,000,000, but it was too widespread and various to admit of ready estimation. Losses in Boston were put at \$10,000,000; those to agricultural areas, as in the case of trees stripped of apples, were thought to approximate \$3,000,000. Floods in the Connecticut River basin did some damage; they were due in part to rains that had fallen before the hurricane arrived.

Elections. At the general election (November 8) Leverett Saltonstall (Rep.) was elected Governor, by 942,520 votes (unofficial count), to 793,655 for ex-Governor James M. Curley (Dem.). The other elective state offices were won by Republicans, except that of Attorney-General, which went to a Democrat. Republican majorities in both houses of the General Court were maintained. All the incumbent U.S. Representatives, 10 Republican and 5 Democratic, were re-elected. No

seat in the U.S. Senate came up for election. Ex-Governor Curley, reappearing as a political campaigner, had won the nomination as candidate for Governor in the Democratic primary with unexpected ease from Governor Hurley.

The voters adopted (November 8) the constitutional change, passed by the General Court, to render the regular legislative sessions biennial, instead of annual.

Officers. The chief officers of Massachusetts serving in 1938 were: Governor, Charles F. Hurley (Dem.); Lieutenant-Governor, Francis E. Kelly; Secretary of the Commonwealth, Frederic W. Cook; Treasurer, William E. Hurley; Auditor, Thomas H. Buckley; Attorney-General, Paul A. Dever; Commissioner of Education, James G. Reardon.

Judiciary. Supreme Judicial Court: Chief Justice, Fred Tarbell Field; Associate Justices, Charles Henry Donahue, Henry Tilton Lummus, Stanley Elrod Qua, Arthur W. Dolan, Louis S. Cox, James J. Ronan.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY. A nonsectarian institution for scientific and technical education in Cambridge, Mass., founded in 1861. The enrollment for the autumn of 1938 was 3093, including 692 graduate students. For the summer session, the registration was 1393. There were 274 members on the faculty and 370 other members on the active staff. The productive funds amounted to \$35,567,839, and the income for the year was \$7,162,247. The library contained 332,000 volumes. President, Karl Taylor Compton, D.Sc., D.Eng., Ph.D., LL.D.

MASSACHUSETTS STATE COLLEGE. The land-grant college of Massachusetts, organized for resident instruction, extension education, research, and control services for agriculture founded in Amherst, Mass., in 1863. The student enrollment in the fall of 1938 was 1620. There were 222 enrolled in the summer session. The faculty numbered 260. The income for the year 1938 amounted to \$1,485,093, of which \$1,176,320 was from State appropriation; \$300,486 from Federal appropriation, and \$8287 from endowed funds. The library contains approximately 110,000 volumes and 160,000 pamphlets and reports. President, Hugh P. Baker, M.F., D.Oec., LL.D.

MAUD, CHARLOTTE MARY VICTORIA. Queen of Norway, died in London, Nov. 20, 1938. The youngest child of Edward VII and Alexandra, she was born at Marlborough House, London, Nov. 26, 1869, while her father was still Prince of Wales. She was educated privately and simply, was taught to cook and to sew, and became an accomplished linguist. Her real interest, however, was in sports and she became noted as a horsewoman. On July 22, 1896, the young princess was married at Buckingham Palace to her cousin, Prince Charles of Denmark, a lieutenant in the Danish Navy and a brother of the present Danish King, Christian X. On Nov. 18, 1905, Norway seceded from Sweden, and the Norwegians invited Prince Charles to become their king. He accepted and took the title Haakon VII. The democratic simplicity of the Norwegian court soon won for them the affection and respect of the Norwegian people. They had one son, Prince Olaf, the heir to the throne.

Queen Maud was a Dame Grand Cross of the Order of St. John of Jerusalem, Lady of the Imperial Order of the Crown of India, and Lady of the Royal Order of Victoria and Albert. In 1937 her nephew, King George VI, appointed her a Dame Grand Cross of the Royal Victorian Order.

MAURITANIA. See FRENCH WEST AFRICA. **MAURITIUS,** mô-rish'ŭ-us; -rish'ŭs. A British crown colony in the South Indian Ocean. Area, 720 square miles; population (Jan. 1, 1938), 402,071. The foregoing figures do not include the dependencies, a number of small islands between 230 and 1200 miles away, which had an area of 87 square miles and a population (Jan. 1, 1938) of 11,388 including 9977 on Rodrigues. During 1937 there were 14,097 births, 11,527 deaths, and 1951 marriages. The capital, Port Louis, with suburbs, had 55,912 inhabitants in 1936. There were 41,050 students enrolled, in 1937, in the 127 primary and 11 secondary schools.

Production and Trade. Agriculture is the main industry, and of a total cultivated area of 180,082 acres, 145,096 acres were devoted to sugar cane, 20,000 acres to fiber, and 14,986 acres to other crops. The sugar crop for 1938 was estimated at 310,800 metric tons. Tobacco, copra, tea, and alcohol, were also produced. Mauritius produces only a fraction of the foodstuffs required for internal consumption and imports most of the articles of food and drink, as well as manufactured goods. Rice is the staple food of the people. In 1937, exclusive of bullion and specie, imports were valued at Rs34,226,522; exports, including re-exports of Rs748,349, totaled Rs36,081,479 excluding the value of sugar quota certificates estimated at Rs4,900,000 (rupee averaged \$0.3733 for 1937). A sugar quota of 252,000 long tons was allocated to Mauritius for 1938-39.

Government. For the year ended June 30, 1937, revenue totaled Rs15,923,784; expenditure, Rs15,506,431; public debt, £2,977,871 against which the sinking fund totaled £1,857,369. The government is under a governor assisted by an executive council of 6 members (4 ex officio and 2 unofficial), and a legislative council of 27 members (8 ex officio, 6 nominated unofficial, 3 nominated official, and 10 elected by a moderate franchise). Governor, Sir Bede Clifford (appointed May 21, 1937).

MECHANICAL ENGINEERS, THE AMERICAN SOCIETY OF. An organization founded in 1880 to promote the art and science of mechanical engineering and the allied arts and sciences. It includes 16 professional divisions—aeronautic, applied mechanics, fuels, graphic arts, hydraulic, iron and steel, machine-shop practice, management, materials handling, oil and gas power, petroleum, power, process industries, railroad, textile, and wood industries—and a professional division group on heat transfer. The membership at the beginning of the fiscal year, Oct. 1, 1938, was 14,374.

There were held during the year 680 meetings of the local sections of the society, as well as meetings of the student branches and professional divisions. The major meetings, however, were the spring meeting, Los Angeles, Calif., Mar. 23-25, 1938; semi-annual meeting, St. Louis, Mo., June 20-23, 1938; fall meeting, Providence, R. I., Oct. 5-7, 1938; and the annual meeting, New York, N. Y., Dec. 5-9, 1938.

The technical committees of the Society carried on their work in research, standardization, and formulation of safety, power test, and boiler codes and rules. The regular publications during 1938 were: *Mechanical Engineering*, the monthly journal; *Transactions* (including the *Journal of Applied Mechanics*), which contains the year's papers of specialized interest and is also issued monthly, with several supplementary sections containing committee personnel and other general information, memorial biographies, and an index to all publications.

of the society for the year; and the *Mechanical Catalog and Directory*.

The officers for 1938-39 are: President, Alexander G. Christie; vice-presidents, Harte Cooke, Warren H. McBryde, H. H. Snelling, L. W. Wallace, W. Lyle Dudley, Alfred Iddles, James W. Parker; managers, Edward W. Burbank, Kenneth H. Condit, Samuel W. Dudley, Carl L. Bausch, Samuel B. Earle, Frank H. Prouty, Clarke Freeman, W. H. Winterrowd, Willis R. Woolrich; treasurer, W. D. Ennis; secretary, C. E. Davies; assistant secretaries, Ernest Hartford, C. B. LePage; editor, George A. Stetson.

The main office of the society is in the Engineering Societies Building, 29 West 39th St., New York, N. Y. There is a mid-west office at 205 West Wacker Drive, Chicago, Ill., and a mid-continent office, concerned principally with the problems of the petroleum industry, at 211 Midco Building, Tulsa, Okla.

MECKLENBURG. See GERMANY.

MEDICAL ASSOCIATION, AMERICAN. A fedecy of the constituent, State and Territorial, medical associations, founded in 1847 to "promote the science and art of medicine and the betterment of public health." Members of the association must be members of constituent associations; those in good standing, who have qualified as fellows, constitute the scientific assembly of the association. On Nov. 1, 1938, there were 109,959 members, of whom 69,671 were fellows.

The eighty-ninth annual session was held in San Francisco, Calif., June 15-17, 1938, the house of delegates (in which are vested the legislative powers of the association) and the scientific assembly convening on June 15. At the section meetings leading authorities and investigators in the field of medical science announced and discussed the latest discoveries and methods in treating the sick. The scientific exhibit and the technical exhibit were also of great interest.

The officers elected for 1938-39 were: President, Irvin Abell, Louisville, Ky.; president-elect, Rock Sleyster, Wauwatosa, Wis.; vice-president, Howard Morrow, San Francisco, Calif.; secretary and general manager, Olin West, Chicago, Ill.; and treasurer, Herman L. Kretschmer, Chicago, Ill. The official publication is the *Journal of the American Medical Association*, Morris Fishbein, editor. Eight other scientific journals, each dealing with a special field of medicine, as well as *Hygeia*, a health magazine, the *American Medical Directory*, and the *Quarterly Cumulative Index Medicus* are published by the association. Headquarters are at 535 North Dearborn Street, Chicago, Ill.

MEDICAL JURISPRUDENCE. Identification. Problems in identification continue to play an important role in the year's contributions to Medical Jurisprudence. In his discussion of the Ruxton case, M. Edwin O'Neill (*Ia. Jour. of Crim. Law and Crimin.*, p. 279) considered identification by comparison of skulls with portraits. That case, it will be recalled, presented an unusual problem of reconstruction and identification of mutilated and dismembered bodies, and the extensive and elaborate evidence developed by police and medicolegal experts contained many unique features never before presented in a criminal trial. From the standpoint of scientific investigation the case is remarkable because of the range of procedures involved, including anatomical studies of the fleshy parts, examination of bones, comparison of feet and shoes, identification of blood stains, studies of teeth, identification of maggots as an indicator of the approxi-

mate time of death, fingerprint analyses, and the identification of various materials found with the bodies, such as fibers, straw, paper, and clothing.

The remains of the two bodies were found in 68 pieces about two weeks after death, considerably disfigured to remove evidence of identity and sex, and because of the extent and character of the mutilation the problem of identification necessitated detailed anatomical work not ordinarily required in cases of similar nature. Perhaps the most interesting procedure used, apparently for the first time in record, was that of making a comparison between the skulls and available portraits of the two victims. In a volume dealing with the scientific phases of the investigation, entitled *Medico-Legal Aspects of the Ruxton Case*, by Prof. John Glaister and Dr. J. C. Brash, the method employed is described in considerable detail. Briefly, this consisted of enlargement of the portraits to life-size, the photographing of the two skulls in natural size in positions as near as possible to that of the heads in the portraits, and superimposing the negative print of a skull with the positive of a portrait. This procedure was adopted after comparisons of the outlines of the skulls and portraits demonstrated close correspondence in all respects. Registration marks were placed on superimposed tracings of the outlines and then transferred to the prints of the portrait and skull. The positive portrait and negative skull, each with the transferred registration marks, were then re-photographed on x-ray films, superimposed, and photographed again on x-ray film by transmitted light; in this way a negative skull with a positive portrait were produced in a transparency in the same relative positions as the superimposed outlines. Observations were made in the outlines and portraits as to the relation of the eyes to their sockets, of the soft parts of the nose to the nasal bones, of the right ear to its bony aperture, of the contour of the skin and bones, and many others. The authors make clear the fact that such comparisons did not furnish absolute proof of identity; however, it was of sufficient importance to be included with the other identifying features of the bodies discovered by different lines of approach. Commenting upon this point, the authors stated (p. 161):

It may perhaps be claimed that the first results of a new technique—especially in the case of Skull No. 2 and the portraits of Mrs. Ruxton in two quite different positions—were surprisingly good. Improvement in technique and the comparison of a skull with a head in three positions might possibly lead to certainty in identification. Even as these comparisons stand, and in the light of the result of the trial and all the evidence of identity, it may be taken as certain that Skull No. 2 was the skull of Mrs. Ruxton, and that it would scarcely have been possible to find another skull that would have fitted the portraits in so many details.

A case of the burning of a new-born child and reconstruction of the skeleton was reported by H. Reuss (*Deut. Zeit. f. Ges. Ger. Medizin*, January, 1938, Bd. 29, s. 253). A woman died from post-partum haemorrhage. The new-born child could not be found. The man with whom the woman was living denied any knowledge of pregnancy or childbirth. In the living-room an intact placenta and umbilical cord measuring 60 cm. were found. In a Dutch oven in the room numerous pieces of bone were discovered, and these, when pieced together, formed the skeleton of a new-born infant. At the post-mortem examination of the woman it was decided that the haemorrhage was of tubal origin. The infant was fully developed, but it was not possible to decide if it had lived before the burning. The man was charged with the crime, although he persisted in denying any knowledge of the birth. Of

course the possibility of the woman as an accomplice could not be excluded.

Identification of Hair. In *Deut. Z. Ges. Ger. Med.*, February, 1938, 29, 399, W. Laves discussed the simple color reaction for use in the examination of hair roots and offered the following method of coloring hair as an aid to its microscopical examination.

Any fat is removed by placing the hair in a mixture of equal parts of alcohol and ether. It is then transferred for 5 to 10 seconds to 5 per cent zinc acetate solution, rinsed in distilled water, and submerged for a further 10 to 30 seconds in a 5 to 10 per cent solution of sodium nitroprusside, after which it is treated with pure alcohol and mounted in Canada balsam. Storage in the dark in a cool place stabilizes the color. The papillary hair bulb and the unhorned part of the root will be of a bright cherry-red color and yet remain transparent, whilst the epidermis cells attached to the hair shaft will remain uncolored. Clean hair, or hair that has fallen out, does not react; torn-out or combed-out hair bulbs show only colored striations corresponding with the cells of the inner root sheath, or a slight reaction in the residue of the unhorned cells at the base of the hair bulb. The advantages claimed for this method are its simplicity, the ease and rapidity with which it can be carried out, and the characteristic effects produced. The hair does not become so deeply coloured as to interfere with its examination in transverse section.

H. Desoille and M. Grinfeder (*Ann. de Med. Leg.*, April, 1938, 18, 306) considered identification of the hair of colored races. They noted that to the naked eye the head hair of a Negro is much more curly than that from the pubic region, and the pubic hair of the Negro in its turn is more curly than that of the European.

On microscopical examination the first thing noted about the hair of the head is its pigment. On slight enlargement the hair appears uniformly black, like horse-hair, and on further enlargement the grains of the pigment are seen to be numerous, dense, and thick, in many places to mask the medullary canal. The bulb shows important differences. In Europeans it is almost straight, as is also the hair that comes from it, which shows only the slightest inflexions. In the Negro, in addition to hairs with some almost straight bulbs, there are others with characteristics not met with in Europeans. Some of the bulbs have a glomerule form, others a helical spiral form, and in others, again, there is a hooked prominence, resembling a fish-hook, on the bulb and on the hair at the point of emergence. The hair itself is extremely frizzy, and gives the impression of a rubber tube of varying diameter, according to whether it is split or whole. The diameter varies; near the bulb it is between 70 and 80 μ , and in the region of the maximum diameter 90 and 100 μ . It is thus slightly wider than in Europeans (71 μ on the average according to Lambert and Balthazard). In the absence of artificial bleaching the medullary index can be estimated only at a few points; it is about 0.22 in comparison with 0.30 in Europeans. As regards pigment the pubic hair has the same appearance as the hair of the head. The bulb, however, is much less distinctive, but the characteristics noted in the head hair are still present, although to a much less pronounced extent. The diameter near the bulb is 90-100 μ (thinner than in Europeans—120 μ , Lambert and Balthazard). Friedenthal recorded similar characteristics in the pubic hair of the Chinese. The curly hair of a fair child showed a slightly twisted bulb, but had an entirely different pigment, thus indicating that a white with very curly hair might show some deviations from the normal, but that the difference from the hair of the Negro is still very pronounced.

Fingerprints. N. Rojas and J. R. Obiglio (*Rev. Assoc. med. argent.*, 1937, 50, p. 164; *Deut. Z. Ges. Ger. Med.*, February, 1938, 29, 260), writing on "Hereditary Destruction of the Papillary Ridges by Disease," described the case of a mother and daughter in whom the finger papillary ridges were so extensively destroyed as to be almost absent. They stress the importance of realizing the nature of possible changes due to pathological processes; those due to injury or certain occupations, or to such diseases as leprosy, tuberculosis, etc., are more readily recognized. They also describe a case in which the papillary ridges had in some places almost entirely disappeared as the result of progressive changes. These changes are hereditary and

may be found in many members of a family; they are due to hyperkeratosis and hyperidrosis, and extend over the entire surface of the hand. In the case reported the changes were due to a hereditary planar keratosis (Meledach disease). In such cases identification must be established by other characteristics, such as distribution of pigment in the iris, peculiarities of race, changes in the teeth, photographic records of the back of the eyes, etc.

Lie Detectors. In *People v. Forte*, 4 N. Y. Supp. (2d) 913 (1938), the court refused to permit a "pathometer" test to be made upon the defendant by Father Summers of Fordham University. Following are excerpts from the court's opinion:

It would be a rash prophet who would dogmatically assert that as a result of scientific research, a device that would be of inestimable value in accurately and unerringly ascertaining the truthfulness of testimony, is impossible of perfection. The extraordinary strides made in so many fields of human endeavor, as a result of scientific study, would stamp as foolhardy any such contention. Whether such a device now actually exists is beyond the question. . . .

There is neither unanimity, nor even approximate agreement, among writers upon the question whether such a device has been perfected.

The Court expresses no opinion on that subject.

To justify the use of any such test "there must first be proof of general scientific recognition that they are valid and feasible." . . .

Even if such tests were generally accepted by scientific men as valid and feasible, innumerable details of procedure would remain to be determined.

In the instant case the defendant, while tried, did not testify, nor has he even stated under oath his innocence. If a test were authorized and proved unfavorable to defendant, would testimony of the test be admissible over defendant's objection and refusal to testify? Some writers express the opinion that use against the defendant of the result of such tests would not violate the inhibition against self-incrimination.

It seems to the Court, that if such tests were authorized, definite rules should be authoritatively established for their conduct. Who would determine the questions to be asked of defendants? If there should be disagreement between the district attorney and counsel for defendant as to any question, how, when, and where should the controversy be determined? Innumerable other difficulties may easily be pictured, all of which, in my opinion, should be regulated before such an innovation is introduced in the law.

Intoxication. In "Diagnosis of Drunkenness,"

E. W. McCormick, who is a Metropolitan Police surgeon (*Practitioner*, May, 1938, 140, 625), asserted that there is no legal or medical definition of such a state. The Special Commission on Drunkenness of the British Medical Association laid down in their definition that "the word 'drunk' should always be taken to mean that the person concerned was so much under the influence of alcohol as to have lost control of his faculties and render him unable to execute safely the occupation on which he was engaged at the material time." But whether a man is drunk or sober is largely a question of degree. The Road Traffic Act of 1930 brought into use the term "under the influence of drink"; this definition, however, has done little toward simplifying the problem. Various facts have to be taken into consideration when deciding whether an individual is really drunk or not. To begin with, alcohol has a variable effect on different persons. The quantity and quality of the alcohol and the time at which it is taken must also be considered. The effect of alcohol on the nervous system varies with the individual; in some the legs are affected, in others the speech, and again some may be able to walk or speak correctly, but their humor may be maudlin or hilarious. Ocular changes occur in some, and in others the digestive system may be deranged. Thus diagnosis rests on an accumulation of signs and symptoms, and not on those evident in one organ, and an individual is

not diagnosed as drunk merely because his breath smells of alcohol. Discussing the legal aspects of drunkenness, the author goes on to say that following a diagnosis of drunkenness by a police surgeon the accused is then given the opportunity of calling in his own doctor, or of obtaining another opinion, and the fact that by the time the doctor thus called in arrives the accused person has had time to become sober, is one of the principal causes of conflict as regards medical testimony. The police surgeon, however, with his wide experience of such cases, has little difficulty in deciding whether or not a man is under the influence of drink; as evidence of this the author, reviewing the notes of 70 recent cases, states that 30 per cent were dismissed, but that few of those certified escaped later conviction in court.

A rapid chemical test of expired air for the determination of alcohol is described by R. N. Harger, E. B. Lamb, and H. R. Hulpieu in *Int. Amer. Med. Assn.*, Mar. 12, 1938, 110, 775. The advantages claimed are that it does away with the difficulty of obtaining blood and urine for such tests, and also the risk of absorption during such delay. Sulphuric acid (55 per cent) containing a small measured amount of potassium permanganate is used, and the concentration of alcohol is measured by determining the ratio of alcohol to carbon dioxide. A tube attached to a special apparatus is held in the breath stream, and a pump draws the sample through the apparatus, which consists of an all-glass reaction tube to contain the solution, a dehydration tube, and a tube filled with ascarite for the absorption of the carbon dioxide. Tests carried out on 121 subjects showed good correlation between the concentration of alcohol in the blood and the amount of alcohol accompanying 190 mg. of carbon dioxide in the breath. In these tests 4 litres of expired air contained about the same amount of alcohol as 1 cc. of the subject's blood. The authors state that analyses of the breath made on the volume basis should be checked by determining the carbon dioxide in the sample because of possible fluctuation in the amount of alveolar air in the samples.

The Ohio Court of Appeals for the Ninth Judicial District recently rendered an interesting decision bearing upon the question whether or not a motorist accused of driving an automobile while intoxicated could be compelled to submit to a scientific test for alcoholic intoxication (*State v. Gatton*, case No. 1043, decided May 12, 1938). The facts of the case were as follows: After the defendant had been arrested and accused of operating a motor vehicle upon a public highway while under the influence of alcohol, a deputy sheriff requested him to submit to a blood test or urinalysis for alcoholic intoxication. The defendant refused. At his trial, evidence was admitted as to the request to submit and to defendant's refusal; and this was followed by argument of the prosecutor to the jury that they should consider the defendant's refusal to submit to the tests as an inference of his guilt. The defendant objected to the admissibility of this evidence and to the prosecutor's comments, alleging that this constituted a violation of his privilege against self-incrimination. His objection was overruled, a conviction resulted, and the defendant appealed.

Upon appeal the court considered the problem as follows:

We are required to inquire into and ascertain what is meant by the provision of the constitution "No person shall be compelled, in any criminal case, to be a witness against himself." Did the court, when it permitted the

state to show that demand had been made upon the defendant to submit to examination, and defendant's refusal to submit, compel the defendant to be a witness against himself?

As to the prosecutor's comments, the appellate court considered this feature of the objection as merged with the other, because "if such evidence was admissible, then, of course, there was no error in the prosecutor's comment thereon" but "if it was inadmissible, the comment of the prosecutor aggravated the error of its admission."

In upholding the conviction the appellate court said:

It will be observed in the instant case that the evidence offered was not required to be given by the defendant himself, but was given by the deputy sheriff and the doctor called by the deputy to make the examination of defendant. We are unable to observe any merit in the defendant's claim that the introduction of such evidence violated his constitutional rights, and we believe, and hold, that the constitutional inhibition against self-incrimination relates only to disclosure by utterance. No such disclosure was required of defendant in this case.

The evidence offered was admissible, and the right of the prosecutor to comment thereon within reasonable limits invaded none of the defendant's constitutional rights.

There has been an increasing tendency in recent years upon the part of courts of many jurisdictions to extend the scope of the self-incrimination constitutional provisions to entirely unwarranted lengths. Modern-day transportation which enables criminals to travel with great rapidity from one part of a state to another, or from one state to another state, together with improvements in lethal instruments, has made the path of the law-enforcement officer exceedingly rough; and it seems to the members of this court to be high time to discontinue such an attitude towards those accused of criminal offenses, and to secure to them such rights as are clearly guaranteed by constitutional provisions, but no more. Maudlin sentimentality in favor of those accused of crime should not be encouraged.

A case of defense founded on *mania a potu* is described in the *Lancet* (Jan. 29, 1938, 1, 287). On Jan. 22, 1938, Walter Smith, a mate on a barge, was charged at Ipswich with the murder of his skipper in the cabin of the barge at Felixstowe dock in October, 1937. The defense put forward was acute *mania a potu*. The skipper was found dead with two bullet wounds in the heart and one in the head. A medical witness for Smith testified that the accused, when he shot his skipper, was in a condition of acute alcoholic insanity, but Dr. I. D. Dickson, Medical Officer at Norwich Prison, said that he could find no evidence of mental deficiency or insanity, although Smith showed the after-effect of amnesia, which was the usual sequel of a spasm of ungovernable fury due to *mania a potu*. Dr. H. Grierson described the characteristics of this condition, viz., a wild frenzy, lasting for about two hours, in the course of which a person might commit acts of violence of which he would have no subsequent memory. This condition was more likely to occur in persons not accustomed to heavy drinking. In the ordinary course of events, if a person presented a loaded firearm at another it was assumed that he intended to kill him, or to cause bodily injury; if, however, this person were in such a state of drunkenness as to be incapable of forming any intent, the act could be regarded as manslaughter and not murder. Smith's defense of *mania a potu*, disclosed in advance, had created a position with which the Crown was not familiar, but, after reviewing the medical evidence, the Judge asked the jury if they could see any proof of insanity. They returned a verdict of guilty, and the Judge passed sentence of death.

Testamentary Capacity. In a recent case before Mr. Justice Henn Collins (*Brit. Med. Jnl.*, Apr. 9, 1938, 1, 820), judgment was given in favor of a will, although the testator was shown to have been suffering from arteriosclerosis and cerebral

haemorrhage. The brothers of the testator, presenting the will for probate, gave evidence to the effect that the deceased had concentrated for a full hour on the making of the will, and during that time had given lucid answers to questions put by the solicitor. He disinherited his son on the grounds that he was already adequately provided for, and the son contested the will on the ground of testamentary incapacity. The family doctor testified that four days after the making of the will his patient was childish and in a state of mental confusion, and thus he had diagnosed cerebral thrombosis. Dr. J. P. Porter Phillips said that patients suffering from cerebral thrombosis were capable of pulling themselves together to deal with any matter in hand; he considered the testator to be suffering from arteriosclerosis and not cerebral thrombosis. Dr. R. D. Gillespie gave evidence to the effect that the testator might well have understood what he was carrying out, and the Judge, summing up, said that there had been a quarrel between the father and son which was the cause of the latter's disinheritance, and also the cause of his father's forming the opinion that his son had a grasping attitude toward some of his property. The question being one of fact and degree, it was to be concluded that the testator knew and approved of the contents of the will, and judgment in its favor was, therefore, given.

Sexual Pathology. K. Reuter, in *Deut. Zeit. f. Ges. Ger. Medizin* (January, 1938, 29, 186), reported the case of a 55-year-old man, found hanging, and nearby was a camera and attachment with which he had photographed himself in the act of hanging. Among the man's belongings were found other similar photographs of a sexual character, and this led to a verdict of accidental death by hanging. In discussing the report of this case Dr. Koopmann described another case—that of a man 62 years of age, who was found by a servant strangled at 10 o'clock in the morning. During the night the servant had heard a dull noise. The body was in a half-sitting position by a door and partly leaning against a wall, and round the throat was the mark of a string. The body was clothed with a vest, linen shirt, a woman's transparent chemise, a woman's stockings, and a woman's high-buttoned black boots, and was holding a glass. Under the left arm was a pile of six books. On the upper angle of the door there was a thin cord made into a sling which was broken in the middle. At a distance of a yard from the body a large mirror was propped against a stool. The man's wife was away from home. The nature of the findings excluded murder, and it was concluded that death was accidental and was the result of the slipping of the books during a staged psychopathological erotism.

Abortion. Histo-pathological examination of the internal genital organs after abortion was considered by M. Kernbach in *Annales de Medecine Legale* (February, 1938, p. 81). By the new French penal code therapeutic abortion is only permitted (1) when the life of a woman is in imminent peril or when pregnancy would aggravate a disease already present; (2) when it has not been possible to avoid the danger by other means. Apart from these exclusively medical reasons, if a woman desires the termination of her pregnancy she has to procure a certificate authorizing an abortion. Abortion on eugenic grounds is permitted only when hereditary neuro-mental pathological conditions are present. When the cause of an abortion is not known an anatomico-pathological examination may sometimes enable a definite conclusion to be drawn, but in

other cases clinical and bacteriological examinations are required. Various questions may be answered by the histo-pathological examination, such as (1) whether the pregnancy is uterine or extra-uterine; (2) whether the uterine cavity has been scraped, and if so how recently; (3) whether infection is present, and if so whether it is connected with abortive measures; (4) whether the abortion has been spontaneous, and if it was due to a pre-existent affection; (5) the date of the pregnancy; (6) whether in the case of perforation, there existed a previous affection of the uterine wall; (7) whether the abortion has been spontaneous or provoked, and, in the second case, whether it was indicated or not; (8) whether the death was due to measures to produce abortion or to the aggravation of a pre-existent uterine affection; (9) whether the anatomico-pathological lesions in the uterus are due to measures to produce abortion or whether they were pre-existent; (10) by what route infection had entered and spread; (11) explanation of the sudden death in suspected cases of septic abortion; (12) the nature of the traumatic abortion.

The author gives a number of cases illustrating the difference in microscopic and histological examination findings—such as the presence of corpus luteum of gestation in the ovaries in cases of disputed pregnancy, generalized purulent peritonitis, post-abortion endometritis, and purulent puerperal salpingitis, the presence of *B. tetanus*, the presence of poison in abortions procured by this means, the degree of inflammation indicating instrumental intervention, the presence of necrotic masses, and infiltration with lymphocytes and polynuclear cells. In a case of spontaneous abortion due to secondary infection, placental masses were found adherent to the fundus of uterus; there was a putrid odor and no sign of violence, and the histological examination revealed placental necrosis, thrombi, and numerous emboli in the capillary vessels of the myometrium. When abortion has been procured by the injection of fluid the presence of air bubbles in the cardiac musculature is conclusive evidence. In another case of spontaneous abortion a haemorrhagic mass was found in the uterine cavity, and histological examination revealed complete disappearance of the mucous membrane and replacement by fibrin, the entire zone being infiltrated with polymorphonuclears. On bacteriological examination *B. tetanus* was found, and death was regarded as being due to infection with that micro-organism.

Blood Determinations. B. Kratz and E. Plamböck (*Chem.-Zig.*, 1938, 62, 148-149) note that of the various methods used for the determination of alcohol in blood, that of Liebesny (in which the blood is heated and the alcohol vapor is brought into the reaction mixture by means of a current of air) gives the most accurate results, because volatile substances other than alcohol, which might also react, are drawn through the reagent unchanged. In the Widmark process, which is frequently used for forensic purposes, small amounts of such volatile substances as ether, ethyl chloride, or chloroform, which may be present in the blood, also react and cause the apparent alcohol figure to be too high. For example, in a case that was tried, a sample of blood gave 2.45 parts of alcohol per 100,000 by the Widmark process and 2.51 parts by the Liebesny process. The defense contended that ethyl chloride had been administered as an anaesthetic before the blood-sample had been taken, and that this substance accounted for part of the figure returned as alcohol. The agreement between the

results obtained by the two methods, however, proved that alcohol was unquestionably present, and that no other volatile substances had interfered with the determination. Had the alcohol been determined solely by the Widmark method, it would not have been possible to rebut this defense.

S. Schilling-Siengalewicz (*Deut. Zeit. f. Ges. Ger. Medizin*, February, 1938, Bd. 29, s. 339), writing on infra-red test for carbon monoxide in blood, pointed out that Eggerth and Merkelbach showed that carbon monoxide haemoglobin is very transparent to infra-red rays (920 mu), while haemoglobin is almost opaque in this spectral region. Thus the presence of carbon monoxide haemoglobin can be easily detected by means of infra-red photography. Two photographs should be taken, one on an infra-red-sensitive plate and the other on a panchromatic plate. If the infra-red-sensitive plate is blacker than the panchromatic, it shows that the blood under examination contains carbon monoxide. The test is also still positive if, for example, in a state of decomposition, the haemoglobin is already transformed into porphyrin.

Blood and Secretions. Fresh data on blood groups and other inherited factors in Europe and Egypt was presented by W. C. and L. E. Boyd (*Deut. Z. Ges. Ger. Med.*, April, 1938, 29, 401).

Blood group determinations, including tests for A₁ and A₂, as well as M and N, taste assay by means of phenylthiocarbamide, records of hairiness of the phalanges, characteristics of the hair, and color of the eyes, were made in Dublin, Wales, Zaporisk (nr. Moscow), Charkow, Tiflis, Cairo, Assiout, and San Sebastian. In the Irish the blood group O was present in 55.2 per cent, which is markedly different from results in England. In Wales the percentage of blood group B was 15.2. In Zaporisk the figures were: A and B, normal; M, 39.9; N, 16.1; MN, 44.° per cent.

In a group of 91 Basques the figures were: O, 57.2; A, 41.7; B, 1.1 per cent; AB, 0.

The extraordinary rarity of the factor B agrees with the results recorded for natives of Australia and the North American tribes. Non-Basques frequently showed only blood groups O and A in the ratio of 60:40. In Cairo and Assiout the blood group figures of Coptic and Mohammedan races agreed. The statistics of the blood-group findings showed that the factors A and B, and also M and N, conformed to the law of heredity.

Blood Tests and Paternity. On the strength of evidence provided by a blood test carried out by Dr. Roche Lynch, Senior Official Analyst to the Home Office, an affiliation order was refused at Marlborough, Wilts, on May 16. On April 4, 1938, the plaintiff applied for an affiliation order against the defendant, who denied paternity. The Bench agreed to a blood test, and on April 27 samples of the blood of the plaintiff, the child, and the defendant were taken at St. Mary's Hospital, Paddington, in the presence of Dr. Roche Lynch. The results of the test showed that the plaintiff's blood belonged to group AMN, the child's to group AN, and the defendant's to group OM. Thus, basing his conclusion on the fact that children of parents with blood group MN and M can only belong to groups M or MN, Dr. Roche Lynch stated that the defendant could not be the father of the child concerned, and the order was refused. This is the first case in England in which paternity has been definitely excluded by such tests (*Brit. Med. Jnt.*, May 28, 1938).

MEDICINE AND SURGERY. Sulfanilamide-Pyridine (Sulfapyridine). Interest in

chemotherapy was stimulated by the recent examples of the remarkable effectiveness of sulfanilamide in the treatment of certain bacterial infections, especially those caused by the beta-hemolytic streptococcus and the meningococcus. The fact that sulfanilamide has proved to be relatively inactive against the pneumococcus as compared to the hemolytic streptococcus has been disappointing and has prompted the search for a related compound which might produce as good results in pneumococcus infections as the original drug produced in infections caused by the beta-hemolytic streptococcus.

Whitby of the Bland-Sutton Institute of Pathology, Middlesex Hospital, London, has been especially active in the study of the bactericidal activity of sulfanilamide derivatives and according to a recent report (*Lancet*, 234, 1210, 1938) one of the compounds he has studied, 2-(p-aminobenzenesulphonamido) pyridine, is very markedly active in experimental pneumococcus infections in mice. 2-(p-aminobenzenesulphonamido) pyridine is a compound synthesized by the research staff of Messrs. May and Baker in England and is known there by its serial number, M & B 693. In America the compound is designated sulfanilamide-pyridine or sulfapyridine and the later term will be used in this discussion.

Whitby found that sulfapyridine distinctly prolonged the life of mice inoculated with 50,000 lethal doses of pneumococci. The period of survival varied considerably with the amount of the drug administered and was distinctly greater than that found in comparable experiments with sulfanilamide.

Its effectiveness in different types of pneumococcus infection varied. It appeared to protect mice against 10,000 lethal doses of pneumococcus Type I and to afford considerable protection against 10,000 lethal doses of other types of pneumococci. Its chemotherapeutic activity was greatest against pneumococcus Types I, VII, and VIII, but was also marked against Types II, III, and V.

It also was found that experimentally, sulfapyridine was equally as effective as sulfanilamide in experimental infections with hemolytic streptococci and with meningococci. The new compound seemed to have the further advantage of being non-toxic and effective in small doses.

It is interesting to note that of 64 related sulfanilamide derivatives studied by Whitby, the one striking success in chemotherapy of pneumococcus infections occurred with this particular drug.

Fleming of the University of London, England, studied the anti-bacterial action in vitro of sulfapyridine on pneumococci and streptococci. He employed the method of mixing known numbers of bacteria with defibrinated blood and various dilutions of the drug. Since normal human defibrinated blood has a considerable bactericidal power toward the ordinary pyogenic cocci, he decided to use this same test with blood from which the leukocytes had been removed. He found, in the first place, that sulfapyridine had no deleterious effect on leukocytes in concentrations that can be ordinarily attained in the body therapeutically. In addition, he also found that in the deleukocytized blood, sulfapyridine had no power of killing pneumococci, but that it had a very evident bacteriostatic power even when present only in very small amounts. When the chemical was added to defibrinated blood containing a normal number of leukocytes, sulfapyridine completely prevented the growth of pneumococci, even when present in high dilution. He concluded from these observations that sulfapyridine "delays the growth of the cocci and does not inhibit the action of the

leukocytes, so that the leukocytes are able to deal with a much larger number of cocci than they are normally capable of killing."

A similar study using hemolytic streptococci instead of pneumococci produced exactly the same results. That is to say, there was no bactericidal effect, and in the absence of leukocytes, growth was merely delayed; but when leukocytes were present, growth was permanently inhibited.

A further study was undertaken to determine the value of the addition of type specific pneumococcus antiserum to the mixture of blood, pneumococci, and sulfapyridine. It was found that under these conditions growth of the organisms was completely restrained, but if de leukocyted blood were used the combination of sulfapyridine and immune serum was incapable of producing this complete inhibition of growth.

Fleming emphasizes then that, "If the best results are to be obtained from the use of such a chemotherapeutic agent . . . the patient should be immunized actively or passively to the highest degree possible" (*Lancet*, 135, 74, 1938).

Evans and Gaisford of the Dudley Road Hospital, Birmingham, England, were apparently the first to make an extensive clinical trial of sulfapyridine in the treatment of pneumonia. They studied 200 cases of lobar pneumonia admitted to the hospital from March to the middle of June of this year (1938), one-half of which were treated with sulfapyridine and the other half received only the usual routine nonspecific treatment and thus served as controls. No selection of cases for treatment was made, admissions to each group usually occurring on alternate days. The diagnosis of lobar pneumonia was based on a characteristic history and unequivocal signs of consolidation of the lung with X-ray confirmation in many of the cases.

In the early cases, relatively small amounts of the drug were administered but when it began to be apparent that the material was relatively safe, larger doses were used. In the later part of the work, the routine was to give 2 gms. of the drug on admission and 1 gm. every 4 hours thereafter for 4 or more days. There were no obvious toxic symptoms from the administration of this amount of sulfapyridine, although in about one-fourth of the patients cyanosis appeared. This was shown by spectroscopic examination to be associated with the presence of methemoglobin in six of these cases. No sulphemoglobinemia was observed.

The results of the treatment, the authors believe, were quite favorable. There was usually a fairly prompt response in 12 to 36 hours, with a fall in temperature, accompanied by a diminution of toxemia and a clearing of the sensorium. The change, however, was not as dramatic as ordinarily seen in the crises of lobar pneumonia and improvement was usually slower. The case mortality rate in the treated series was 8 per cent as compared with 20 per cent in a control series observed at the same time. A particular study was made to determine if the administration of sulfapyridine caused granulocytopenia and in no case in this series was it observed.

Study of the concentration of sulfapyridine in the blood and of its excretion were not made. Typing of the pneumococcus from the sputum was attempted in all cases but identification of the higher types was not undertaken (*Lancet*, 135, 14, 1938).

In November a clinical report from the Royal Hospital, Wolverhampton, and the General Hospital, Walsall, by Dyke and Reid appeared (*Lancet*, 235, 1156, 1938). These authors report the case

records of eight patients with lobar pneumonia treated with sulfapyridine. First, there were no fatalities. In every case treatment was commenced from 12 hours to 4 days after onset of the symptoms. In each instance, exhibition of the drug was followed by an immediate fall in the temperature and pulse rate and immediate improvement in the condition; and in all cases in which the drug was administered in full and efficient dosage, the subsequent course was uneventful and recovery rapid. In this series of patients no specific serum therapy was used.

They observed no serious toxic effects. Only one of the eight patients showed any cyanosis.

They conclude: "Consideration of the cases recorded above, with experience of other cases seen since, leaves no doubt in our mind that up to the fourth day from onset, the proper exhibition of 2-(p-aminobenzenesulphonamido) pyridine will cut short the infective process and bring about speedy recovery."

In the United States, sulfapyridine has not yet been placed on the market. Merck and Co., Inc., owners of the patent rights for the drug, have very properly deferred offering the product for sale until competent investigators have studied more carefully its advantages and limitations. Such studies are now being conducted under close supervision in many clinics in the United States and while no reports are available as yet, there seems to be general agreement that sulfapyridine promises to be of real value in the treatment of pneumococcus infections. It will, of course, be impossible to form any critical estimate of its value until numerous well-controlled and carefully studied clinical trials have been made.

Brucellosis, PATHOLOGY OF. Parsons and Poston of the Duke University School of Medicine presented a very interesting report at the meeting of the Southern Medical Association in November. This dealt with the possible relationship between brucellosis (Malta fever) and Hodgkins disease.

Infection with brucella organisms, which may be of swine, goat, or bovine origin, produces a variable clinical picture, usually characterized by prolonged intermittent fever known as "undulant fever."

On the other hand, the etiology of Hodgkins disease, a slowly progressive granulomatous process involving primarily the lymph nodes and almost always terminating fatally, is at present quite unknown. Pathologically, the disease has many of the characteristics of a chronic infectious process and at various times attempts have been made to attribute its production to different organisms. The avian tubercle bacillus was at one time thought to be the causative organism. In 1914 Bunting and Yates isolated a diphtheroid bacillus which they thought was the causative agent in Hodgkins disease, but subsequent studies have failed to confirm the etiologic importance of these early investigations. It is true, however, that Hodgkins disease presents a fairly characteristic clinical picture and that a definite pathologic diagnosis can usually be made from a study of excised lymph nodes.

In studying a case of chronic brucellosis, closely followed for a period of 11 months, Parsons and Poston were very surprised to find at necropsy histologic changes in lymph nodes, from which brucella organisms had been cultured, which are generally considered to be characteristic of Hodgkins disease.

This autopsied case was of interest in many respects. Early in the course of the disease the patient had exhibited the usual immune reactions seen in

undulant fever. That is to say, the brucella organisms were agglutinated in high dilution and skin tests done with anti-brucella goat serum were positive. During this period a lymph gland had been excised which, on microscopic examination, showed merely a chronic inflammatory process with necrosis and none of the specific histologic changes of Hodgkins disease. Later, the immunity responses were lost, the various tests mentioned above became negative and at death, the histologic picture of the affected lymph nodes had changed from that of a simple non-specific chronic inflammatory reaction to one indistinguishable from Hodgkins disease.

This, of course, was a startling observation and led Parsons and Poston to study other cases of Hodgkins disease for a relationship to brucella infection. At the time of their report, three additional cases had been seen. In all of these, brucella organisms were cultured from excised lymph nodes which presented the histologic picture of Hodgkins disease and in all, likewise, the serologic studies were negative; that is, the brucella organisms were not agglutinated by the patients' blood, the skin tests were negative, and tests of the phagocytic index were negative.

The authors very wisely refused to draw any conclusion from their study as to the role of the brucella organism in Hodgkins disease, but simply point out that in the cases studied there was a histopathologic reaction to brucella infection in four cases indistinguishable from that described as characteristic of Hodgkins disease. They especially emphasize that in the cases studied, this histopathologic appearance was associated with certain definite alterations in the immunologic response of the patient.

Of course, the implication of this report is that so-called Hodgkins disease may merely represent one variety of response to infection with brucella organisms, and especially the type which occurs following the breakdown of the ordinary immunologic defense reactions.

Whether or not this concept of the relationship of brucellosis and Hodgkins disease proves to have any validity, it is at least a very stimulating one and offers a new avenue of approach to the study of this problem.

Jaundice, NATURE OF BLEEDING IN. One of the serious problems encountered in the management of patients with jaundice is the occasional occurrence of hemorrhage which may be spontaneous or may follow operative procedures. Furthermore, although serious bleeding occurs rarely, the surgeon has been unable to identify those cases in which it is apt to appear, since most of the clinical and laboratory tests of the clotting mechanism usually give negative results. The mechanism of this bleeding tendency is not as yet fully understood. However, in the past two years studies of the prothrombin content of the blood plasma have furnished considerable information which promises to be of value, not only in the detection of a latent bleeding tendency, but also in the prevention and treatment of hemorrhage.

Before discussing the defect in the process of coagulation which is probably the cause of bleeding in jaundiced patients, we must briefly summarize the present ideas concerning the clotting of blood. It is now thought that the precipitation of fibrin, which is the essential process in coagulation, is caused by the inter-action between a precursor of fibrin, fibrinogen, and thrombin; thrombin in turn probably results from the action of

calcium and thromboplastin on prothrombin. In 1935 Quick devised a method for the quantitative determination of prothrombin and subsequently he and others have studied the prothrombin content of the blood in experimental jaundice in animals and in jaundiced patients and it is with the results of these investigations that we are concerned (*Jr. Am. Med. Assn.*, 110, 1658, 1938).

Experimentally, a hemorrhagic tendency may be produced in several ways. One is by the production of a deficiency of vitamin K, a new food accessory substance discovered by Almquist and Stockstad in this country and Dam and Schönheyder in Denmark in 1935, the presence of which is essential for the normal coagulation of the blood. Quick found that when chicks were fed on a diet deficient in vitamin K there developed a rapid diminution of blood prothrombin and that when this had dropped below 20 per cent, a definite hemorrhagic tendency appeared. This could be cured by the addition to the chicks' diet of small amounts of alfalfa, a food particularly rich in vitamin K. The disappearance of the hemorrhagic tendency was associated with a rise in the prothrombin to normal levels.

In cattle who have been fed spoiled sweet clover a serious hemorrhagic disease is apt to occur. This has been found to be associated with a marked decrease in prothrombin. The toxin of the spoiled hay will produce a similar disease in rabbits and Quick found that when the rabbits' prothrombin fell below 10 per cent serious hemorrhage frequently resulted.

In cases of serious liver damage in dogs caused by chloroform anaesthesia or by the administration of carbon tetrachloride, the hemorrhagic diathesis was again shown to be associated with a prothrombin deficiency.

The significant point of these studies seems to be that ordinarily there is a wide margin of safety in the prothrombin factor and that serious bleeding ordinarily is not found unless the prothrombin is reduced to less than 10 per cent of the normal amount. This fact seems to explain the difficulty encountered in detecting the bleeding tendency since it is evident that a great part of the prothrombin reserve may have been dissipated before studies of coagulation time show any significant change. Also, this deficit helps us to understand why the additional damage done by anaesthesia or by the operative procedure may cause the prothrombin to fall below the critical level.

Clinical studies of prothrombin have not been extensive, but they seem to indicate that in man, as in the experimental animal, bleeding is usually associated with a low prothrombin.

Clinical confirmation of the importance of prothrombin deficiency in the bleeding occurring in jaundiced patients has been presented by Snell and his collaborators at the Mayo Clinic (*Proc. staff meet, Mayo Clinic*, 13, 74, 1938). They were also able to increase the prothrombin content of the blood by administration of vitamin K (derived from putrefied fish meal), bile, and bile salts. Similar results have been obtained by Smith, Warner and Brinkhaus using an extract of alfalfa (*Jr. Exp. Med.*, 66, 801, 1937).

From the therapeutic point of view, these studies probably will be of considerable value—first of all, in enabling the surgeon to detect a reduction of prothrombin before the patient develops any tendency to bleed. This will allow measures to be taken to restore the prothrombin before operation is undertaken and of course it also suggests steps

which may be taken to combat hemorrhage in jaundiced patients.

Blood transfusions will temporarily make up for the prothrombin deficiency. It is possible that in certain cases vitamin K deficiency may be a factor in the production of hemorrhage due to faulty absorption in the absence of bile acids in the intestinal tract. In such instances, the administration of powdered alfalfa leaf along with whole bile or bile acids may be of value. Because of the liver's important part in the production of prothrombin, the administration of large amounts of dextrose are usually advisable. It also seems likely that vitamins A and D are of value.

Attempts to isolate vitamin K and identify its chemical nature are now being undertaken. Recently Thayer, MacCorquodale, Binkley, and Doisy reported the preparation of a crystalline material derived from alfalfa leaves so potent that 0.6 microgram will reduce the clotting time to normal in about half the cases of the hemorrhagic condition produced in chicks by vitamin K deficiency. Also Lichtmoyn and Chambers have isolated a powerful clotting agent from the liver of dogs, pigs, and lambs (*Jr. Am. Med. Assn.*, 111, 2494, 1938).

Coccidioidomycosis. Coccidioidal granuloma is a well-known disease which is frequently encountered in California and especially in the San Joaquin Valley. It produces characteristic granulomatous lesions in the skin, bones, lungs, meninges, and occasionally in other organs which have been shown to be due to an infection with the fungus coccidioides. It takes its place, then, as one of the fungus diseases, better known examples of which are actinomycosis, blastomycosis, and sporotrichosis. The disease may be found in cattle and sheep, as well as in man, and is associated with the high mortality rate of approximately 50 per cent.

In the past there has been considerable speculation as to how the infection might be acquired. While in a few cases it has been possible to show that the local lesion resulted from the entrance of the fungus through a wound of the skin, in the vast majority no clue to the origin of the infection may be found. Careful studies have shown that there is no evidence for the transmission of the disease from man to man, from domestic animals to man, or from insects to man. The recent paper of Dr. Ernest C. Dickson of the Department of Public Health and Preventive Medicine, Stanford University School of Medicine, has clearly established that the common mode of invasion is by the inhalation of dust containing a vegetative form of the fungus (chlamydospores) which produces an infection of the upper respiratory tract. This is ordinarily a rather benign affair which subsides and leaves no sequelae, but in the occasional case may be followed by the appearance of coccidioidal granuloma (*Jr. Am. Med. Assn.*, 111, 1362, 1938).

Although some had suspected that the fungus might gain entrance into the body through the respiratory tract, it remained for an interesting accident in Dickson's laboratory to prove that the inhalation of chlamydospores caused coccidioides infection. In 1937 a young worker in the laboratory inadvertently opened an old petri dish culture and inhaled a quantity of cloudy material which he noted rose from the dish when the cover was lifted. Nine days later he became ill with a respiratory infection similar to one known to be very common in San Joaquin Valley and called "valley fever" or "desert fever." He recovered without complications. From his sputum fungus coccidioides was

isolated and proved to be virulent by animal inoculation.

"Valley fever," then, represents the initial invasion of the respiratory tract by the vegetative form of the fungus. It is a not especially characteristic condition, and is usually at first diagnosed as "flu," or later, when lung changes become evident, as bronchopneumonia or even tuberculosis. However, in a large, but as yet undetermined per cent of cases, in the second week of the disease painful red nodules appear in the skin, especially on the shins, and it is the appearance of this erythema nodosum which enables the physician to diagnose "valley fever." The skin nodules have been dubbed by the laity of the Valley "the bumps." In three to six weeks most of the individuals having "valley fever" recover without any complications, but rarely the fungus may secondarily invade other organs where the mature endospore-forming spherules produce the serious and characteristic granulomatous infection. Coccidioidal granuloma may follow "valley fever" in the case in which erythema nodosum is absent, as well as those in which it is present.

Dickson found that 72 of 112 specimens of sputum sent to his laboratory from the San Joaquin Valley were positive for coccidioides infection. He also observed that in cases of "valley fever" with erythema nodosum there was often an increase in the percentage of eosinophilic white blood cells. A study of cutaneous tests with a filtrate of coccidioides cultures (coccidioiden) showed much more marked reaction in "valley fever" than in the later stage of the disease, coccidioidal granuloma.

Dickson suggests that the term coccidioidomycosis be applied to the disease resulting from coccidioides infection. The acute initial infection he would call "primary coccidioidomycosis" and the stage of granuloma "secondary" or "progressive." It seems clear that Dickson's work represents a valuable contribution to the understanding of a hitherto puzzling disease.

Thrombocytopen. Recent studies from the Surgical Hunterian Laboratory of the Johns Hopkins University School of Medicine by Troland and Lee promise to throw light upon the subject of the pathogenesis of idiopathic thrombocytopenic purpura. This disease, which is characterized by a tendency to spontaneous bleeding, especially from mucous membranes, is associated with a marked decrease in the number of circulating blood platelets, and interestingly enough the surgical removal of the spleen is usually a curative measure, splenectomy being followed by a slow rise in the number of platelets and a disappearance of the hemorrhagic tendency. It has been postulated, then, that in this disease a toxin may be formed in the spleen which destroys blood platelets (or has a deleterious effect either upon their immediate precursors, the megakaryocytes, or upon the bone marrow in general). The work of Troland and Lee gives support to this idea (*Jr. Am. Med. Assn.*, 111, 221, 1938).

These workers prepared acetone extracts of the excised spleens of three patients suffering from thrombocytopenic purpura and found that the intravenous injection of this material into rabbits produced a sudden marked decrease in the number of platelets, followed after 24 hours by an abrupt rise back to normal levels. (For instance, in the first animal the platelets fell from a preinjection level of 620,000 per cubic millimeter to 58,000 in 8 hours, remained at this level for 16 hours, but 6 hours later numbered 610,000). By repeated injection of the extract the blood platelets could be held at low levels for several days. However, none

of the animals so treated developed purpura. This may mean that interference with the clotting mechanism by reduction of the number of blood platelets is but one factor in the causation of bleeding, and that there must be concomitant damage to the capillary wall before bleeding occurs.

Control tests made by injecting similarly prepared acetone extracts of normal spleen, of the spleen in other diseases, and of other tissues (thyroid and myomatous uterus) failed to produce any significant platelet-reducing effects.

The amount of material available at the time of their report was too small to permit any study of the chemical or pharmacologic aspects of the platelet-reducing agent. It is hoped that further investigation along these lines will more accurately define the nature of the active principle involved, for which the authors have suggested the name "thrombocytopen," and its relation to the occurrence of purpura.

Appendiceal Peritonitis, THE ROLE OF CLOSTRIDIUM WELCHII IN. In a series of studies Bower and his co-workers at the Temple University School of Medicine have emphasized the importance of the gas bacillus (*Clostridium welchii*) as an etiologic factor in the toxemia of spreading peritonitis following acute perforated appendicitis. The evidence which they have adduced may be summarized as follows: In approximately two-thirds of the cases of appendiceal peritonitis (both in man and dog), smears and cultures of the peritoneal exudate are positive for *Clostridium welchii*. Furthermore, *Clostridium welchii* anti-toxin could be demonstrated in the blood serum of 69 per cent of the patients who were convalescing or had recovered from appendiceal peritonitis. Finally they were able to effect a reduction in the mortality rate of experimentally induced appendiceal peritonitis by the administration of *Clostridium welchii* anti-toxin from a control figure of 90 per cent to less than 30 per cent.

In a further study (*Jr. of Immun.*, 34, 429, 1938: Mingle, Paxson, and Bower), they induced spreading peritonitis in a group of dogs previously immunized against *Clostridium welchii* toxin and found that the mortality rate in such animals was 35 per cent, contrasted with a control figure of 91 per cent.

While the clinical importance of these investigations cannot be evaluated yet, they certainly suggest the advisability of similar studies in appendiceal peritonitis in man which Bower is now undertaking.

Epilepsy, A NEW DRUG IN THE TREATMENT OF. At the annual session of the American Medical Association held in San Francisco in June of this year, Merritt and Putnam of the Department of Neurology, Harvard Medical School, described their experiences with the use of a new drug, sodium diphenyl hydantoinate, in the treatment of convulsive disorders. Using an experimental procedure for producing convulsions in animals by means of electrical stimulation, they were able to study the quantitative effectiveness of various drugs in the protection of the experimental animals. Among the materials studied, sodium diphenyl hydantoinate was found to be particularly effective. (This is a compound somewhat analogous in structure to the barbiturates, and its investigation was undertaken because of the authors' consideration that the phenol fraction in phenobarbital might account for its greater effectiveness in epilepsy than other barbituric acid derivatives.) Since extensive pharmacologic studies showed it to be relatively non-toxic

in animals, an attempt was made to evaluate the usefulness of the drug in human epilepsy.

The initial results of this study Merritt and Putnam considered to be promising. Using a group of subjects who had been suffering from some of the classic manifestations of epilepsy for many years and who had received little or no benefit from the usually accepted form of treatment, they found in 142 such patients (treated for periods varying from 2 to 11 months) that in major convulsive episodes ("Grand Mal attacks") 58 per cent were relieved and in an additional 27 per cent the attacks were greatly decreased in frequency. In the group with the so-called "Petit Mal," attacks were relieved in 35 per cent and greatly decreased in frequency in 49 per cent more. In those having so-called "psychic equivalent" attacks, relief was obtained in 67 per cent and the attacks were greatly reduced in frequency in an additional 33 per cent.

Their study indicates, however, that the use of sodium diphenyl hydantoinate is not without risk, as certain toxic manifestations were observed following its administration, of which the most common was the occurrence of a skin rash or toxic dermatitis. This developed in 10 patients and in 1 progressed to an exfoliative dermatitis. One patient had a mild purpura, not associated with a reduction of the blood platelets, and minor toxic reactions such as tremor, ataxia, and dizziness occurred in approximately 15 per cent. The authors point out that the drug should be used with caution until more definite evidence concerning the possible deleterious effects of its prolonged administration can be accurately studied. They further indicate that it is quite possible that the experimental method which they have devised for studying the effectiveness of drugs in the prevention of convulsions may later allow even more effective and safer ones to be found.

At the present, however, they conclude: "Sodium diphenyl hydantoinate is a valuable addition to the physician's armamentarium in the battle against 'epilepsy.' Its use should be restricted, for the present, to that group of patients who do not respond to the less toxic forms of therapy previously in common use."

Brief Notices. Davis and Koff of the University of Chicago reported the experimental production of ovulation in women by the administration of a gonadotropic substance derived from the blood serum of pregnant mares. The material they used was first observed by Cole and Hart in 1930 and subsequently purified and assayed by Cartland and Nelson in 1937.

It was administered intravenously to 36 women who were being prepared for abdominal operations. In about half of this group it was observed at operation that recent ovulation had occurred. This was determined by gross inspection of the ovaries and by microscopic examination of excised tissue. Especially interesting was the fact that very young corpora lutea were observed (most less than 18 hours old). This indicates, according to the authors, that the gonadotropic fraction of the pregnant mares' serum causes a very rapid growth of the ovarian follicle—maturation, ovulation, and corpus luteum formation all occurring within 24 to 36 hours.

The hormone used by these investigators differs in many respects from the gonadotropic hormones now available for clinical use and it is possible that subsequent study may show it to be of considerable value in the treatment of conditions associated with

disturbances of the ovulatory process (*Am. Jr. Obst. & Gynec.*, 36, 138, 1938).

During the past year suggestive evidence has been presented that sulfanilamide may be of considerable value in the treatment of undulant fever. Stern and Blake of Los Angeles reported three cases in which prompt clinical cure apparently followed the administration of the drug (*Jr. Am. Med. Assn.*, 110, 1550, 1938).

Welch, Wentworth, and Mickle of Hartford, Conn., were likewise impressed with its value in the treatment of five patients with undulant fever. They also studied the mode of action of sulfanilamide therapy in brucella infections and concluded: "In Brucella infections sulfanilamide appears to act through stimulation of the defense mechanism of infected animals by increasing the production of specific opsonins, thus affecting neutralization of the endotoxic or aggrassin-like substances produced by these organisms, with resulting phagocytosis" (*Jr. Am. Med. Assn.*, 111, 226, 1938).

Experiences of the past year have confirmed the value of nicotinic acid in the treatment of pellagra. In February, Spies, Cooper, and Blankenhorn reported that in a series of 17 cases of pellagra, dramatic improvement in the skin lesions occurred following the administration of nicotinic acid or certain of its derivatives (nicotinic acid amide and sodium nicotinate). This was accompanied by rapid healing of the inflamed mucous membranes of the tongue, mouth, urethra, vagina, and rectum (*Jr. Am. Med. Assn.*, 110, 622, 1938).

In a subsequent study Spies, Bean, and Stone obtained confirmatory results and observed further that the early and late mental symptoms of pellagra were dramatically benefited by the administration of nicotinic acid. There was also an improvement in associated conditions shown by the pellagrins, such as Vincent's infection, mucous colitis, and constipation or diarrhea. In 199 patients with clinical pellagra who had been accustomed to having one or two recurrences each year, relapse was prevented by the administration of nicotinic acid during the "pellagra season."

Studies were also made of the nicotinic acid requirements of the body and although this factor proved to be variable, being increased by infection, exercise or fever, they decided that about 500 mgms. a day was usually adequate.

Finally, they again stressed the necessity of such supplementary measures in the treatment of pellagra as a well-balanced diet, rest in bed, and effective treatment for co-existing disease (*Jr. Am. Med. Assn.*, 111, 584, 1938).

MEMEL. A territory north of and adjoining the eastern part of East Prussia; includes the city and port of Memel, on the Baltic coast, and a strip along the right bank of the lower Memel, or Niemen River, to its mouth. Area, 1099 square miles; population of entire territory, about 150,000; of the city of Memel (Jan. 1, 1936), 38,079. This area, German territory prior to the Treaty of Versailles, was ceded by that treaty to the League of Nations; seized by Lithuania, Jan. 15, 1923; and rendered partly autonomous, in recognition of a strong German element in the population, by the terms of the Memel Convention of May 8, 1924, signed by Great Britain, France, Italy, Japan, and Lithuania. Memel's special status included in 1938 a Governor (Viktoras Gailius), a Directorate, and an elected Landtag.

German annexation of Austria and parts of Czechoslovakia greatly weakened, in 1938, Lithu-

ania's tenure of Memel, strengthening the demands of the territory's German element. For years Memel had been included in a Lithuanian regime commonly described as martial law, and the most prominent of the pro-German leaders, Dr. Ernst Neumann, was in penal servitude, but the Landtag, or local diet forming part of the system of autonomy provided for Memel, remained in existence, dominated by the German party. See LITHUANIA under *History* for political developments in 1938.

MENTAL HYGIENE. See **PSYCHOLOGY**.

MERCHANT MARINE ACT. See **UNITED STATES** under *Congress*.

MERIT SYSTEM. (See also **CIVIL SERVICE REFORM**, **NEW INTERNATIONAL ENCYCLOPEDIA**, v, 378.) The year 1938 promises to be remembered as marking the most notable advances in the American Civil Service since the enactment of the first Federal law on that subject, Jan. 16, 1883. That event was duly commemorated by a mass meeting in Washington, sponsored by the A.F.G.E. and addressed by speakers prominent in government and reform circles. The Administration's "Reorganization Bill" (1937 YEAR BOOK, p. 399) met defeat in the House on April 8; but just before adjournment of the 75th Congress, both Houses adopted the conference report on the Postmasters' Bill (*ib.*) which was duly signed by the President and on June 24, he issued two Executive Orders (Fed. Reg. III, 1519 *sq.*), effective Feb. 1, 1939, embodying the main civil service features of the rejected bill and extending the Merit System to some 81,000 Government workers. Fourth-class postmasters have been under Civil Service for some years. The new act extends the same status to those of the 1st, 2d, and 3d class. Incumbents in these classes must pass non-competitive examinations after which they may be appointed for life, removable for cause only. Vacancies as they occur must be filled by promotion from within the service if such material is available; if not, selection is made from the three highest ranking applicants after a competitive test conducted under the auspices of the Civil Service Commission. But the one selected must have been, for one year, a resident of the community which he is to serve, and be confirmed by the Senate. It was announced on November 23 that the President had denied the request of the Federal Personnel Association to allow government employees access to their personnel files.

State and Local Systems. At the 30th annual conference of the "Civil Service Assembly of the United States and Canada" (composed of administrators, Federal, state, and municipal) which met in Washington, October 16-21, Executive Director Belsey reported civil service systems operating in "14 states, 169 counties, 5 special districts and 674 cities," and it was announced by the Associated Press that civil service bills would be introduced into the legislatures of 7 other states, mostly southern. *Maryland.* Early in December Governor Nice issued the 33d order "adopting" into the state civil service employees of 21 departments (all except 2). A legislative reorganization and consolidation of all these into 4 or 5 is also planned. *New Jersey.* On November 8 municipal merit systems were adopted in 9 of the 15 cities which voted on the question. *New York.* Before the National Municipal League, on December 1, Civil Service Commissioner Kern of New York City stated that the local judges, "almost unanimously from Tammany Hall," were an "obstacle" to civil service reform. But a correspondent of the *New York Times* complains of the "arbitrary ratings" in the city civil

service examinations. On November 17 it was announced that a "career man" had been appointed clerk of the Surrogate's Court of New York County in place of a deceased Tammany district leader (though the post was "exempt") and that another "career man" had succeeded the new appointee in his former position. But shortly afterward County Clerk Watson disclosed the appointment of another district leader as one of his deputies at a \$6000 salary. Due to recent eliminations of "exempt" posts by the City Civil Service Commission these had been reduced below 600 before the year's close, and in *Anderson v. Rice*, 277 N. Y. 271, the Court of Appeals on March 8 held unconstitutional the act "exempting" state police from competitive examinations. Previously, on January 11, the same court upheld the Appellate Division in declaring invalid the appointment of former Mayor Walker to a \$12,000 post which would also have entitled him to a pension. But in *Deodati v. Municipal Civil Service Commission*, Justice Collins of the Supreme Court denied respondent's right to fix a 50-year age limit for appointment as porters in the municipal service. *North Dakota*. The initiated proposal for a Civil Service Department and system, which the voters rejected on November 8 (see REFERENDUM), was disapproved by the State's Taxpayers' Association as "not a real civil service law," since it sought to "freeze in," without a test of any kind, all present employees and units.

Current articles on the subject include "The Government and Its Employees," *Yale L. J.*, XLVII, 1109 (C. Agger); "The Lawyer in the Civil Service," *Nat. Lawyers' Guild Quar.*, I, 294; "The Lawyer in the Public Service," *A.B.A. Jnl.*, XXIII, 712 (E. J. Woodall).

METALLURGY. Advances in ore dressing and in the reduction of ore to metal are difficult to attach to any one year. Progress continues from day to day in details, but a decade or more is required to establish a revolutionary new method of treatment or to utilize the new knowledge that fundamental scientific discoveries have put in the metallurgist's hands. Fifty years ago the cyanide process for treating gold and silver ores was developed and commercially applied. It has come to be almost universally used, but improvements in detail are still being made from year to year. Thirty years ago the flotation process of concentration of ores began to look important, since developing into one of the most remarkable and universal of the metallurgist's tools, and one whose utility is constantly being proved in more divergent fields, with frequent improvements in the minutiae of equipment and method. For decades following the discovery of electricity its use in metallurgy was largely confined to the electrolytic refining of copper and the electrothermic reduction of aluminum. In the last decade or two electrodeposition of metals, notably copper and zinc, from acid solutions of their ore minerals has grown into a big industry whose field may yet see its biggest expansion. Electrothermic methods are now to the fore. Certainly the electrometallurgist seems destined to accomplish much in the next decade or two.

Application of new fuels in the last three decades has meant much to the metallurgist: first pulverized coal instead of lump coal, and more recently oil, and even more recently gas, both natural and manufactured. As natural gas is piped to more remote places, it is constantly finding new uses in metallurgy. Other aids have been new refractories of greater heat resistance, and new alloys, themselves the end product of metallurgical ingenuity,

of greater utility in ore reduction chiefly because of their resistance to heat and chemical corrosion.

Early in the current century the blast furnace began to be displaced by the reverberatory for copper smelting; the former is now practically extinct, but almost every year witnesses one or more important improvements in reverberatory construction or in that of its accessory equipment. More recently, the old horizontal retort process of zinc distillation has been gradually displaced by improved vertical retorts of larger capacity, and still more recently the electrothermic process has been devised.

All these and many more developments have been the metallurgist's answer to the problem of constantly lower-grade ores in more inaccessible locations, and to generally increasing wage scales and unit costs. As a result, the common metals are still available today at about the same prices as 50 years ago, and some metals, notably aluminum, nickel, and many of the rarer metals, are selling for a small fraction of the prices charged in 1889. Furthermore, thanks largely to the electrometallurgist, practically all metals are commercially obtainable today of a purity undreamed of half a century ago. Zinc, with less than 0.01 per cent impurities present, for instance, now hardly commands a premium in price and in some instances is produced for even less than the cost of poorer grades. Small impurities in metals, incidentally, have recently been found to be of considerably more than academic interest; the properties of a metal that is 99.999 per cent pure may be radically different from those of one that is only 99.90 per cent pure. Realization of this, and development of methods for the commercial production of metals that are practically chemically pure (some of the troublesome impurities are gaseous and require atmospheric control) may well be one of the outstanding fields of progress in the metallurgy of the future.

Even though ore-reduction metallurgy has progressed greatly in the last half century, one who keeps in step with the new conceptions in physics and chemistry cannot help but feel that these new discoveries and those on the way have hardly touched the practice of winning metals from their ores. Fifty years from now should see our present methods much more outmoded than do those of 1889 seem to us today.

Ore Dressing. The practicability of using rod mills of large diameter, such as 9 ft., as a substitute for rolls has been demonstrated at the Ray property in Arizona. They will take $\frac{3}{4}$ -in. material and grind to about 80 per cent 14 mesh in one pass. For fine-grinding, the tendency continues to use but one grinding unit, in closed circuit with high-duty classifiers. The Hollinger experiments, mentioned in the 1938 YEAR BOOK, demonstrated thoroughly the desirability of open-end ball mills with a low pulp level, quick discharge, and high circulating load. Under these conditions the mills can also be run closer to their critical speed.

An interesting innovation in ball-mill accessories is the Hardinge "Electric Ear." When a ball mill is underloaded it makes a great amount of rather high-pitched noise; when it is overloaded it is comparatively quiet and muffled. The device mentioned picks up the sound coming from the mill by means of a microphone, set at the focal point of a parabolic receiver. The current that flows through the microphone varies directly with the amount of sound it receives, and this current actuates sensitive relays that cut in heavier control machinery that raises or lowers the feeding device of the

mill. The microphone is sensitive to three decibels of sound, whereas the human ear, by which the operation of a ball mill is ordinarily largely regulated, cannot detect sound volume changes of less than 20 decibels under mill operating conditions. Mill output can be increased by as much as 10 per cent by the installation of this device, which has been quite widely introduced.

The unique properties of stainless steel cloth have been utilized in the satisfactory operation of mills on regular tonnages in closed circuit with 65-mesh screens, with the total exclusion of classifiers. This is possible where truly dimensional sizing is desired, independent of the specific gravities of the constituent minerals.

Ore concentration by the separation of minerals in a fluid of heavy density, intermediate between the minerals to be separated, is of increasing current interest and application. The fluid medium may be water in which finely divided heavy substances are suspended, or it may be a chemical or mixture of chemicals of the desired specific gravity. In concentrating iron ore on the Mesabi Range of Minnesota finely divided galena suspended in water has been used, as it has for concentrating zinc ore in Tennessee and in the Tri-State field. More recently, however, in the Mesabi experiments, finely ground ferrosilicon (85 per cent iron) has been found more suitable. It is harder and can be recovered by magnetic means. The specific gravity of the fluid, using this material, can be made to range between 2.8 and 3.3. Use of chemicals for the heavy medium is a more recent development, so far applied only to coal on a pilot-plant scale. The general characteristics of such parting liquids, in order to be successfully used, are that they should be available in specific gravities between 1.3 and 3, have low vapor pressure with good mobility at working temperatures, have a low melting point and minimum miscibility with water, be stable toward water, air, light, and heat, be free from a tendency to emulsify with water, be of approximately the same viscosity as water, and be obtainable at low cost. Before submersion of the coal or ore in the parting medium, starch acetate or tannic acid in concentrations of 0.01 per cent are brought into contact with it, thus preventing the later adherence of the chemicals to the mineral particles, with subsequent loss, and making the process an economic one. The chemicals used in the work so far have been tetrabromethane, pentachlorethane, and trichlorethylene, having specific gravities of 2.96, 1.68, and 1.46 respectively.

Some experimenters are working on the magnetic permeability of ores, as a means of concentration. Powerful magnets have an effect on practically all ores, including those not generally considered magnetic, so that high-intensity magnetic separators may eventually find a rather wide application in this field.

What may become the outstanding recent development in gold metallurgy, though one whose utility remains to be proved, is being tested at a mill in the Philippines. It is the invention of T. G. Chapman. Briefly, his process consists in adding lime, cyanide, and activated carbon to the grinding mill; thickening and agitation of the pulp with concurrent dissolution of the gold by the cyanide solution, and adsorption by the activated charcoal; and finally, flotation of the carbon with its adsorbed gold. The process seems particularly applicable to low-grade ore and tailings. It reduces leaching time from the present 72 to 96 hours to an equivalent recovery in 10 to 12 hours. The principal ad-

vantages seem to lie in higher recovery, less plant investment per unit of capacity, and lower operating cost. The process is being thoroughly investigated by competent metallurgists.

Pyrometallurgy. In copper smelting, the most interesting recent development has been at the Phelps Dodge plant at Douglas, Ariz., where the reverberatories have been reconstructed. Inside dimensions are 26 by 107 ft., 1000 tons of solid charge per day is smelted, and the natural gas used gives a fuel ratio of 3,000,000 B.T.U. per ton smelted. A single 2500-h.p. waste-heat boiler is installed directly over the uptake of the furnace, 51 per cent of the heat in the fuel being recovered as steam. This position of the boiler is unique, and has proved highly successful.

In the smelting of iron ore, the Brassert acid-smelting process, first used commercially at the Corby iron smelting works in England some four years ago on 28 per cent iron ore, is continuing to expand in importance. Two Germans, Max Paschke and E. Paetz, are given at least a part of the credit for the discovery of the process, and it is now being applied to German plants in order to utilize their low-grade domestic ores. The customary basic smelting procedure is impractical on ores containing 20 to 30 per cent silica and only 25 to 35 per cent iron, the cost of limestone and fuel then being excessive, but the Brassert process can utilize this type of material economically. Direct smelting by the Brassert process, which, incidentally, takes place at lower temperatures, yields an easily fusible acid slag, with removal of the sulphur from the pig iron by sodium carbonate after the iron is tapped from the blast furnace.

With the current interest in light metals and alloys, mention should be made of improvements in the production of magnesium. Formerly the electrolysis of purified magnesium chloride, from which the chemically combined water had been removed at great expense, was the only commercial method of making this metal. Then, completely anhydrous magnesium chloride, obtained by heating purified magnesite with coke and byproduct chlorine, was utilized. The latest scheme is to produce magnesium directly from burned magnesite by electrothermic distillation. Powdered coke, sintered with powdered magnesia, is the reducing agent. The reaction is rapid when the sintered pellets are dropped into an electric furnace, the products of course being gaseous magnesium and carbon monoxide. These gases must be suddenly cooled, condensing the magnesium before it has a chance to reduce the carbon monoxide. Even with care and ingenuity, redistillation is necessary. The process may eventually make the cost of magnesium less than that of aluminum. In fact, some variation of the process may be applied to aluminum.

A new vertical retort process for zinc is also being commercially tested. As raw material, fine zinc sulphide concentrate is roasted to the oxide form in a cyclone-type roaster-separator. The oxide is allowed to fall through a vertical retort in the presence of carbon monoxide or natural gas, which reduces the material to gaseous metallic zinc. This is filtered through incandescent coke, and the zinc thus purified subsequently condensed. It is said that the economies apparently realizable by the new process may be sufficient to produce a profound effect upon the zinc industry.

METEOROLOGY. Perhaps the most striking event in the development of meteorological science during the year was the proof of the existence of sodium in the atmosphere. To anyone who

has seen sodium hissing and spitting on the surface of water, with a hydrogen flame playing around it, it must come with rather a shock to learn that there is free sodium in the atmosphere. It exists there, however, only in the form of an extremely rare vapor and doubtless it survives for an appreciable length of time only at levels where water is also rare, causing combination of the sodium atoms with water molecules to be a very infrequent event. The discovery and proof of the presence of sodium in the atmosphere are due to Cabannes, Dufay, and Déjardin. Spectroscopic methods were used; the well known D lines of sodium having been detected in the spectrum of the light from the sky both at twilight and, with much longer photographic exposures, during the night. Immediately after sunset, when the sky is darkening rapidly, the continuous spectrum of the sunlight scattered by the air fades much faster than does the light emitted by the sodium atoms in the air, so that the spectrum reveals this light by bright lines superposed on a faint background. The sky spectrum also shows the famous green auroral line now known to be due to atomic oxygen. While this oxygen line is visible without great change of intensity, from twilight onwards throughout the night, the sodium yellow lines, just as strong as the oxygen line about sunset, fade almost completely away during an interval of a few minutes. Accurate measurements of their wave-length, by interferometer methods, confirm the identity of these lines with the double D line of sodium, both at twilight and also during the night. The rapid fading of the sodium light at sunset indicates that the sodium is stimulated to luminescence by sunlight. At the time when the sodium light has sunk to insignificance compared with the oxygen green light, the lower limit of the sunshine still traversing the very high layers of the atmosphere is about 40 miles high so that the sodium must lie mainly below this level. During the night the emission of sodium light is at an altogether lower intensity, corresponding to a much weaker stimulus; it seems that the energy necessary to excite the sodium atoms at this time is given to them by collisions with other atoms or molecules around them, which already possess excess energy. The emission of green oxygen light throughout the night indicates the existence of metastable oxygen atoms, continually produced during the recombination of atomic oxygen to form oxygen molecules; evidently the sodium light derives its energy from the same source, that is, the energy of dissociation of oxygen by ultraviolet sunlight during the day.

The origin of atmospheric sodium is as yet unknown. Three different sources have been speculated about: (1) interstellar space, (2) the sun, and (3) the earth. In the case of the third it may be that when spray from the oceans evaporates in the air, sodium chloride is left behind, some of which may be in molecular form. The sodium chloride molecules may be carried up to great heights by atmospheric turbulence. Above the ozone layer such molecules could be dissociated into sodium and chloride ions, which in the presence of the many ions and electrons known to exist at high levels would soon become neutralized by gaining or losing an electron.

Much study has recently been given to meteorological conditions over the North Atlantic Ocean with a view of finding the best route for the operation of air craft between North America and Europe. Over the North Atlantic there are three alternative routes: (1) the northern route via

Iceland, Greenland, and Labrador; (2) the direct route via Ireland and Newfoundland; (3) the southern route via the Azores and Bermuda. The choice of a particular route depends largely on the meteorological conditions at possible air bases as well as along the route itself. During the summers of both 1937 and 1938 the French ship *Carimaré* was stationed between the Azores and Bermuda and its meteorological staff made regular surface, pilot balloon, and radiosonde observations. The value of these observations as an aid to safe flying of the North Atlantic cannot be overestimated.

The year has witnessed a great increase in obtaining and applying upper-air observations by radiosondes, small instruments attached to small balloons generally weighing less than 2 pounds which measure the pressure, temperature and humidity of the upper air and radio them to the ground by a small broadcasting set. The use of these observations has resulted in a slow but steady improvement of the accuracy of weather forecasts.

Brazell has just completed a study on the relation between the blueness of the sky and the polarity of the air and the wind and finds that there is a definite increase in blueness with an increase in wind speed.

Necrology. Hugo Hergesell, June 5; W. R. Gregg, September 14.

Bibliography. Glenn T. Trewartha, *An Introduction to Weather and Climate* (New York); Thomas A. Blair, *Weather Elements* (New York); W. J. Humphreys, *Weather Rambles* (Baltimore); D. Brunt, *Weather Science for Everybody* (London); W. G. Kendrew, *The Climates of the Continents*, 3d ed. (Oxford); W. G. Kendrew, *Climate*, 2d ed. (Oxford); E. Brezina and W. Schmidt, *Das Kunstliche Klima in der Umgebung des Menschen* (Stuttgart); August Schmauss, *Das Problem der Wettervorhersage*, 2d ed. (Leipzig); F. Baur, *Einführung in die Grosswetterforschung* (Berlin); Albert Kratzer, *Das Stadtklima*, (Braunschweig); H. R. Byers, *Synoptic and Aeronautical Meteorology* (New York); Gayle Pickwell, *Weather* (Los Angeles); K. Buttner, *Physikalische Bioklimatologie* (Leipzig); E. G. Bilham, *The Climate of the British Isles* (London); H. Ertel, *Methoden und Probleme der Dynamischen Meteorologie*, A. J. Conner, *The Climates of North America, Canada* (Berlin); I. R. Tannehill, *Hurricanes* (Princeton); C. M. Botley, *The Air and Its Mysteries* (London); John A. Lapp, *Meteorology as a Career* (Chicago).

METHODIST CONNECTION (OR CHURCH) OF AMERICA, WESLEYAN. A branch of the Methodist Episcopal Church, organized in 1843 as an anti-slavery and non-episcopal denomination. In 1937 it comprised 29 annual conferences. There were 745 churches, 854 ministers, 663 local preachers, and 25,224 members. The Sunday schools numbered 771, with 9426 teachers and officers, 49,809 pupils, and 8804 persons enrolled in the home department, and on the cradle roll.

The church maintained the following educational institutions: Houghton College in Houghton, N. Y., Central College in Central, S. C., Marion College in Marion, Ind., and Miltonvale College in Miltonvale, Kans. The foreign missionary department of the Missionary Society continued its work in Africa, India, and Japan, and the department of home missions and church extension among the American Indians, Mexicans, and mountaineers of the South. The *Wesleyan Methodist*, weekly, is the official organ of the church. The officers are: President, the Rev. E. D. Carpenter; first vice-president,

Rev. F. R. Eddy; second vice-president, Joe Lawrence; and secretary, the Rev. E. F. McCarty. Headquarters are at 330 East Onondaga St., Syracuse, N. Y.

METHODIST EPISCOPAL CHURCH, THE. The year 1938, in the Methodist Episcopal Church, was marked by outstanding meetings, anniversaries, epochal events, and a forward movement in the work of the Church.

In early February, a National Methodist Council was held in Chicago, not for the raising of money, or the outlining of projects, but for the single purpose of facing squarely the opportunities and obligations of service that confront the Church. For three days more than 4100 delegates, from every State in the Union and from foreign countries, sat together under the banner, "I FELT MY HEART STRANGELY WARMED," as they discussed together, "We Look at Our World, Our Gospel, Our Church, Our Expectations, Our Faith, Our Christ, Our Future." This meeting, unequaled by any previous gathering of the Church, was the preliminary observance of the 200th anniversary of John Wesley's heart-warming experience in a little Chapel on Aldersgate Street, the beginning of the Methodist movement that has encircled the Globe.

Following the votes of the Methodist Episcopal and the Methodist Protestant Churches and the Annual Conferences of the Methodist Episcopal Church South, in 1936 and 1937, in favor of Union, the General Conference of the Methodist Episcopal Church South cast the final affirmative vote, preparing the way for the Uniting Conference to be held in Kansas City, Mo., on Apr. 26, 1939, when 900 delegates from the three Churches will complete the healing of the breaches that have existed between these three Churches for nearly a century.

The reports for 1937 show that the new Methodist Church will carry on work in the United States and 30 other countries, with 65 Bishops, effective and retired; 25,000 Ministers in 900 Districts, besides 1500 Ministers in Special Appointments, 10,000 Local Preachers and 2300 Deaconesses. There will be 7,740,000 members, 400,000 preparatory members, 864,000 members of Young Peoples Societies, and 5,916,000 enrolled in the Sunday Schools.

The work of the Church will be carried on in 45,500 churches, with 22,800 parsonages; 2900 schools and colleges; 177 hospitals; 135 homes; 88 Deaconess homes; and other co-ordinating agencies, with a total estimated value of property and endowments of \$1,220,000,000. In 1937, the churches contributed \$77,355,000 for local work and Church benevolences.

Reports from the Conferences of the Methodist Episcopal Church for 1938 show, in many instances, that the decreases of recent years have been halted, and increases are shown in baptisms, new members received, full members, ministerial support, and benevolences; while the decreases in Sunday School enrollment seem to have been checked.

During 1938, nearly 500 ministers died; among these were Bishop Charles Wesley Burns, resident in Boston, and Frederick Bohn Fisher, a Bishop of the Church in India from 1920 to 1930. Of 333 ministers whose ages at death were recorded, 14, or 4 per cent, were under 50 years of age; 36, or 11 per cent, were between 51 and 60; 86, or 26 per cent, between 61 and 70; 105, or 31 per cent, between 71 and 80; 81, or 24 per cent, between 81

and 90; and 11, or 3 per cent, between 91 and 100, with one man in his 100th year.

METHODIST EPISCOPAL CHURCH, COLORED. This denomination was organized in Jackson, Tenn., in 1870 and was composed of the colored membership of the Methodist Episcopal Church, South. In 1938 it reported 4087 churches with 370,200 members and 3185 ministers; 3310 Sunday Schools with an enrollment of 340,098 pupils; and 1900 Epworth Leagues with a membership of 63,048. The church has nine effective bishops. *The Christian Index* is the official organ, while the *Eastern Index* and *Western Index* serve their respective sections. A quadrennial general conference was held in May, 1938, at Hot Springs, Arkansas. Headquarters are in Jackson, Tenn.

METHODIST EPISCOPAL CHURCH, SOUTH. A separate branch of the Methodist Episcopal Church, formed in 1845 over the question of slavery. In 1938 there were 48 conferences and missions, of which 41 were in the United States and 7 in foreign countries; 16,441 churches; 7921 traveling preachers and 3909 local preachers; and 2,907,367 church members. Sunday schools numbered 15,418, with an enrollment of 1,988,242 pupils. Contributions for all purposes in 1938 amounted to \$29,144,794. The denomination sponsored 82 educational institutions, including 47 universities and colleges, 4 academies, and 31 mission schools. Important periodicals are the *World Outlook* and the *Christian Advocate*.

During the year 1938 the Aldersgate Commemoration (the second section of the Bishops' Crusade), being the celebration of the bi-centennial of the Aldersgate "heart-warming experience" of John Wesley, resulted in a great revival of spirituality throughout the Church and had much to do with bringing into the Church on profession of faith 117,432 members, the largest number yet tabulated.

The General Conference held at Birmingham, Ala., in April, 1938, by a vote of 434 for and 26 against, ratified the Plan of Union with the Methodist Episcopal and Methodist Protestant Churches, both of which had voted favorably on the matter in 1936. The Uniting Conference will be held at Kansas City, Mo., beginning on Apr. 26, 1939. Headquarters of the Church are in Nashville, Tenn.

MEXICO. A Federal republic of North America, comprising 28 States, 2 Territories, and the Federal District (City of Mexico and 11 surrounding villages). Capital, Mexico.

Area and Population. Mexico has an area of 760,290 square miles and a population estimated at 19,154,092 in 1937 (16,553,000 at the 1930 census). The urban population comprised 33 per cent of the total in 1930. The racial division of the population at the same census was: Indians, 4,630,880; whites, 2,444,466; mixed race, 9,040,590. Living births registered in 1937 numbered 764,329 (39.9 per 1000); deaths, 454,966 (23.8 per 1000); marriages, 120,739 (6.3 per 1000). The 1930 census populations of the chief cities were: Mexico, 1,029,068 (615,367 in 1921); Guadalajara, 175,539; Monterrey, 132,577; Puebla, 114,793; Mérida, 95,015; San Luis Potosí, 74,003; Tampico, 68,126; León, 69,238; Veracruz, 67,494; Torreón, 66,001; Aguascalientes, 62,244; Saltillo, 45,272; Chihuahua, 44,646; Orizaba, 42,904; Toluca, 41,234; Pachuca, 41,211.

Education and Religion. Illiteracy was estimated to have declined from 59 per cent of the adult population in 1930 to about 54 per cent in 1934. The population of school age (6 to 14 years)

was estimated at 3,956,115 in 1936. Enrollment in the 22,670 Federal, State, and municipal primary schools at the end of the 1937 school year was 1,938,964. In 1935 there were 564 secondary, preparatory, commercial, industrial, and technical schools, with 70,318 students. There are eight universities.

Roman Catholicism is the prevailing religion, but under the 1917 Constitution the Catholic and other churches are strictly controlled by the state. All foreign priests in Mexico were expelled in 1926 and by 1936 the number of priests permitted to exercise their functions had been reduced to about 350; in 1936-38, however, a number of State governments permitted the Catholic churches to reopen (see *History*). Churches and other buildings used for religious functions were nationalized by the law of Sept. 4, 1936.

Production. Agriculture, stock raising, mining, and manufacturing are the principal occupations. About 6 per cent (28,400,000 acres) of the total area was under cultivation in 1930 and there were 164,000,000 acres of pasture and 63,970,000 acres of forests. The value of agricultural production in 1935 was 305,627,720 pesos. Yields of the chief crops in 1936 were: Wheat, 13,581,000 bu. (10,586,000 in 1937); corn, 65,196,000 bu.; rice (rough), 4,221,000 bu. (in 1936-37); beans, 3,914,000 bu.; tomatoes, 69,000 metric tons; tobacco, 28,016,000 lb.; cacao beans, 1,975,000 lb.; coffee (1936-37), 103,109,000 lb.; cotton, 188,952,000 lb. (162,479,000 in 1937); sugar (1936-37), 650,357,000 lb. (628,311,000 in 1937-38); henequen, 112,000 metric tons; chickpeas, 1,589,000 bu.; alfalfa, 1,438,000 metric tons.

The value of metals and minerals mined in 1937, excluding petroleum and coal, was 514,015,000 pesos (414,202,000 in 1936); the value of the 1937 petroleum output was 135,378,000 pesos (137,367,000 in 1936). Output of the principal minerals in 1937 was (in metric tons): Copper (metal content of ore), 46,077; lead (metal content), 218,133; zinc (metal content), 154,625; antimony (metal content), 10,639; arsenic (white), 10,762; graphite, 11,210; mercury (metal content), 170; coal, 1,239,000. Petroleum production was 46,905,000 bbl. in 1937 (41,026,000 in 1936); gold, 846,000 troy oz. (754,000); silver, 84,699,000 troy oz. (77,462,000). According to the industrial census of 1935, there were 7241 industrial establishments, employing 215,003 persons, with a motive force of 881,526 h.p. and a value of production totaling 1,038,685,000 pesos of which 519,077,000 pesos represented the value of raw materials used. During 1937, 122,466 classified United States tourists visited Mexico, against 99,170, who spent \$14,828,142, in 1936.

Foreign Trade. General imports in 1938 were valued at 493,323,784 pesos (631,110,000 in 1937) and general exports at 838,126,841 pesos (894,535,000 in 1937). Of the 1937 imports, the United States supplied 62.7 per cent by value; Germany, 15.6; United Kingdom, 4.6; France, 3.3. The United States took 56.3 per cent of the 1937 exports; United Kingdom, 11; Germany, 9.4; Belgium, 4.6. United States trade figures for 1938 (excluding gold and silver) showed imports from Mexico of \$49,006,539 (\$60,120,159 in 1937) and exports to Mexico of \$62,043,324 (\$109,450,361 in 1937). United States silver imports from Mexico in 1938 were \$42,374,683 (\$30,801,613 in 1937); gold imports, \$37,168,193 (\$39,249,773 in 1937). Silver exports to Mexico were \$659,784 (\$598,-

947 in 1937); gold exports, \$696,625 (\$767,303 in 1937).

Finance. Actual budgetary operations for 1937 showed revenues of 450,131,000 pesos and expenditures of 459,076,000 pesos (preliminary returns). The budget for 1938 authorized expenditures of 431,110,000 pesos; that for 1939, expenditures of 445,876,000 pesos. These figures are exclusive of extrabudgetary operations of considerable size, for which official data were not available. The foreign debt as of July 1, 1937, was officially estimated at 1,133,995,000 pesos, including unpaid interest. The recognized internal debt as of Dec. 31, 1936, was 434,386,000 pesos (principal, 288,765,000; interest, 145,621,000). The average exchange value of the Mexican peso was \$0.2776 in 1936, \$0.2775 in 1937, and \$0.2212 (nominal) in 1938.

Transportation. The principal railway system, the National Railways of Mexico, was nationalized in 1937 and turned over to the railway workers union in 1938 (see *History*). The railway mileage in 1936 was 14,252, including auxiliary and branch lines; in that year 27,132,000 passengers and 14,338,000 metric tons of freight were carried, the gross receipts totaling 181,674,000 pesos. The principal of the National Railways debt was estimated in 1938 at \$240,609,000; the accumulated unpaid interest at 4¼ per cent since 1914 would total about \$245,000,000. There were 9005 miles of air routes under the national flag in 1938, maintained by 16 airlines operating 43 services. Roads and highways in 1937 extended 56,923 miles (number of automobiles, 105,401). During 1937, 12,375 vessels entered Mexican ports carrying 1,300,000 metric tons of cargo; cargo cleared, 4,764,000 metric tons.

Government. The Constitution of 1917, as amended in 1929 and 1933, vests executive power in a President elected by direct popular vote for six years and ineligible for re-election. Legislative power rests with an elective Congress of two houses—a Chamber of Deputies of 172 members, elected for three years, and a Senate of 58 members, renewed every six years. Former President Plutarco Elias Calles, acting through the National Revolutionary party which he organized in 1928, controlled the Federal government and Congress until President Lázaro Cárdenas (inaugurated Nov. 30, 1934) broke the power of Calles in 1935-36. In the elections of July 4, 1937, the National Revolutionary party captured about 130 out of 172 seats in the Chamber of Deputies. For developments in 1938, see *History*.

HISTORY

Internal Developments. President Cárdenas during 1938 continued methodically and relentlessly to carry his nationalistic and socialistic program into effect "against all opposition." He expropriated the extensive oil properties of United States and British-Dutch interests, speeded up the process of expropriating large agricultural holdings for redistribution to landless agricultural workers, turned the expropriated National Railways over to labor unions, progressively extended government control over business practices and commodity prices, radically revised Mexico's monetary, tariff, and trade policies, encouraged labor to extract extensive concessions from both foreign and Mexican employers with a view to ultimate socialization of additional branches of production, and sponsored a further reorganization of the political system. These measures aroused the violent opposition of both Mexican and foreign property-holding interests and plunged Mexico into an acute

economic and financial crisis. But Cárdenas moved steadily ahead, supported by Mexican nationalism and the revolutionary ardor of peasants, industrial workers, and intellectuals alike.

Expropriation of Oil Properties. The 20-year struggle between the Mexican Government and oilfield workers on the one hand and the British and American oil companies and governments on the other came to a dramatic climax in 1938. This struggle had been waged during 1937 (see 1937 YEAR BOOK, p. 455) on the issue of the oil workers' demands for an increase of at least 133 per cent in wages and social welfare benefits. On Dec. 18, 1937, the Mexican Labor Board issued its decision upholding most of labor's demands. While the companies' petition of Dec. 28, 1937, for a permanent injunction against the award was before the Supreme Court, President Cárdenas in a speech before the congress of the radical Confederation of Mexican Workers charged the oil companies with withdrawing their bank deposits from Mexico and launching a deliberate publicity campaign to disturb economic conditions and apply pressure on the courts. On Jan. 1, 1938, he had repudiated the Morrow-Calles agreement regarding the status of American oil companies by declaring their property rights subject to the payment of royalties.

The Supreme Court on Mar. 1, 1938, denied the injunction and sustained the findings of the Labor Board, which immediately fixed March 7 as the deadline for compliance with the award. The companies declared themselves unable to comply and on March 7 the government on petition of the oil workers' union seized company bank deposits to the amount necessary to cover wages unpaid during the 1937 strike. In conferences with the companies' representatives, President Cárdenas personally promised that the cost of the award would be limited to 26,300,000 pesos annually. The companies were said to have agreed to pay this sum if the provisions of the award depriving them of control of their personnel and management problems were set aside. This the government refused to do.

On March 15 the companies again notified the Labor Board that they would not accept its decision. The Syndicate of Petroleum Workers on March 17 petitioned the Board to end the labor contract between the companies and the union, which would make the companies liable under Mexico's radical Labor Law for dismissal wages for all their employees. The Board granted this request on March 18. The union then ordered work in the oil fields suspended at midnight. The same evening President Cárdenas issued a decree expropriating the properties of 17 American and British companies representing principally subsidiaries of the Standard Oil, Sinclair, and Royal Dutch-Shell companies.

The value of the confiscated properties was variously estimated at from \$100,000,000 to \$450,000,000, with the British-Dutch investment representing nearly two-thirds of the total. The decree was issued under the Expropriation Law of November, 1936, authorizing the taking over of private property on grounds of either "public necessity" or of "public and social welfare." It provided that the owners were to be paid within 10 years from a percentage of the petroleum and by-products produced by the expropriated wells, the indemnity to be fixed on the basis of the taxable value of the properties. On the basis of the Mexican minimum estimates of the value of the seized properties, a payment of at least \$10,000,000 annually would be required to indemnify the companies within a decade and there

seemed little possibility that this sum could be raised.

In response to the President's appeal of March 18 for national support of his expropriation decree, demonstrations in favor of his policy were held throughout the country on March 23. In Mexico City there was a great demonstration by 200,000 persons. The State governors met, unanimously backed the government's action, and offered to allot 5 per cent of their revenues to the Federal Treasury to indemnify the companies. They also suggested the issuance of "National Redemption Bonds" in the sum of 100,000,000 pesos for the same purpose, but this plan was dropped on June 26 because of the growing economic crisis.

A "national co-operation fund" to which individuals and groups contributed was also raised to pay the oil companies. Women offered their jewels and silverware. The labor unions voted to contribute one day's pay per month. Other contributions were collected in the Catholic churches. But on August 19 this fund amounted to only 2,016,263 paper pesos, 33,800 gold pesos, and \$25,290. On April 6 the government ordered 20 per cent of the profits on sales of petroleum abroad set aside for the same purpose. These moneys were all deposited in the National Labor Bank pending the determination of the sums which the Mexican Government might decide it owed the companies. According to President Cárdenas's annual message to Congress on September 1, these payments were to be limited to "that part of their justifiable investments which they (the companies) have not yet recovered."

The companies refused to accept any payments on this basis. They exhausted every legal recourse to regain their properties. On April 4 they sought an injunction against the expropriation decree on the ground that both the decree and the Expropriation Law were unconstitutional. This plea was rejected by the Federal District Court in June and by the Supreme Court on October 9. The companies also appealed to their respective governments for aid but with no better success (see below under *Foreign Relations*).

On March 30 President Cárdenas appointed an Administrative Council of Petroleum, comprising nine members headed by Finance Minister Eduardo Suárez, which gradually established a fairly efficient organization for operating the expropriated oil properties. By the middle of June production was at about 65 per cent of the former level, or about sufficient to pay the cost of operation. Oilfield workers, however, did not obtain the benefits that were called for under the Labor Board award and the Supreme Court decision. Payrolls declined and the 40-hour week and welfare provisions demanded of the foreign companies were not put into effect.

To end the growing discontent among the oil workers, the President on July 20 established Petroleos Mexicanos, a corporation jointly controlled by the government and the oil workers' union, to replace the Administrative Council of Petroleum. The government retained the controlling voice in the corporation's affairs. On July 22 the wages of oil workers were raised to a level 8 to 15 per cent below the scale adopted by the Labor Board. At the same time salaries of administrative posts were reduced from 15 to 25 per cent.

The refusal of the ousted British and American companies to buy or handle oil from the expropriated wells largely excluded Mexican oil from the United States and British markets. The companies controlled a large share of the available tankers

and were thus able to obstruct Mexican sales to countries where a market was available. In April, May, and June petroleum exports were less than half those for the same period of 1937. But this obstruction was gradually overcome. To find markets for the expropriated oil, the Cárdenas Government was forced to moderate its anti-Fascist policies and strike bargains with the Fascist dictatorships under which it bartered oil at bargain prices for German, Italian, and Japanese manufactures and other products. Barter deals were also made with Sweden, with the national petroleum monopoly of Uruguay, and with a few other countries. A considerable part of this trade was handled through W. R. Davis & Co. of New York City. On October 26 Roy R. Fisher, president of the Argo Oil Corp. of Detroit, announced an agreement with the Mexican Government to purchase its surplus oil (then estimated at 50,000 barrels daily) for sale in the United States. In December it was learned that the Mexican oil administration was supplying both the German and Italian navies with fuel oil which was first shipped to Houston, Tex., for refining. Under the oil-barter system, manufactures from Germany, Italy, Japan, Sweden, etc. virtually excluded United States and British manufactures from the Mexican market.

Land Expropriations. Despite growing opposition from the United States Government, President Cárdenas continued his program for the redistribution of large land holdings to peasants on a communal basis. In his message of Sept. 1, 1938, he reported that during the preceding year 2255 communal (*ejido*) grants involving 11,000,000 acres were made, benefiting 211,649 individuals. Altogether there had been 12,886 grants, representing more than 56,000,000 acres, benefiting 1,570,507 rural dwellers. Of the land expropriated for this purpose slightly more than 2,500,000 acres were owned by United States citizens. British and Spanish landowners were also heavily affected. Among the lands seized from American owners in 1938 were 17,980 acres owned by William Randolph Hearst in the State of Chihuahua, 4307 acres owned by Representative William Lemke in the State of Nayarit, and the \$8,000,000 La Mochis sugar and vegetable plantation in Sinaloa. None of the American and few of the other foreign and Mexican owners of expropriated properties were compensated. On November 21 President Cárdenas appealed to Mexican landowners to forego their claims for indemnification in fulfillment of a "high moral duty." No general response was recorded.

The accelerated land distribution program was due in part to the pressing necessity for propitiating thousands of landless agricultural workers who were unemployed as a result of the suspension of work on irrigation projects and other public works. Many of them seized agricultural properties on their own behalf, driving off the owners and occupying the land. Armed clashes between peasants and landowners and between State or Federal troops and agrarians were sporadic throughout the country during 1938.

Moreover, the new system of communal ownership of farms was not functioning as well as the former system. The lands distributed in the fertile Laguna and other districts during 1936-37 failed again in 1938 to produce up to the expected level under the new system of ownership, and the desperate agrarians were obliged to draw further financial aid from the hard-pressed Federal government. Red tape, ignorance, inefficiency, and corruption retarded the agrarian program. The Secretary of

Agriculture and Promotion, after studying the situation, reported that the change in the system of ownership of rural properties entailed reduced production, but that the agricultural economy was not greatly weakened by the agrarian reform.

Other Workers' Demands. The radical industrial and miners' unions, led by Vicente Lombardo Toledano, head of the Federation of Mexican Workers (C.T.M.), also exerted great pressure upon the Cárdenas regime to speed up the nationalization and socialization of foreign properties and even of Mexican-owned capitalistic enterprises operating on a large scale. The National Railways, which were nationalized in 1937, were turned over to the railway workers' union by a law passed by the Federal Congress on April 22. It was reported that 5.64 per cent of the operating revenues were to be handed over to the government by the union, but that no provision was made for paying the long-defaulted railway debt, estimated at \$240,609,000. In August it was reported that two small railways in the State of Chihuahua owned by United States and Canadian interests, respectively, would be transferred to the State section of the railway workers' union. The two companies had offered to surrender the lines on the ground that they could not operate and meet the wage demands of the union.

The workers employed their demands for higher wages and better working conditions as a lever for ousting foreign owners of other large-scale enterprises and taking over the properties. The government's desperate financial straits and the deepening economic depression, caused in large part by the expropriation of the foreign oil properties and other radical government and labor actions, led President Cárdenas to resist the more extreme labor demands for fear that they would make a difficult situation worse. A strike closed the Ford Motor Company's \$1,500,000 assembly plant in Mexico City on May 9, but when the company threatened to withdraw from the country rather than sign a collective labor contract, the Federal Labor Board declared the strike illegal.

American Electric Bond and Share properties in five Mexican States were closed by strikes in November. Government and labor officials warned the company that it might be necessary for the government to take over the properties if labor's demands were not met. The strike was settled November 19 after President Cárdenas induced the workers to moderate their demands. But as the year drew to an end the industrial workers displayed growing unruliness and disregard of President Cárdenas and their own leaders. Strikes and sabotage broke out in mines and industries whose continued operation was vital to the government's solvency and in opposition to Cárdenas's expressed wishes. An American mining foreman and several other foreign labor superintendents were shot by workmen. It was widely feared that the workers would attempt to take over and socialize all industry, including the mines, before Cárdenas considered the time ripe for such a move.

Under the radical pressure of the rank-and-file industrial workers Lombardo Toledano again emerged as a prospective rival of President Cárdenas for leadership of the Mexican revolution. The labor leader's influence was strengthened greatly by the oil expropriation. He was also the leading spirit in and first president of the Confederation of Latin-American Workers, organized at a conference in Mexico City on September 5-8 of representatives of radical labor unions from a num-

ber of the American republics. Among those present were John L. Lewis, head of the Committee for Industrial Organization in the United States; Léon Jouhaux, French labor leader; and Ramón Gonzales Pena, Spanish Loyalist Minister of Justice.

That the workers were prepared to defend their radical policies was demonstrated on May 1 when the armed workers' and peasants' militia, organized by President Cárdenas as a counter-weight to the army, made its first formal appearance in a parade through the capital. About 100,000 uniformed men and women marched in well-drilled units, giving the Leftist clenched-fist salute as they passed President Cárdenas in the balcony of the presidential palace.

Internal Politics. The revolutionary temper displayed by the workers and some of the other adherents of President Cárdenas provoked a strong Rightist movement among army officers, property owners, and other groups that insured a desperate struggle for control of the presidency in the 1940 elections. Cárdenas announced on February 20 that in accordance with the Constitution he would not be a candidate for re-election. He pledged himself to abstain from participation in the elections for various government offices, but urged that the electoral campaign be not started prematurely and that it be waged on a non-personal basis. Nevertheless, the lines of the approaching contest were drawn during 1938 and the end of the year found the struggle for the presidential nomination in full swing. A woman suffrage amendment to the Constitution, which received legal ratification on October 17, gave some 4,000,000 women the right to vote for the first time in the forthcoming elections.

The reorganization of the National Revolutionary party to eliminate conservative elements opposed to the Cárdenas reforms, was carried out at a "constituent assembly" in Mexico City early in April, attended by representatives of the peasants, industrial workers, soldiers, etc. A new party called the Party of the Mexican Revolution was formed in which the army was formally represented for the first time. Lombardo Toledano's unions exercised what appeared to be a dominant influence. The president of the new party, Luis I. Rodríguez, owed his selection largely to Lombardo Toledano's backing.

Soon afterward the popular enthusiasm aroused by the oil expropriation decree enabled Cárdenas to crush the power of Gen. Saturnino Cedillo, governor of the State of San Luis Potosí and a leader of the conservative anti-Cárdenas forces throughout Mexico. On May 18 Cárdenas moved Federal troops into San Luis Potosí, and demanded that Cedillo surrender all arms and munitions of his private army. Cedillo defied this ultimatum, precipitating armed hostilities. The Cedillo forces offered ineffectual resistance, however, and within 10 days were reduced to a few guerrilla bands. Their chief went into hiding in the hills. His whereabouts were still in doubt at the end of the year, but he had been eliminated as a factor in Mexican politics.

While President Cárdenas was liquidating Cedillo, a revolt against his more radical policies broke out in the National Congress. Army officers and other members of the Chamber of Deputies organized a majority bloc in opposition to the influence of the C.T.M. On June 2 they voted an investigation into conditions on the communal farms established by the government in the Laguna district. On June 29 the majority bloc in the Chamber of Deputies approved a bill regulating the activities

of State employees without giving them the right to strike. The Chamber thus rejected the demand, presented by Señor Rodríguez in May with the President's approval and accepted by the Senate, that government employees be authorized to strike. At the same time a group of army officers issued a statement accusing Lombardo Toledano of "attempting to dissolve the revolutionary army and deceive the workers into creating another Spain."

The conflict between labor Deputies and their radical allies on the one hand and the majority bloc in the Chamber rapidly became more violent, widening the Left-Right schism throughout Mexico. In July the C.T.M. unions launched a campaign of boycotts and strikes against newspapers supporting the moderates. On July 23 they forced the expulsion from the Party of the Mexican Revolution of Gen. Ramón F. Iturbe and Col. Bolívar Sierra, who had signed a manifesto denouncing both fascism and communism and urging establishment of a "democratic front" supported by the Mexican people. The violent debate provoked by this purge led the Chamber to the verge of a pistol battle on July 26.

These developments encouraged moderate elements in the industrial center of Monterrey and in other northern States to check the progress of the C.T.M. unions and resist the radical Cárdenas policies. The conflict between Gen. Román Yocupicio, Governor of Sonora, who vigorously defended the existing rights of individual small farmers, and of Cárdenas agents and the C.T.M. authorities, who demanded conversion of individual land into communal farms, provoked sporadic armed clashes. There were clashes also between the pro-Stalinist C.T.M. workers and the Trotskyite General Confederation of Labor (C.G.T.), particularly over the continued presence of Trotsky in Mexico.

Church-State Controversy. Relations between the Catholic Church and the State improved steadily during 1938 as a result of President Cárdenas's conciliatory policies. The Federal and State anti-church laws were relaxed without being repealed. The Mexican episcopate on May 2 formally approved contributions by Catholics to the fund for payment of expropriated foreign oil properties, and collections for this purpose were taken up in churches. On May 30, however, four Catholics were killed when police in Villahermosa, capital of Tabasco, dispersed a Catholic demonstration asking the right to rebuild a Catholic church razed during the anti-church regime of Gov. Tomás Garrido y Canabal. Federal authorities on June 3 announced that explicit instructions against the persecution of Catholics in Tabasco had been issued. Negotiations regarding the reopening of the Tabasco churches were inaugurated in accordance with a tacit agreement to settle all Church-State issues in an amicable manner.

Anti-Foreign Measures. The radical nature of Mexican nationalism was illustrated by measures taken against foreigners in the country and those seeking to enter as immigrants or tourists. The complaints of Mexican merchants against the competition of Jews and other Semites from Poland, Syria, and other parts of the Levant led the government in February to order a nation-wide investigation of the status of all foreigners in the country. Some 18,000 Jews, whose status was alleged to be irregular, were ordered to abstain from ordinary business activities and to devote themselves to agriculture, industry, or the export trade.

The Mexican Government on May 11 denounced Nazi-inspired anti-Semitic propaganda, but it con-

tinued the expulsion of foreigners who entered the country in alleged violation of immigration laws. In June the unions and the official press charged small Jewish textile operators with responsibility for the crisis in the textile industry and demanded their expulsion. In October the Minister of Interior announced that Jewish refugees from Austria and Germany entering Mexico on tourist visas would be deported. New arrivals were not permitted to land except in a few instances. On November 1 the Secretary of Interior stated that foreigners who had lost their nationality might be admitted "in exceptional cases of notorious benefit for the country" provided they categorically affirmed that they had no racial prejudices and agreed to marry Indians. This was inspired by the desire of President Cárdenas, himself a mestizo, to promote the mixture of Indian and white elements.

Economic and Financial Conditions. The boom conditions that obtained during the first three years of the Cárdenas regime began to recede in the autumn of 1937. By Mar. 12, 1938, just before the expropriation of foreign oil concessions, the outflow of gold and foreign exchange had reduced the gold and silver reserve of the Bank of Mexico from 194,000,000 to 110,000,000 pesos and by June 1 it was down to 85,000,000 pesos. The United States Government saved Mexico from greater strain by agreeing on Jan. 11, 1938, to buy 35,000,000 oz. of silver (valued at \$15,750,000) in addition to its regular monthly purchases of 5,000,000 oz. The seizure of the foreign oil properties greatly aggravated the economic slump. It was a great shock to business confidence. The curtailed oil output and the deepening depression reduced the government's revenues. Washington suspended silver purchases from Mexico (March 27). The Mexican Government then temporarily abandoned its support of the peso, which depreciated from 27.80 U.S. cents to 20 cents. The result was an almost complete stoppage of imports. In an effort to check the gold outflow, President Cárdenas on January 19 boosted tariff duties between 100 and 200 per cent on most imports. On August 9 a 12 per cent tax was imposed on exported products whose price in Mexican currency exceeded the average price during the month of February, 1938. This measure enabled the Mexican Government to take a percentage of the profits realized by Mexican exporters as a result of the depreciation of the peso and at the same time to subsidize the importation of essential products whose prices had increased within the country as a result of the peso depreciation. Effective August 30, import duties on a wide range of articles was reduced in a further move to check soaring prices.

Measures were also taken to regulate internal prices. A decree of July 30 established the Committee to Regulate the Marketing of Prime Necessities, vested with authority to buy and sell or store commodities and to regulate prices. With the opening of foreign markets for oil, the termination of the gold outflow, and a rise in resources of private banks, economic conditions began a gradual improvement in August.

Foreign Relations. United States. The expropriation of American-owned oil properties offered a most severe test to the Roosevelt Administration's "good neighbor" policy and revived the tension in United States-Mexican relations that had been banished by Ambassador Morrow a decade before. On March 27 the State Department protested the expropriations in a note admitting Mexico's right to expropriate properties within its

jurisdiction but asserting that such properties should be paid for "by compensation representing fair, assured, and effective value."

President Cárdenas himself replied on March 31 that "Mexico will know how to honor its obligations of today and its obligations of yesterday." In this conciliatory atmosphere, the two governments started negotiations on the demand for fair compensation. On May 26 Mexico offered to sell all her oil exports to the American companies whose wells were expropriated at a price well below the world market, the difference to be applied as payment for the seized properties. This was rejected by the companies.

On July 21 Secretary Hull charged that Mexico had violated the principal requiring prompt and adequate payment for expropriated properties. He proposed arbitration of the issue "whether there has been compliance by the Government of Mexico with the rule of compensation as prescribed by international law" in the case of lands seized from United States citizens since 1927 "and if not, the amount of, and terms under which, compensation should be made." The Mexican reply of August 3 denied that payment of immediate or even deferred compensation was required by international law for expropriations of a general and impersonal character. It acknowledged Mexico's responsibility for adequate compensation but declared that the amount and manner of payment must be determined in accordance with Mexico's capacity to pay and with Mexican laws. It added that foreigners were not entitled to different treatment than that accorded Mexican citizens. Rejecting arbitration, the note proposed settlement by bilateral negotiation of the value of the properties expropriated and the manner of payment.

On August 22 Secretary Hull expressed his surprise and "profound regret" that Mexico denied the compensation principle. He requested that no more properties be taken without prompt compensation and urged Mexico to accept either his arbitration proposal of July 21 or the proposal made June 29 by Under-Secretary Welles. The latter suggested that each government appoint a commissioner to determine the amount of compensation, and that points of disagreement should be settled by an arbitrator selected by the Permanent Commission of Conciliation at Washington. President Cárdenas bluntly rejected the Hull arguments in a speech of September 1 before Congress and in the Mexican note of September 2. He refused to set aside monthly sums in escrow for the satisfaction of claims or to refrain from further expropriations. In view of this stand, his acceptance of the Welles proposal was regarded as an empty gesture by the State Department.

Negotiations continued on an amicable basis, however, and on November 12 a compromise agreement was reached. By an exchange of notes, Mexico agreed to pay the United States \$1,000,000 in May, 1939, and at least as much each year until the American-owned agricultural holdings confiscated since 1927 were paid for. The value of these lands was to be determined by a commission composed of a representative appointed by each government. Should the two disagree, a third commissioner was to be named by the Washington Commission of Conciliation established under the Gondra treaty of 1923. This agreement applied only to farm properties. It was expected that a similar adjustment of the much more important controversy over expropriation of American oil properties would follow. In Mexico this agreement was

regarded as a diplomatic victory, as it admitted the principle of delayed indemnity payments. It was announced that new taxes would be imposed on American companies in Mexico to meet the indemnity payments.

The special Mexican-American Claims Commission for the distribution to American claimants of sums paid by Mexico into the U.S. Treasury on account of damages to American properties in Mexico during 1910-20 completed its work on June 10. Mexico paid about 57 per cent of the original amount allowed by the commission, which was about 4 per cent of the amount claimed.

The agreements reached on agrarian properties and special claims failed to eliminate the tension in American-Mexican relations produced by the oil expropriations, the growing threat of confiscation of American mining and industrial properties in Mexico, the virtual exclusion of United States exports in favor of German, Italian, and Japanese bartered manufactures, the hostility displayed toward Americans in Mexico, and the discriminatory taxes and restrictions imposed upon foreign business. All these factors contributed to a substantial reduction in the number of American permanent residents in Mexico.

The criticisms by the United States Government and press of Mexico's expropriation policies provoked a growing barrage of Mexican press attacks upon the Roosevelt-Hull "good neighbor" policy, which was denounced as a screen for "imperialism." President Cárdenas and other Mexican officials and diplomats worked actively to secure support for their expropriation policies in other Latin-American countries. The Mexican campaign to encourage the nationalization of foreign capitalistic enterprises in other parts of Latin America made considerable progress (see COSTA RICA, CUBA, and ECUADOR under *History*). At the Pan American Conference (q.v.) at Lima, Peru, in December, the Mexican delegation sought to push through a proposal barring governments from intervening in any way on behalf of their citizens in another country. This was aimed primarily at the United States.

The British-Mexican Dispute. The British Government was less conciliatory than Washington in its reaction to the expropriation of British-owned oil properties. On April 8 it demanded restoration of Aguila Oil Co. properties on the ground that Mexico's right to expropriate them was limited by the obligation to pay adequate compensation. It characterized the Mexican action as "essentially arbitrary" and "tantamount to confiscation carried out under a veil of legality formed by basing it upon labor issues." The note charged "a denial of justice and a transgression by the Mexican Government of the principles of international law."

Mexico replied that the Aguila Oil Co., a Royal Dutch-Shell subsidiary, was a Mexican corporation and that therefore no foreign state had a legal right to defend its interests. It declared there had been no denial of justice, but expressed Mexico's purpose to make compensation. On April 27 the British Government signified its intention to boycott Mexican oil and on May 11 it sent a sharp note to Mexico requesting immediate payment of an overdue instalment of some \$82,000 payable under the Anglo-Mexican special claims convention. It pointed out that Mexico was in default to British creditors also on her external debt, on the National Railways debt, and on claims for expropriated farm properties.

The Mexican Government on May 13 handed

the British Minister a check for the requested instalment together with a note denying that Britain had any "right to analyze the interior situation in Mexico." At the same time it recalled the Mexican Minister from London and closed its Legation there. The British Government withdrew its Minister from Mexico City the following day. It was indicated that Britain intended to reserve its demands pending the outcome of the United States-Mexican negotiations on the oil issue.

The Netherlands Protests. The government of the Netherlands, citizens of which were heavily interested in Dutch-Shell, sent a series of notes to Mexico requesting "adequate, prompt and effective compensation or return of the properties expropriated to the companies affected." The Mexican Government declined to discuss the matter with the Netherlands and failed even to acknowledge receipt of some of its protests. On July 18, 10,000 tons of petroleum from Mexico were seized in the Netherlands port of Hansweert through an attachment filed by the Batavian Oil Co., alleging that the oil had been illegally confiscated by the Mexican Government. The Batavian Oil Co. had an interest in the Mexican Eagle Co., whose properties were expropriated.

Germany, Italy, and Japan seized the opportunity presented by Mexico's quarrels with the United States and Britain to strengthen their commercial and political positions in Mexico. Early in the year a German propaganda campaign designed to increase German trade and to promote Nazism and German foreign policies was launched. It developed in scope during the remainder of the year. Many Mexican newspapers were reported to have been subsidized secretly by German representatives and others used large amounts of Nazi advertising paid for by the German Government. When Lombardo Toledano on November 20 vigorously attacked Chancellor Hitler and the German propaganda in Mexico, the German Minister in a strongly worded note to the Mexican Government demanded his arrest and criminal prosecution for attacking the head of a friendly state.

See DAMS.

MIAMI UNIVERSITY. A coeducational State-supported institution at Oxford, O., founded in 1809. The enrollment for the autumn of 1938 was 2997, as follows: Liberal arts, 1082; education, 829; business administration, 926; fine arts, 125; and graduates, 34. The enrollment in the summer session: 1st term, 793; 2d term, 297. The faculty numbered 221. The income from the State of Ohio, fees, gifts, and income on investments for 1937-38 was \$985,899. There were 145,131 bound volumes in the library. President, Alfred H. Upham, Ph.D.

MICHIGAN. Area and Population. Area, 57,980 square miles, exclusive of the State's part of the Great Lakes; included (1930) other water, 500 square miles. Population: Apr. 1, 1930 (census), 4,842,325; July 1, 1937 (Federal estimate), 4,830,000; 1920 (census), 3,668,412. Detroit had (1930) 1,568,662 inhabitants; Grand Rapids, 168,592; Flint, 156,492; Lansing, the capital, 78,397.

Agriculture. Acreage, production, and value of the chief crops of Michigan, for 1938 and 1937, appear in the table on p. 458.

Mineral Production. The total annual value of Michigan's production of native minerals was \$105,078,046 for 1936; iron ore made up more than one-fourth of it, petroleum 15 per cent, and cement, copper, gypsum, and salt each contributed substantially. The iron mines increased their output to 12,626,935 gross tons for 1937, from 10,491,270

<i>Crop</i>	<i>Year</i>	<i>Acreage</i>	<i>Prod. Bu.</i>	<i>Value</i>
Corn	1938	1,590,000	58,035,000	\$30,178,000
	1937	1,590,000	55,650,000	30,608,000
Hay (tame) .	1938	2,644,000	3,714,000 *	23,398,000
	1937	2,556,000	3,512,000 *	26,340,000
Potatoes	1938	250,000	30,000,000	16,500,000
	1937	278,000	28,634,000	14,031,000
Wheat	1938	913,000	19,519,000	11,516,000
	1937	1,011,000	18,658,000	17,725,000
Oats	1938	1,224,000	42,840,000	11,567,000
	1937	1,224,000	34,272,000	11,995,000
Dry beans ..	1938	476,000	4,707,000 *	8,549,000
	1937	472,000	4,423,000 *	10,718,000
Apples	1938	.....	7,095,000	6,031,000
	1937	.....	14,432,000	7,284,000
Sugar beets ..	1938	123,000	1,028,000 *	.....
	1937	76,000	549,000 *	3,387,000
Barley	1938	166,000	4,565,000	2,191,000
	1937	202,000	4,545,000	2,682,000

* Tons. ♢ 100 lb. bags.

for 1936; by value, to \$41,136,202, from \$30,721,075. The yield of petroleum advanced sharply to 15,928,000 bbl. (1937), from 11,928,000 bbl. (value \$15,950,000) for 1936. The output of petroleum in 1937 exceeded that of any previous year; this resulted mainly from the discovery of the North Buckeye pool in January. This pool was held to be the most important discovery of petroleum that had yet been made in the State. The producers of Portland cement shipped 7,831,880 bbl. in 1937, as against 7,960,821 in 1936; by value, \$9,836,999, as against \$10,482,835. Copper mines tended to revert to ores of lower grade, which they could not profitably handle prior to the improvement in prices for the metal. Consequently, the mines' estimated production of copper fell off somewhat in quantity, to 94,928,000 lb. (1937), from 95,968,019 lb. (1936); but the value of the copper content rose to \$11,486,288 (1937), from \$8,829,058 (1936). Salt producers' sales increased to 2,476,406 short tons (1937), from 2,354,282 tons (1936); by value, to \$6,506,120, from \$5,882,718. The gypsum mines produced 553,242 short tons in 1937, as against 496,611 in 1937.

Education. Inhabitants of school age (from 5 to 19 years) were reckoned as numbering, May 31, 1937, 1,402,672. For the academic year 1936-37, the latest for which the data that follow had been issued, pupils' average membership in the public schools totaled 942,328. This comprised 551,127 in the elementary group, 369,925 in high schools, and 21,276 otherwise classified. The year's expenditure for public-school education totaled \$106,443,599. Teachers numbered 32,207; their average salary for the year was \$1454.88.

Teachers' study of curricula was promoted at the University of Michigan in 1938 by a "curriculum workshop," or seminar, held in the summer session. The State schools for the deaf and the blind passed from the previous controlling authority to that of the State Board of Education.

Charities and Corrections. The Department of Corrections (created in 1937) governed the State Prison of Southern Michigan, at Jackson, the Branch State Prison, at Marquette, and the Michigan Reformatory, at Ionia. As stated in December, the State institutions in its charge had 7104 inmates. It exercised jurisdiction over the paroled through a Bureau of Pardons and Poles, and over probation, through a Bureau of Probation, as well as inspection of jails and houses of correction, under a consolidation of such services, which went into effect in 1938.

The Welfare Department acted for the State in regard to poor-relief, old-age assistance, and other dispensations of public support.

Legislation. The Legislature met in special ses-

sion on Aug. 29 at the call of Governor Murphy and adjourned early in September. The purpose of his summons was to obtain additional means for meeting an unforeseen drain on the State government's funds, caused by the cost of maintaining a great number of indigent persons thrown on public support by the spread of inactivity in the automobile manufactories and other industries. The Legislature appropriated \$10,000,000 without any accompanying measure to raise the revenue; the sum was to be used for poor-relief and, in part, on public schools and support for the aged. It was to cover needs until March, 1939.

Political and Other Events. The automobile-manufacturing industry, a leading source of the population's livelihood, was severely affected by the relapse of economic activity that ran from the summer of 1937 until late in 1938. The number of persons thrown out of work approximated 400,000, according to a reported estimate. Apart from indigent persons supported by the Federal work-giving agencies, the State carried, early in February, some 100,000 cases on the rolls of its poor-relief. The support of the needy used up, in the 14 months to the end of August, all the \$16,000,000 that had been appropriated to care for them through the two years to end with June 30, 1939, plus a considerable sum in transferable funds. The State Government cut down on payments to schools and reduced its fund for assistance to the aged in order to continue its poor-aid. Eventually the appropriation made by the special session eased the pinch; by the end of August, moreover, the State had begun payments under its system of unemployment compensation, thus helping to keep down the number on direct poor-relief. Payments to those losing employment, out of the accumulated fund for the purpose, began August 1, after the registration of some 225,000 applicants in July.

Governor Murphy sought to impose a general reduction of the pay of employees of the State Government, effective July 1, by from 6 to 15 per cent. The Supreme Court, safeguarded by the State constitution, declined to allow a cut in its own pay, and judges of the Circuit Court did likewise; legislators' pay of \$3 a day was not reduced. The lower scale of pay went into general effect as to other salaries. Its effect was offset to some extent by an increase in the number of employees. The State Tax Commission made an effort to reach persons supposed to be dodging the State's taxes on personal and on intangible property; but the move was reportedly checked by Federal authorities' delay in furnishing the State with information on such persons' Federal income-tax returns. In the hunt for more revenue the valuations of railroads' property were raised, as a whole, by \$6,415,000 in April, despite railroads' financial distress, and the valuations of public utilities' property were increased by more than \$8,000,000. A special commission, created by the Governor to study the system of taxes, prepared proposals for alterations, intended for submission to the Legislature in 1939.

An emergency-appropriation commission created by an act of 1937 went into operation and authorized the use of additional funds, to the total of \$1,000,000 or more, toward filling up deficiency in the allowances for poor-relief. The 16,500 employees of the State were subjected to examinations, prior to June 30, to test their fitness for their jobs, in accordance with the requirements of the State's civil-service act of 1937. The State Supreme Court invalidated an act of 1937 that would

have submitted, for popular adoption at the November election, increases in the salaries of the higher officers of the State.

The great aggressive movement for the industrial organization of labor in the State and for increasing its power and emoluments, active all through 1937, slackened in 1938 under the repression of hard times, but attendant disturbances did not by any means cease. As the reduction of employment lowered the inflow of dues to the treasury of the United Automobile Workers of America, that union took to sending pickets, in April, to the gates of the manufactories, to prevent the entrance of employees who had not paid up what they owed it. Several hundred persons were reported thus to have been shut out in Flint on April 18 and 19. The Fisher Body Plant No. 1 and part of the assembling work of the Buick Motor Company were closed for a time on this account, and the President of General Motors condemned the union's forcible exclusion of workers as a breach of its contract and an attempt to set up a closed shop by coercion. A dozen more establishments connected with the manufacture of automobiles closed on the 21st. Homer Martin, president of the U.A.W.A., exerted himself to stop coercive collection of the union's dues. Some weeks later a long-standing difference between him and some of the more advanced liberals in the councils of the organization became acute. Martin proposed to the union's executive board (May 9) that Richard T. Frankenstein be removed from the office of assistant president. Each side charged the other with communistic affiliations or sympathies. Frankenstein and two of his associates, after hearings, were expelled from the union (August 6). The union suffered considerable factional disorganization because of this action, and there resulted an intermission in the long series of strikes and picketing incidents that had followed the signing of contracts between employers and the union early in 1937. The difference between the Martin and Frankenstein groups was later the subject of negotiations in which the C.I.O. endeavored to restore harmony.

A violent strike of a C.I.O. union of mine and smelter workers employed at the American Brass Company in Detroit started late in April with the seizure of the manufacturing premises. After holding the place 20 days, the occupants were expelled by the police. Later, aided by automobile workers inspired by Homer Martin, the strikers fought (May 26) with non-striking workers leaving the shop; about 50 persons were reported to have been injured in the resulting riot. In April the Utility Workers' Organizing Committee, an affiliate of the C.I.O., demanding that the Consumers' Power Co. guarantee not to cut wages, struck and seized dams and generating units of the company, but did not turn off current. The State Supreme Court, reviewing a criminal sentence that had been passed upon an officer of the U.A.W.A. for preventing an employee from working at the Capitol City Wrecking Co. at Lansing in 1937, declared the act of 1857 against molesting a worker in the lawful pursuit of his vocation to be valid (June 8), despite rights claimed by the unions under the Federal Labor Act.

Detroit's Municipal Affairs. Detroit carried a heavy burden of public assistance to the unemployed until late in the year. The economic reaction following upon the gains made by organized labor in 1937 strengthened a more conservative trend of opinion, first evidenced in the municipal election of that year. In 1938 (Sept. 13) the voters

rejected a proposal to amend the city charter so as to provide a five-cent fare and at the same time to repeal the Detroit Street Railway's system of preference in employment and promotion according to system-wide seniority. Favored by a union under the A.F.L., system-wide seniority had been granted by popular vote in 1937; its overthrow was then sought by an independent union of bus-drivers.

Detroit and Wayne County were hard pressed to meet the cost of support for the needy unemployed even before the end of June. Another collection of taxes thereafter made it possible to continue for a time, but it was declared on August 22 that the means for such support would give out by September 1, and in Wayne County outside the city support was actually shut off on August 22. The special session of the Legislature, which followed, brought further State assistance to the county and city for poor-aid. Federal arrangements made in June allowed the U.S. Housing Authority to spend \$14,200,000, to be augmented by \$1,600,000 raised in the city, in providing Detroit with 2753 new dwelling units, for rent at figures suitable to the poor.

Elections. At the general election (November 8) Frank D. Fitzgerald (Rep.), former Governor, was elected Governor, by a plurality of about 89,000 votes over Gov. Frank Murphy (Dem.), who had the organized support of the State branch of Labor's Non-Partisan League, a political body of voters fostered by the C.I.O. Wayne County (mainly Detroit, of which he had been Mayor) gave Murphy a margin of nearly 95,000 votes, somewhat increased by leads in 13 other counties, while Fitzgerald swept the rest of the State. The Democrats' loss of the governorship was attributed to widespread dislike of Murphy's tolerance of the so-called violence and coercion used in the C.I.O.'s seizure of factories in strikes during 1937. Republicans obtained majorities of about 3 to 1 in both houses of the Legislature and won all the State offices up for election. Twelve Republicans and five Democrats were sent to the U.S. House of Representatives. This made a net shift of 3 seats to Republicans.

In referenda, the voters adopted a proposed State constitutional amendment to forbid the diversion, from use for highways, of the taxes on gasoline and on automobiles by weight; and they rejected the Legislature's act of 1937 to reorganize the State's administration of welfare.

In the State primaries (September 13) there was put in use a "secret ballot" provided by a new law: The voter received a Democratic and a Republican primary ballot, fastened together, separated them in the voting booth, and voted whichever he chose, without having to divulge the party in which he voted.

Officers. Michigan's chief officers serving in 1938 were: Governor, Frank Murphy (Dem.); Lieutenant-Governor, Leo J. Nowicki; Secretary of State, Leon D. Case; Attorney-General, Raymond W. Starr; Treasurer, Theodore I. Fry; Auditor, George T. Gundry; Highway Commissioner, Murray D. Van Wagoner; Superintendent of Public Instruction, Eugene B. Elliott.

Judiciary. Supreme Court: Chief Justice, Henry M. Butzel; Associate Justices, Howard Wiest, George E. Bushnell, Edward M. Sharpe, William W. Potter, Bert D. Chandler, Thomas F. McAllister, Walter H. North.

MICHIGAN, UNIVERSITY OF. A State institution for the higher education of men and women at Ann Arbor, founded in 1817. In 1937-38 the

enrollment was 18,851, including extension students and the 1937 summer-session enrollment. The registration in the 1938 summer session was 5771. The teaching staff in the fall of 1938 was composed of 767 members. For current expenses and equipment, \$4,687,361 was received from the State, while \$5,526,870 was derived from other sources. Actual receipts from gifts during 1937-38, for endowment and current expenditure, were \$1,209,997. During the summer and fall of 1938, Federal PWA grants, amounting to \$2,522,250, were received, on the basis of which construction of buildings to a total cost of \$5,605,000 was facilitated. The buildings planned include two series of general dormitories for men, one of which is to be adjacent to the Michigan Union; a dormitory for medical students; a dormitory for women; an addition to the University Hospital to provide internes' quarters; an addition to the Dentistry Building; a new Student Health Service; and expansion of the heating and power plant to care for the increased load. The University's share of the cost is being met by the issue of revenue bonds except in the case of the addition to the Dentistry Building, which is provided by a gift from the W. K. Kellogg Foundation of Battle Creek. The determination to construct a series of dormitories for men marks a radical departure from the previous policy of the University, which was to rely chiefly upon privately owned and operated lodging houses for the housing of its men students. The University libraries contained 1,025,815 volumes. President, Alexander Grant Ruthven, Ph.D., LL.D., Sc.D.

MICROFILMING. See PHOTOGRAPHY.

MIDDLEBURY COLLEGE. A coeducational, nonsectarian college at Middlebury, Vt., founded in 1800. For the autumn term of 1938, 770 students were registered as undergraduates and 20 as graduates; of these, 421 were men and 369 women. The enrollment in the special summer schools of French, Spanish, German, Italian, and English, conducted by the college, amounted to 654. There were 65 members on the faculty. The productive funds of the college in 1937-38 amounted to \$4,313,707.95 and the income for the year was \$405,009.57. Gifts to the college were \$22,732.05. The library contained 100,000 volumes. President, Paul Dwight Moody, D.D.

MIDDLE CONGO. See FRENCH EQUATORIAL AFRICA.

MIDWAY ISLANDS. A group of islands in the North Pacific (28° 12' N.; 177° 22' W.), some 1200 miles to the northwest of Hawaii. Area, 28 square miles; population (1936), 118. The islands contain a relay cable station and, in 1935, became a base of the transpacific air service of the Pan American Airways. The islands are under the jurisdiction of the Navy Department of the U.S.A.

MILITARY PROGRESS. Germany. Germany has decreed the building of a 100-mile-long canal to link the Rhine, Main, and Danube into one waterway to enable vessels of 1200 tons' burden to travel across Europe from the North Sea to the Black Sea, to be completed by 1945. Her standing army has been increased by four corps. The strength of 36 divisions set by the 1935 conscription law, introducing Hitler's huge rearmament program, has been raised to 51 divisions. According to newspapers these include three especially equipped mountain divisions, five armored-car or tank divisions, and cavalry.

The Berlin *Lokal-Anzeiger* explained the increase of the four corps resulted from the inclusion of Austria and Sudetenland in the Greater Reich.

Her peace-time army probably consists of 1,000,000 men, second only to Russia. The "Army Group commands" are now six: At Berlin, Frankfurt-on-the-Main, Dresden, Leipzig, Vienna, and Hanover. The line of her fortifications on the western frontier extends from the North Sea, where Germany borders the Netherlands, to Switzerland. The French and German systems are separated along the Rhine by only a few hundred yards. Obstacles of all kinds have been set up to prevent advances. Traps for tanks are closely spaced humps of steel and concrete varying in height from 4 to 6 feet, four or five rows deep, like a bunch of bee-hives. Innumerable weapons for the land and air forces are at their disposal.

Japan. Japan has completed the building of the new 140-mile railroad between Peking and Chengteh, connecting the newly acquired North China territory with a thousand miles of railroads in Jehol province and Manchuria. In a war with Russia this line would be of vital importance. But as Japan strengthens her position in China with new railroads, Russia counters with constantly growing railroads in Siberia and elsewhere in the Soviet Union. The Lake Baikal-Amur railroad, 1800 and more miles in length, is north of and parallels the Trans-Siberian railway. The survey for the railway to Urga, the capital of Outer Mongolia, has been finished. That road when completed will have great military value. So Russia significantly pushes construction on it while Japan is busy fighting China. See CHINA under *History*.

Great Britain. In Great Britain the government in October adopted a general plan for the evacuation and compulsory billeting in the country of one-third of the urban population as the most effective form of civilian defense against air raids. A "national register" of voluntary service in which every man and woman will have a chance of stating what kind of work he or she could do in time of war was announced by the government on Dec. 1, 1938. Twenty million handbooks will be distributed listing all forms of work for which volunteers will be needed, not only in protecting the civil population against air raids but providing nurses, fire-fighters, and ambulance drivers and keeping vital industries in full blast. "The transition from the voluntary register to a complete compulsory register when war breaks, will be smooth, easy and expeditious," said Sir John Anderson, Minister for Civilian Defense. It is planned to make the nation's resources in man power organized and effectively employed.

A new force, Great Britain's "Army in Overalls," to consist of men between the ages of 38 and 50 years, is to be recruited among employees in the industrial plants throughout the country. It will be a reserve of the Territorial Army, corresponding to the National Guard of the United States. The duties of the new force will be to man light anti-aircraft guns placed on factory sites to protect them from low-flying bombing planes. Volunteers for the new factory workers' army will be required to attend 30 drills yearly and spend eight days each year in training camps. Its uniform will be two suits of canvas overalls, a great coat, cap, and badges of rank. Officers will wear overalls and Sam Browne belt. The whole idea is that in war the factory employees will remain at the civilian work for which they are paid, but ready to drop tools and man the guns in an emergency.

Bermuda has been told by the British War Office that her defenses in the event of war will have to depend on local volunteer forces, the regular military garrisons being withdrawn for re-

quired service elsewhere. So the governing authorities are studying the situation presented, some of them strongly urging compulsory training of youth for defense purposes.

World armament expenditures, according to the Foreign Policy Association, have increased from \$3,800,000,000 in 1932 to the unprecedented total of \$17,600,000,000 in 1938. Great Britain is diverting 7 per cent of her total national income for armaments and war materials. Italy is applying 8½ per cent of all she earns, France 14½ per cent, Germany 16 per cent, Russia and Japan around 40 per cent. Arms programs in every case are being financed by credit.

The British Broadcasting Company evaluated the part played in the European crisis by pointing out that the radio emerged with the airplane as a determining factor. "Broadcasting scotches rumor, creates steadiness of nerve which is bound to be the principal asset of any civilized people subjected to war conditions of the future."

The 1938 issue of Jane's *All the World's Aircraft* gives Great Britain credit for having the world's fastest fighting planes. Their "Supermarine Spitfire One," a single-seater fighter monoplane, is the fastest military aircraft. The Air Ministry reveals its speed to be 350 m.p.h.

The London *Times* military correspondent says the most efficient sections of the Territorial Army are the anti-aircraft units, the artillery and searchlights. But of the infantry he is more critical. The exercises of citizen soldiers are singularly unlike actual warfare, with their elements of unreality. His impressions are that the officers are not efficient, cannot draw up a simple exercise reasonably well, cannot picture a situation. Five territorial divisions have been converted into anti-aircraft troops, leaving nine divisions not grouped with higher formations for training. Only with such grouping and experience with regular army groups can more efficiency be obtained.

According to the press, the British Government intended to spend £20,000,000 to reinforce private homes, apartment houses, and other buildings as a protection from bombs. Sheet steel is to be inserted between the basement and the ground floor. It is believed that loss of life will be averted since families will take to the basement during raids. Air-raid protection is all very problematical and some of the recommendations of so-called experts are worthless. Overhead or vertical protection has been stressed too much to the neglect of side or horizontal protection from bombs falling at some distance. There is no question that shelters reduce the mean probability of being killed.

Australia. The coastal defenses of Australia, air-raid precautions, mobilization measures, and conversion of factories to munition manufacture are being hastened. The States, which heretofore had regarded defense as a Federal responsibility, agreed to co-operate by pooling loan funds. The number of cadets at the Royal Military College at Duntroon increased to 89, approaching the goal of 100 annually (80 Australians and 20 New Zealanders). See AUSTRALIA under *History*.

France. The national defense expenditures allotment of 29,945,000,000 francs for 1938 was increased after the Munich pact by 1,420,000,000 francs for the army and 887,000,000 for the navy. What the new funds were to be used for has not been disclosed, but evidently to push the rearmament program. Official statements have been frequently made that the Maginot fortifications are in perfect condition so it may be assumed that the

additional appropriations are not for them. According to Jane's 1938 edition France is credited with from 3200 to 3500 aircraft. But the figures cannot be taken as positive. The French aircraft industry has lagged considerably due to the 40-hour-per-week working time, administrative red tape, and the failure to put into effect mass production. For the first seven months of the year, a total production of 100 complete aircraft was planned as a monthly performance; the actual production was only about one-third of that.

For the defense of the French Colonial possessions a body of interpreters in Arabic as "officers of Mussulmen Military Affairs" has been formed with a colonel in charge. He is responsible for the command of the body and the education of linguists, psychologists, and kindred accomplishments. The plan is to obviate the necessity for a sudden call upon fighting units for officers capable of speaking one or more languages.

Netherlands, THE. In Holland air-raid protection is taken seriously. Intensive training of men and women is mainly for the purpose of avoiding the risk of a general panic. To detect the presence of gas dropped from airplanes, observation posts surround towns and are equipped with a testing apparatus which works day and night analyzing the air. If a post discovers a trace of poison, a single switch and every telephone throughout the city, whether in use or not, is connected with Central Gas Protection Service. If the radio is on, that is interrupted. Then the warning is given to all listeners. A large roll of gummed paper, always kept at hand, is, as soon as possible, used to cover all cracks and crevices in windows, and doors of the most suitable room are sealed up. Special equipment, with air-filter and oxygen bottle, are provided for members of the Dutch A.R.P. Service, whose duty is to attend to victims in the streets and take them to places of safety.

The Americas. The Inter-American Conference has achieved its major objective in getting a unanimous declaration on solidarity designed to serve notice to the totalitarian States that the American countries are ready to stand united for common defense against any foreign intervention. All 21 nations signed the agreement Dec. 24, 1938.

The Chaco settlement gave Paraguay the military gains of the recent war, but failed to give her any foothold in the Bolivian oil fields.

Brazil is strengthening her army, navy, and air forces with the assistance of French military officers training their army. For the past three years the coast artillery has been under the supervision of American coast artillery officers. The new program calls for an increase of the present army strength to 100,000 from 62,000 and the expenditure of several millions of dollars in modern armaments. The enlarged army, with 30,000 constabulary or state troops under army control, will give Brazil a peace-time establishment of over 130,000 men. In the air she plans to build a fleet of 1000 planes for land and sea.

The Lima Conference has focused attention to the Americas' armed forces. Their armed strength amounts to 2,000,000 trained soldiers with much greater potential man power. The standing armies and trained reserves, according to the United Press, were as shown in the table on p. 462.

Add to these Canada's 3000 and 134,000 and the United States' 170,000 and 300,000, respectively, and there would be 432,800 in the combined armies with 1,545,800 reserves to unite against any power that might become an aggressor necessary to curb.

	Army	Reserves
Argentina	36,000	450,000
Bolivia	5,000	54,000
Brazil	66,000	213,000
Chile	14,000	178,000
Colombia	14,000	50,000
Costa Rica	800	.....
Cuba	15,000	11,000
Dominican Republic	3,000	12,000
Ecuador	7,000	25,000
El Salvador	3,000	700
Guatemala	5,000	8,000
Haiti	2,000	600
Mexico	58,000	30,000
Nicaragua	2,000	500
Paraguay	5,000	43,000
Peru	15,000	20,000
Uruguay	8,000	8,000
Venezuela	6,000	3,000

United States. The latest edition of Jane's *All the World's Aircraft* estimates the United States' strength in aircraft between 2700 and 3000. It states that the United States' bombers and fighters are among the world's speediest but admits the details of their newest machines have not been released and their real performance is not known. The fastest bombers are the Bellanca 28-90-B, with a maximum speed of 280 m.p.h. at 5000 feet. The fastest fighters listed are the Seversky P-35 single-seater monoplane with a maximum of 300 miles at 10,000 feet, and the Vought Vp43 single-seater fighter with a speed of 300 m.p.h.

The estimate of Jane's is obviously wrong so far as the United States is concerned. The army's authorized quota of planes is only 2300, of which there are on hand not over 1800 and many of them obsolete. For continental United States there are only about a thousand, perhaps less. In the new type of national defense problem contemplated by the United States to implement the Monroe Doctrine and make the Americas safe for Americans, the army will have to complete modern equipment of all types, including ammunition reserves. The number of planes in the Air Corps would have to be "doubled, tripled, even quadrupled," according to the Assistant Secretary of War Johnson. Our rate of production to do that would have to be stepped up very considerably. The industrial war plans perfected by the Air Corps reach into the entire industrial life of the nation, with co-ordinated analyses of potential output by machine shops, steel mills, tire, instrument, and accessory manufacturers; transportation and power facilities essential to manufacture. The greatest single factor in any major contest will be the ability of combatants to cope with the appalling high rate of material absorption.

The heavy output of planes during peace is not desirable because of the rapid obsolescence of every type. The point of value is to have such an arrangement of production that the most advanced bomber, pursuit plane, attacker, and other types can be turned out within a minimum time after mobilization. At present the output of 30 planes per month for the army is not at all satisfactory.

The "shopping list" of the War Department calls for 7300 different articles or processes of production which would be needed immediately on the outbreak of war. The list comprises everything from socks for the soldiers to the most delicate mechanism necessary to make the modern anti-aircraft gun effective. In the first months of a major war the purchase of these articles would call for the expenditure of \$450,000,000. There are 55 critical items that cannot be produced at once or soon.

First on the list is aircraft. The production of

bomb-sights in quantity that would be needed in an emergency is impossible at the present time. Next the chemical service. One critical item is canisters for gas masks and another gas masks for horses. Then there is the anti-aircraft searchlight. It takes a long time to grind the lenses for the lights. Then there is the question of ordnance. Although the Ordnance Department has developed two improved modern heavy guns—the 155-millimeter gun and the 8-in. howitzer—the equal of any similar pieces in the world, yet there are only four of these guns in the whole Army! Also, it is practically without anti-tank guns of certain calibers.

The Chief of Staff, in his annual report, stresses again, as "a matter of major military importance," the necessity of acquiring sufficient war reserves—"articles of a purely military character that cannot be obtained promptly from commercial sources upon the outbreak of war"—to completely equip the 400,000 troops of the Regular Army and National Guard. The amount still needed for this purpose is about \$142,000,000. During the year 27,685 reserve officers out of 100,116 on the rolls had 14 days' training. The strength of the National Guard is 199,572, of whom 15,258 are officers and 184,334 enlisted men. It is organized into 18 infantry divisions, 7 separate reinforced cavalry brigades, 14 non-divisional infantry regiments, 2 155-mm. howitzer regiments, 1 corps and 1 army 155-mm. gun regiments, 19 air squadrons, 9 coast artillery regiments for harbor defense and 3 for the mobile service, and 10 anti-aircraft artillery regiments, in addition to quartermaster, medical, signal, and other units.

The allotment of airplanes is 195 with delivery of 95 of the latest type of observation planes being made and 48 more to come. The infantry units of the guard, 6000 officers and 91,500 enlisted men, are to be equipped with the new semi-automatic rifle now being supplied to the regular army. It is the Garand semi-automatic rifle to replace the old Springfield, the standard since 1903. It is rated at from 12 to 34 per cent more accurate than the Springfield, weighs 9 lb., and is generally of the same dimensions. A clip of eight cartridges is inserted and when the trigger is pulled a gas chamber opens, discharging the contents. The operation automatically ejects the empty cartridge, cocks the gun, and carries a new bullet into place. The trigger finger controls all this.

On Nov. 11, 1938, the War Department announced development and standardization for issue to troops of two new and "highly effective" weapons, one designed to combat aircraft and the other an anti-tank gun. The anti-aircraft gun of 37-mm. caliber, automatic type, is mounted on an all-around fire, four-wheeled trailer, which may be towed by a light truck at maximum speed. The unit has a wheel base of 120 inches with a 58-inch tread and weighs about 5000 lb.

In the anti-tank gun the development has been toward increased mobility and greater armor-piercing effect. It is also 37-mm. caliber, mounted on a carriage capable of being towed behind high-speed trucks or being hauled short distances by hand. The crew is protected by armor and in action one man loads the gun while the other aims and fires it. The unit is about 12 feet long, 5 feet wide, 3 feet high, and weighs about 950 lb.

An adjustable gas mask to fit all types and sizes of faces has been designed by the Chemical Warfare service at Edgewood Arsenal. The adjustable feature of the mask is obtained by the use of straps,

It should obviate the necessity of manufacturing many different sizes.

The new "terrain clearance indicator" should be a valuable addition to the airplane. The device will inform the pilot exactly how high above the ground he is and may be trained along the route of the plane to indicate the presence of obstructions dead ahead. Radio waves are projected from one wing of the airplane to the obstacle or the ground, then caught by a receiver on the rebound on the other wing. The time interval is measured in millionths of a second and translated into feet, giving terrain clearance.

A new type of indicator that warns a pilot when his airplane is about to stall has been developed by the National Advisory Committee for Aeronautics at Langley Field, Va. The stall indicator can be used to warn the pilot by blowing a horn, lighting a warning light, or shaking the control stick or rudder stock.

An instrument developed by Sperry and R.C.A. makes it possible for an airplane pilot to trace the course of any mobile unit on the ground below him. Also it may be used for the navigation of the plane itself and to determine angle of drift at any time.

There is only one cavalry brigade entirely mechanized in the regular army—the Seventh cavalry brigade at Fort Knox, Ky. It consists of 2100 officers and men and more than 600 vehicles. The question of co-ordinating the tactics of the horse units of cavalry with the tactics of the far more mobile mechanized units is one of the difficult problems to be solved.

The 155-mm. gun, known as T-4 model, fires a 95-lb. projectile with a 15-lb. explosive charge at the rate of 1 lb. per minute to a range of 26,000 yds. or about 15 miles. The shell reaches a height of 30,000 feet at the top of its trajectory. The gun, complete with the heavy, 10-wheeled, rubber-tired carrier on which it is towed, weighs 15½ tons. A powerful Linn "half track," or a truck having tractor treads in place of rear-drive wheels, pulls the gun at a speed of about 10 m.p.h. Intended for use mainly for counter-battery or interdiction fire against rear areas, the gun is the newest design of American make. The gun can be set up in firing position in from 30 to 45 minutes.

The Assistant Secretary of War presented an existing shortage in army equipment that does not spell confidence in our defensive ability. He specified shortages in artillery, tanks, combat cars, airplanes, machine guns, semi-automatic rifles, anti-tank guns, ammunition, gas masks, searchlights, telescopes, and quadrants. A formidable list of deficiencies! The Secretary of War in his annual report urged stronger defense at the Panama Canal; —it "must be made impregnable." There are but 400,000 officers and soldiers of the initial protective force provided for when war breaks, but there are deficiencies in organization, equipment, and personnel which must be corrected before we can be assured of a military force adequate for our defensive needs.

On December 5 war-department regulations announced that the entire army, aside from the mounted services, must don civilian-type trousers by February, 1939. Each enlisted man is to be provided with two pairs of woolen trousers and three of cotton khaki; tan socks will be worn.

The Chief of Staff in his annual report warns the people of the United States that this country's army stands eighteenth among the armies of the world. Our military establishment differs funda-

mentally from those maintained elsewhere. Its professional component, the regular army, is only the nucleus around which the civilian components gather in an emergency. Legislation has provided for and authorized a strength of 165,000 enlisted men. With such a small army it cannot be but defensive in type and non-provocative. And the more essentially must its armament be equal to what it may be called upon to face. The increase in officer personnel for the fiscal year 1939 amounted to 200 in the air corps and 75 in the medical department. Just a step in the direction of adequate strength.

In the National Guard there was an increase of 5000, bringing its total to 205,000. The ultimate objective is 210,000. In the organized Reserves 27,685 officers received active duty training during the year. In addition 4704 reserve officers performed duties with the Civilian Conservation Corps. At the close of the year there were 100,116 Reserve officers enrolled. In the Citizens' Military Training Camps 21,239 completed the month's training, an increase of 3 per cent over 1937. Congress authorized the re-establishment of the Regular Army Reserve made up of men who, upon completion of an enlistment in the regular army, elect to return to civil life but are willing to enroll in the Reserve and assume the obligation to return to active duty in an emergency. This reserve is to attain a strength of 75,000 men.

In the matter of aircraft General Craig states that the Air Corps is being equipped with airplanes and materials that are equal, if not superior, to any military planes in design, speed, endurance, and suitability for the military use for which intended. The record-breaking flight to Argentina by six U.S. Army bombers of the 2d bombardment group is cited as proving his contention. These airplanes, with normal crews, equipment, and training, gave a demonstration of speed, range, and navigation accuracy unexcelled by any military planes in the world. The Vultee V-12 attacking plane carries six machine guns and a crew of three. It has a 1000-h.p. motor to lift a bomb load of 3000 lb. and 500 gallons of fuel. Its flying range is 2000 miles.

See AERONAUTICS.

With the funds made available the motorization program will become approximately 67 per cent complete for the regular army and 50 per cent for the National Guard.

MILK. See DAIRYING.

MILLS COLLEGE. A college for women in Oakland, Calif., founded in 1852. The enrollment in the autumn of 1938 was 636, for the summer session of 1938, 252. The faculty numbered 95 members. The total productive funds amounted to \$1,883,128 and the total assets to \$4,449,580, while the gross income for the year ending June 20, 1938, was \$877,619. The library contained 77,000 volumes. President, Aurelia Henry Reinhardt, Ph.D., Litt.D., LL.D., I.H.D.

MINERALOGY. In the year 1938 the profound and significant researches of a group of Austrian and German petrographers, headed by Prof. Bruno Sander of the University of Innsbruck, have been made available to English-speaking mineralogists and petrographers. The Geological Society of America has issued as Memoir 6 of their series, *Structural Petrology* by Eleanor Bliss Knopf of Yale University and Earl Ingerson of the Geophysical Laboratory of Washington.

Part I of this Memoir discusses in 208 pages the Principles of Structural Petrology. In the preface to this part by the senior author, Dr. Knopf, she states that "the fundamental principles therein dis-

cussed bid fair to become to the study of rock structure what the methods of microscopic study, which were initiated by Sorby, have been to the study of rock composition."

Part II, contributed by Dr. Ingerson, deals with the laboratory technique of Petrofabric Analysis, to which about 50 pages are devoted. This section explains how the rock fabric diagrams are made by determining a crystallographic or an optical direction in a sufficient number of mineral grains to map their mass orientation. The work is very well illustrated by 81 line cuts and 27 plates which are admirably chosen and reproduced. An exceptionally complete index serves to distinguish this from the general run of technical treatises.

An outstanding paper which was both timely and exhaustive appeared in the November issue of the *American Mineralogist*, an issue devoted to results of research conducted under the auspices of Harvard University. This paper by Dr. Mark C. Bandy discusses "The Mineralogy of Three Sulphate Deposits of Northern Chile." These three deposits are situated at Chuquicamata, Quetena, and Alcaparrosa, localities which have been distinguished for the number and interest of the mineral species furnished by them in the past.

Dr. Bandy devotes 28 pages in Part I to the geology and paragenesis of the deposits. The remainder of the paper, Part II, comprising 62 pages, is taken up with a very complete discussion of the 76 minerals listed, including crystallographic studies, optical and physical properties, analyses, and individual bibliographies. The paper contains valuable tables of mineral sequences in the portion devoted to paragenesis.

The year 1938 has witnessed the discovery of a number of new mineral species, and compares favorably in this respect to other years in the past decade.

From Långban, Sweden, a locality which has proved a consistent source of rare species for the last half century, has come a new calcium, beryllium and aluminium hydrous silicate, occurring in small, clear, colorless, tetragonal crystals. It has been named *aminoffite* in honor of Prof. Gregori Aminoff of Stockholm, who has himself brought to light a number of new minerals from Långban.

A hydrous calcium silicate related chemically to foshagite (see YEAR BOOK 1925, p. 443) and centrollassite was found at a mine on the Yukspor Mountain in the Khibina tundra of Northern Russia. This mineral has been named *foshallassite*, expressive of its mineral relations. It occurs in small veins composed of minute white scales with perfect tabular cleavage and pearly luster.

Inderite, another new species from Russian territory, was found in the borate deposits near the Inder salt lake in western Kazakhstan, and was named from the locality. It is a hydrated borate of magnesia occurring in small white to pink nodules, reniform in shape.

An orthorhombic pyroxene, lilac in color and with strongly marked pleochroism, has been found in a metamorphic rock of the granulite type near Bidaloti in Mysore, India, and named *bidalotite* from the locality. It differs from the associated hypersthene, that occurs in the rock matrix, by reason of the presence of alumina.

A new silver antimonide that was found on an old specimen from Andreasberg, Harz, Germany, in the collection of Harvard University, was named *Goldschmidtine*, in honor of the late Victor Goldschmidt of Heidelberg. Goldschmidtine occurs in

thin, white to lead-gray, orthorhombic crystals, associated with native silver, ruby silver, and galena.

The copper-mining region of Northern Chile, which furnished the material for the paper by Dr. Bandy, noted earlier in this review, has furnished three new mineral species in 1938.

Leightonite, a hydrous sulphate of copper, calcium, and potassium, occurs in pale blue, triclinic crystals filling cross-fiber veins at Chuquicamata, Chile. Its name was given in honor of Dr. Thomas Leighton, of the University of Santiago, Chile.

Antofagastite, a hydrous copper chloride, occurs near Calama, Antofagasta, Chile, in bluish green to greenish blue orthorhombic crystals, which are ordinarily curved. Although hydrous copper chloride is a well-known artificial laboratory product, this is the first time that it has been found in nature. Antofagastite is named after the district from whence it comes.

Bandyite, named in honor of Dr. Mark C. Bandy, also comes from near Calama, Chile. It is a hydrous copper borate and copper chloride, occurring in deep blue tetragonal crystals aggregated as a crust on rock joints.

Examination in the Choctaw Salt Dome, Louisiana, the locality which produced hilgardite (see 1927 YEAR BOOK, p. 464), has revealed a new mineral species, *parahilgardite*, closely related to hilgardite chemically, but forming in triclinic crystals (hilgardite is monoclinic) which are invariably attached to the negative end of previously formed hilgardite crystals. They are clear and colorless. A new calcium borate was found at the old colemanite mine at Lang, Los Angeles County, Calif. It occurs in clear, colorless, monoclinic crystals with a silky luster. The new borate has been named *veatchite* in honor of Dr. John A. Veatch, who first (1856) found borates in California mineral waters.

Hardly a year passes without the announcement of a new mineral from the New Jersey Zinc Co.'s mines at Franklin, N. J. The 1938 addition to the long list credited to this famous locality is a silicate of zinc, manganese, and antimony occurring in triclinic, clove-brown plates embedded in willemitite. The name *yeatmanite* has been given to this new Franklin mineral in honor of Pope Yeatman, a distinguished mining engineer who has recently been associated with the Franklin mines.

MINIMUM WAGE. Federal Wages and Hours Law of 1938. With the invalidation of the National Industrial Recovery Act in 1935, not only collective bargaining and the abolition of child labor but the establishment of minimum wages and maximum hours was seriously jeopardized. Later the right to collective bargaining was established by statute under the National Labor Relations Act. On June 25, 1938, when the President approved the Fair Labor Standards Act of 1938, the breach in Federal legislation was further closed. The new act became effective 120 days following the date of its approval, that is to say, on Oct. 24, 1938. The law provided a minimum wage and maximum work week for employees engaged in interstate commerce and also virtually outlawed the employment of children under 16 years of age when engaged in activities that might also be classified as being interstate. (For a fuller discussion of the effects of the law on child labor, see the article CHILD LABOR.)

In the declaration of policy, Congress found that "the existence, in industries engaged in commerce or in the production of goods for commerce, of labor conditions detrimental to the maintenance of the minimum standard of living necessary for

health, efficiency and general well-being of workers" burdened commerce, and constituted an unfair method of competition, and that it led to labor disputes which hindered the free flow of goods in interstate commerce, and interfered with the orderly marketing of goods. The declared policy of the act, therefore, was to correct and eliminate these conditions "without substantially curtailing employment or earning power."

To administer the law, a Wage and Hour Division was created in the Department of Labor with the Administrator appointed by the President. This official was to operate through a series of committees, each one appointed for a particular industry. Investigatory powers were conferred on the Administrator and he also had the right to summon witnesses and to order the production of records of the employers subject to the act.

These industry committees, according to the law, were to include a number of persons representing the public and a like number of employers and employees. In making appointments, the Administrator was required to give due regard to the geographical regions in which the industry was being carried on. The act fixed a series of minimum wage payments which all employers producing or engaged in interstate commerce were required to observe, as follows: (1) During the first year, beginning Oct. 24, 1938, not less than 25 cents an hour. (2) During the next six years, not less than 30 cents an hour. (3) After the expiration of seven years, not less than 40 cents an hour, or the rate (not less than 30 cents an hour) prescribed by the Administrator. The Administrator was given the power to prescribe lower minimum wages for learners, apprentices and messengers, and for persons whose earning capacity was impaired by age or physical or mental deficiency.

The act required the Administrator from time to time to convene the industry committees for the purpose of reaching as rapidly as was "economically feasible," without curtailing employment, the 40-cent minimum wage rate. Such industry committee must investigate conditions in the industry and recommend "the highest minimum wage rates for the industry which, it determines, having due regard to economic and competitive conditions, will not substantially curtail employment in the industry."

The industry committees must recommend for each classification in the industries in which they functioned the highest minimum wage rate which they considered would "not substantially curtail employment in such classification." In making such determination, no classification might be made and no minimum-wage rate fixed solely on a regional basis. The industry committees and the Administrator must consider (1) competitive conditions as affected by transportation, living, and production costs; (2) the wages established for work of like or comparable character by collective labor agreements; and (3) the wages paid by employers who voluntarily maintain minimum-wage standards in the industry. No classification might be made on the basis of age or sex. After the industry committees filed reports with the Administrator with recommendations, notice and an opportunity to be heard must be given to interested persons. The Administrator must then approve and carry into effect the recommendations of the committees, provided the recommendations were made in accordance with law, and supported by the evidence. If the Administrator disapproved the recommendations, the matter must be referred again to the in-

dustry committees or to other committees for each industry for further consideration.

The law also laid down certain provisions for the fixing of maximum hours. During the first year, beginning Oct. 24, 1938, maximum hours were fixed at 44 per week; 42 for the second year; and 40 thereafter, unless the employee was paid a rate of not less than one and one-half times the regular rate. Exceptions were made in certain instances, such as seasonal industries and in the case of employers operating under collective bargaining agreements. Such agreements must guarantee 2000 hours' work a year or 1000 hours' work for six months. The provisions of the act limiting hours of labor did not apply in the case of an employer engaged in the following industries: In the first processing of milk, whey, skimmed milk, or cream into dairy products, or in the ginning and compressing of cotton, or in the processing of cottonseed, or in the processing of sugar beets, sugar-beet molasses, sugar-cane, or maple sap into sugar (but not refined sugar) or into sirup. In the case of an employer engaged in the first processing of, or in canning or packing, perishable or seasonable fresh fruits or vegetables, or in the first processing, within the area of production of an agricultural or horticultural commodity during seasonal operations, or in handling, slaughtering, or dressing poultry or livestock, an exemption of 14 weeks in any calendar year was granted in the case of the maximum-hour standards.

Additional exemptions were also provided. Thus the act did not apply to any employee engaged in a bona-fide executive, administrative, professional, or local retailing capacity, or in the capacity of outside salesman, or any employee engaged in any retail or service establishment the greater part of whose selling or servicing is in intrastate commerce. Again, seamen, employees of aviation companies, persons engaged in the fishing industry and in agriculture, were also exempt from the act. Exempt from the terms of the act also were employees of certain newspapers, street-car and bus-line employees, and persons engaged in canning or otherwise handling agricultural, horticultural, or dairy products. The hour provisions of the act did not apply to employees subject to the Interstate Commerce Act or those employed by interstate motor carriers.

The administrative procedure was significant. Reviews of orders of the Administrator might be obtained in the U.S. Circuit Court of Appeals for any circuit in which the person resided or had his principal office of business. However, the review by the court was limited to questions of law; and findings of fact by the Administrator, when supported by substantial evidence, were to be conclusive. The court might affirm, modify, or set aside the order of the Administrator in whole or in part and its judgment was final, subject to review by the U.S. Supreme Court. On and after the effective date of the act, it was to be unlawful for any person to ship or sell in interstate commerce any goods in the production of which any employee was employed in violation of the wage and hour provisions of the act. Any person wilfully violating the act was to be subject to a fine of not more than \$10,000 or imprisonment of not more than six months, or both. No penalty of imprisonment was imposed for a first offense. Any employer violating the hour or wage provisions of the act was to be liable to the employee affected in the amount of his unpaid minimum wages, or his unpaid overtime compensation, and also an equal amount as liquidated damages.

The employee might maintain an action to recover the amount due and was to be entitled to reasonable attorney's fees and court costs.

The act went into effect quietly on October 24, without any serious opposition being voiced by industry itself. Preliminary estimates made by Elmer F. Andrews, the Administrator, indicated it as his opinion that the statute immediately raised the pay of 750,000 workers and shortened the working hours of 1,500,000. Mr. Andrews stated that employers generally were co-operating to make the law work and assured industry that he would go slow in formulating the regulations called for by the law so that they would not cause unnecessary dislocations in business. Probably the most important regulation issued by Mr. Andrews during the year was that relating to the payment of wages for overtime at the rate of time and one-half in cash. The rate to be paid under the act was not the 25 cent minimum, but the amount of hourly wages paid by the employer up to the date of issuance of the regulations. Mr. Andrews interpreted the act to mean that Congress intended to penalize overtime work since it declared that: "No provision of this act shall justify any employer in reducing a wage paid by him which is in excess of the applicable minimum wage under this act." An employer was not supposed to let overtime of employees accumulate beyond the duration of the work week and such overtime accumulated during the week should be paid for in cash. Since the act was intended to raise the pay of the lowest paid workers, it was expected that the Administrator would not concern himself to any great extent with industries which paid a much higher rate. It was to be assumed, therefore, that employees making perhaps \$50 or more a week would be expected to settle their problems with their employers personally. Another regulation issued by the Administrator declared that the act did not cover plants where employees processed raw material derived from within the state and where none of the products moved in interstate commerce.

Immediate reports of the law's operations showed that some lumber and textile mills and some pecan shelling operations had closed on the first day of the act's operations. It was estimated, however, that not much more than 30,000 workers in all had been thus disemployed. Most of the shutdowns and layoffs of employees were reported in the South where wage rates lower than in the North had helped to bring industries in the past. Representatives of the pecan-shelling industry, seeking exemption from the statute, informed Mr. Andrews that the law compelled them to suspend operations because they could not afford to pay employees 25 cents an hour. The average wage in the industry was 10 to 15 cents. Mr. Andrews, however, was insistent that exemptions of industries engaged in interstate commerce was impossible and he voiced the hope that the shutdown movement was only temporary.

In a subsequent statement on November 10, he indicated it as his belief that many of the shutdowns and layoffs were not due primarily to the new act. Among the more important contributing factors were seasonal changes, substitution of efficient for inefficient workers, and curtailment as an offset to abnormally increased activity prior to the effective date of the act. He said further: "The significance of the layoffs is still further reduced by the fact that a large share of the total consists of marginal and handicapped workers, whose position in the economic system has long been insecure. . . . It is noteworthy that the layoffs have been concentrated in a very few industries in the South, most of which

are characterized by wretchedly low wage rates and other special conditions, or make use of a particularly inefficient part of the labor supply." He named specifically the following industries which had seen 90 per cent of all the layoffs: Pecan shelling, tobacco stemming, lumbering, and bagging. A considerable number of persons employed in the home production of garments and candlewick bedspreads were also affected by the act.

Two months after the act's inauguration, observers generally were agreeing that its acceptance was widespread throughout the country, particularly as regards the 25 cents an hour minimum. They were anticipating difficulties, however, as regards the overtime provision concerning which Administrator Andrews had ruled that overtime must be based on 44 hours of work a week and could not be averaged for several weeks' employment except where longer hours were permitted in cases of collective bargaining contracts. Mr. Andrews also had ruled that it was contrary to the intent of the law to rearrange hourly compensations in order to pay the same amount for a 48-hour week today as was paid for a 48-hour week prior to the act.

Pursuant to the authorization incorporated in the act, before the year closed Mr. Andrews set up two industrial committees, the first covering the textile industry, and the second, the apparel industry. The first committee, which was created prior to the date of operation of the law, held several meetings, named a number of subcommittees for various studies, and was well on the way to its ultimate goal—the fixing of a minimum wage for the industry. The second committee, affecting the clothing industry generally, was not set up until late in December.

State Minimum Wage Laws. During 1938 two new minimum wage laws were passed by legislatures—Kentucky and Louisiana; also, in Kansas a former minimum wage law was revived. To date, therefore, 25 states, the District of Columbia, and Puerto Rico carried minimum wage legislation on their statute books. The *Kentucky* law was of the wage board type, as were most of the laws recently enacted. Under it the Commissioner of Industrial Relations was authorized to investigate wages, and if it was found that a substantial number of women and minors were receiving oppressive and unreasonable wages, a wage board was to be appointed to determine and recommend a proper wage. The wages to be recommended were to be fairly commensurate with the value of the services rendered and sufficient to meet the minimum cost of living necessary for health.

In *Kansas*, the law originally enacted in 1915 had been inoperative since 1925 when the Supreme Court of the state held that the law was unconstitutional. After the U.S. Supreme Court, in 1937, decided that the minimum wage law of the State of Washington was constitutional, the Attorney-General of Kansas held that the original Kansas law was once more effective. The original Kansas law was of the wage board type, but amendments were adopted in 1921 which repealed the provisions authorizing the appointment of wage boards. The amended law provided that the Kansas Commission of Labor and Industry might investigate wages, hours, and sanitary and other conditions affecting women and minors in any industry in the state. If the Commission found that wages, hours, and conditions were prejudicial to the health or welfare of any substantial number of employees and were inadequate to supply the necessary cost of living, it might set minimum wages in that industry. The law stated that the wages to be paid must be rea-

sonable and not detrimental to the health and welfare of workers.

Living Standards for Working Women in New York. By authority of an act passed in 1937, the New York State Department of Labor was called upon to set up wage boards for the purposes of establishing minimum wages for women and minors, with a view to taking into consideration (1) the amount sufficient to provide adequate maintenance and to protect health; (2) the value of the service or class of service rendered; (3) wages paid in the state for work of like or comparable

character. Following these directions, the Department of Labor of New York State proceeded to make an exhaustive study of living standards of wage-earning women so that wage boards could be furnished with data as to what constituted adequate maintenance and the protection of health under conditions prevailing in New York State. In drawing up the commodity-quantity budget for women wage earners, the Department found it imperative to distinguish between the expenses of those who lived as members of families and those who lived alone. Attention had to be given, therefore, at different levels,

ANNUAL COST OF ADEQUATE MAINTENANCE AND PROTECTION OF HEALTH FOR WOMAN WORKERS IN NEW YORK STATE, 1937

Item	<i>Woman Worker Living Alone</i>					<i>New York City</i>
	<i>New York State</i>	<i>10,000 and under 25,000</i>	<i>25,000 and under 50,000</i>	<i>50,000 and under 100,000</i>	<i>100,000 and over (except N. Y. City)</i>	
Total	\$1,192.46	\$1,228.16	\$1,214.72	\$1,187.97	\$1,170.96	\$1,192.57
Housing and food, total	617.38	624.85	626.44	614.24	593.23	620.46
Rent for furnished room, including laundering privileges	238.85	225.85	216.06	201.24	220.48	245.96
Food *	378.53	399.00	410.38	413.00	372.75	374.50
Clothing, total	196.81	199.66	192.70	192.93	192.59	198.18
Outergarments	102.27	105.75	99.62	98.48	98.97	103.26
Undergarments	27.62	26.88	27.02	27.70	27.06	27.85
Footwear	45.46	45.37	44.92	45.12	45.32	45.56
Miscellaneous	21.46	21.66	21.14	21.63	21.24	21.51
Clothing upkeep	14.39	16.68	19.54	19.06	19.02	12.70
Personal care	34.01	36.86	34.37	32.70	33.94	33.87
Medical care	55.70	54.52	53.54	50.48	52.38	56.92
Insurance and savings	72.92	73.28	73.15	72.88	72.71	72.93
Leisure-time activities, total	106.75	102.71	99.88	99.58	100.99	109.11
Recreation	45.91	40.21	37.69	37.08	38.80	48.80
Vacation	40.00	40.00	40.00	40.00	40.00	40.00
Education and reading material	13.04	14.70	14.39	14.70	14.39	12.51
Church contributions	7.80	7.80	7.80	7.80	7.80	7.80
Other living essentials, total	94.50	119.60	115.10	106.10	106.10	88.40
Transportation	55.90	81.00	76.50	67.50	67.50	49.80
Charity, gifts	10.00	10.00	10.00	10.00	10.00	10.00
Candy, cigarettes, etc.	15.60	15.60	15.60	15.60	15.60	15.60
Incidentals	13.00	13.00	13.00	13.00	13.00	13.00
<i>Woman Worker Living as Member of Family</i>						
Total	\$1,058.31	\$1,112.49	\$1,066.53	\$1,053.18	\$1,052.34	\$1,055.68
Home expenses, total	486.76	512.34	481.93	482.80	478.00	487.14
Housing (rent) including cost of heat and hot water	136.02	155.32	136.28	137.77	139.71	133.07
Light, cooking fuel, and refrigerating fuel (ice or electricity)	20.85	26.14	20.61	21.29	18.69	21.05
Food *	197.38	188.43	194.39	193.89	189.64	200.64
Maintenance of household equipment, household supplies, and mother's services, total	132.51	142.45	130.65	129.85	129.96	132.38
Based on 50 per cent of cost of—						
Housing, light, and fuel	78.44	90.73	78.45	79.53	79.20	77.06
Food consumed at home	54.07	51.72	52.20	50.32	50.76	55.32
Clothing, total	196.81	199.66	192.70	192.93	192.59	198.18
Outergarments	102.27	105.75	99.62	98.48	98.97	103.26
Undergarments	27.62	26.88	27.02	27.70	27.06	27.85
Footwear	45.46	45.37	44.92	45.12	45.32	45.56
Miscellaneous	21.46	21.66	21.14	21.63	21.24	21.51
Clothing upkeep	12.20	14.68	17.34	17.06	16.82	10.50
Personal care	34.01	36.86	34.37	32.70	33.94	33.87
Medical care	55.70	54.52	53.54	50.48	52.38	56.92
Insurance and savings	71.58	72.12	71.67	71.53	71.52	71.56
Leisure-time activities, total	106.75	102.71	99.88	99.58	100.00	109.11
Recreation	45.91	40.21	37.69	37.08	38.80	48.80
Vacation	40.00	40.00	40.00	40.00	40.00	40.00
Education and reading material	13.04	14.70	14.39	14.70	14.39	12.51
Church contributions	7.80	7.80	7.80	7.80	7.80	7.80
Other living essentials, total	94.50	119.60	115.10	106.10	106.10	88.40
Transportation	55.90	81.00	76.50	67.50	67.50	49.80
Charity, gifts	10.00	10.00	10.00	10.00	10.00	10.00
Candy, cigarettes, etc.	15.60	15.60	15.60	15.60	15.60	15.60
Incidentals	13.00	13.00	13.00	13.00	13.00	13.00

* The food allowance is for 50 weeks only, since food for 2 weeks is included in vacation allowance.

to an adequate food budget, an adequate housing budget, an adequate clothing budget, and such other considerations as the following: Clothing upkeep, including dry cleaning, laundering, and shoe repairs; personal care, including toilet articles and beauty-shop services, etc.; medical and dental care; leisure-time activities, including movies, club dues, recreation and equipment for two weeks, church contributions, and reading materials; insurance and savings; and other living essentials such as transportation charges, contributions to charity, candy, and cigarettes.

Having budgeted the kinds and amount of goods and services required for adequate maintenance and protection of health, the next important step was to price these items in representative cities and towns of the state. The findings of the State Department of Labor indicated that the amount the working women in New York State required for adequate maintenance and the protection of health was \$1058.31 annually for the woman living as the member of a family, and \$1192.46 for the woman living alone. Itemized costs of the budget for the woman living alone and the woman living with her family in various types of communities are shown in the accompanying table (see p. 467).

Minimum Wages for Maritime Workers. Under the powers conferred on the U.S. Maritime Commission by the Merchant Marine Act of 1936, late in 1937 the Commission fixed minimum wages on vessels receiving operation-differential subsidies. The order affecting wages also established rules as to minimum manning scales and reasonable working conditions for approximately 10,000 sea-

men serving as officers and crews on the subsidized ships. Vacations with pay were granted to both licensed and unlicensed crews. Practically all deck and engine department men, but only about 50 per cent of the workers in the steward's department, were covered by the minimum wage scales prescribed. The table indicates the minimum monthly wage scales for licensed and unlicensed personnel and radio operators.

MINING AND METALLURGICAL ENGINEERS, AMERICAN INSTITUTE OF. An organization founded in 1871 and incorporated under the laws of New York State in 1905 "to promote the arts and sciences connected with the economic production of the useful minerals and metals and the welfare of those employed in these industries." It is made up of 31 local sections and has 42 student chapters in American colleges. On Nov. 16, 1938, there were 11,898 members, distributed as follows: Honorary, 17; members, 6644; junior members, 2074; associates, 615; student associates, 2412; Rocky Mountain members, 91; and junior foreign affiliates, 45.

In addition to the monthly meetings of the local sections and regional meetings held in various important mining or metallurgical centers, an annual meeting, or four-day convention, usually beginning on the third Tuesday in February, is held in New York City. The medals and prizes awarded by the Society during 1938 for notable work in the field of mining and metallurgy were: The James Douglas Gold Medal to H. W. Hardinge; the Lucas Medal for distinguished achievement in improving the technique and practice of finding and producing petroleum, to H. L. Doherty; the Robert W. Hunt Award to Thomas S. Washburn and John Hunter Nead; and the J. E. Johnson, Jr., Award to Roy A. Lindgren.

The Institute publishes *Transactions*, an annual in several volumes, containing the best papers of the year on mining and metallurgical subjects; *Mining Technology*, *Metals Technology*, and *Petroleum Technology*, technical pamphlets published several times during the year; *Mining and Metallurgy*, a monthly magazine; the *Directory*, which constitutes a "Who's Who" in the profession; and individual technical pamphlets. In connection with three other societies, it maintains the Engineering Societies Library and an employment bureau. The president in 1938 was Daniel C. Jackling, and the officers for 1939 are: President, Donald B. Gillies; Vice-presidents, W. B. Heroy, Henry Krumb, Paul D. Merica, H. G. Moulton, Harvey S. Mudd, and Wilfred Sykes; Treasurer, Karl Eilers; and Secretary, A. B. Parsons. Headquarters are in the Engineering Societies Building, 29 West Thirty-ninth St., New York City.

MINNESOTA. Area and Population. Area, 84,682 square miles, exclusive of State's part of Lake Superior; included (1930) other water, 3824 square miles. Population: Apr. 1, 1930 (census), 2,563,953; July 1, 1937 (Federal estimate), 2,652,000; 1920 (census), 2,387,125. Minneapolis had (1930) 464,356 inhabitants; St. Paul, the capital, 271,606; Duluth, 101,463.

Agriculture. Acreage, production, and value of the chief crops of Minnesota, for 1938 and 1937, appear in the accompanying table.

Mineral Production. Iron ore contributed nearly nine-tenths of the total yearly value (\$94,923,608) of native minerals produced in Minnesota in 1936. For 1937 the output of iron ore increased sharply, the mines' shipments jumping to 47,878,042 gross tons, from 32,938,883 for 1936; in value,

MINIMUM MONTHLY WAGE SCALE ON
SUBSIDIZED VESSELS

<i>Licensed officers</i>	<i>Wages</i>
Deck department:	
First officer	\$180-\$265
Second officer	155- 210
Third officer	140- 185
Fourth officer	140- 170
Other	115
Engineer department:	
Chief	265- 390
First assistant officer	180- 265
Second assistant officer	155- 210
Third assistant officer	140- 185
Fourth assistant officer	160- 170
Other	115- 140
<i>Unlicensed personnel</i>	
Deck department:	
Boatswain	85.00
Boatswain's mate	82.50
Carpenter	85.00
Carpenter's mate	80.00
Storekeeper	77.50
Quartermaster	77.50
Able seaman	72.50
Ordinary seaman	55.00
Watchman	72.50
Deck boy	50.00
Engine department:	
Junior engineer	110.00
Oiler	82.50
Water tender	82.50
Fireman	72.50
Storekeeper	82.50
Wiper	60.00
Steward's department (passenger vessels):	
Utility man	55.00
Waiter	55.00
Steward	55.00
Bellboy	35.00
Steward's department (freight vessels):	
Chief steward	120.00
Chief cook	105.00
Second cook and baker	90.00
Messman	60.00
Messboy	55.00
<i>Radio operators</i>	
One-operator vessels	125.00
Two-operator vessels	110.00

Crop	Year	Acreage	Prod. Bu.	Value
Corn	1938	4,501,000	157,535,000	\$69,315,000
	1937	4,788,000	172,368,000	75,842,000
Oats	1938	3,900,000	128,700,000	21,879,000
	1937	4,239,000	165,321,000	39,677,000
Barley	1938	1,960,000	48,020,000	17,767,000
	1937	2,021,000	51,538,000	26,799,000
Hay (tame) ..	1938	2,882,000	4,893,000 *	20,551,000
	1937	2,822,000	4,737,000 *	27,001,000
Wheat	1938	2,616,000	38,948,000	23,758,000
	1937	2,160,000	35,784,000	37,573,000
Potatoes ...	1938	230,000	20,700,000	9,315,000
	1937	237,000	24,411,000	9,520,000
Flaxseed ...	1938	453,000	4,756,000	7,705,000
	1937	453,000	4,077,000	7,624,000
Rye	1938	547,000	9,846,000	3,151,000
	1937	564,000	10,716,000	7,073,000

* Tons.

they rose to \$141,542,594, from \$83,523,720. The quantity of ore actually mined in the State in 1937 exceeded the shipments by about half a million tons. It constituted two-thirds of all the iron ore mined in the Union in that year, as to tonnage of ore, and somewhat more as to content of the metal. The reserves, or estimated total of known ore of iron in the ground, were officially stated to be 1,248,974,440 gross tons on May 1, 1937; this was 8,133,843 tons less than a year earlier. Ores containing manganese were mined in substantial quantity in 1937; the mines' shipments, much in excess of the previous year's, totaled 1,257,900 long tons, in value about \$3,500,000.

Finance. Minnesota's State expenditures in the year ended June 30, 1937, as reported by the U.S. Bureau of the Census, were: For maintaining and operating governmental departments, \$72,175,600 (of which \$12,584,723 was for highways and \$15,147,892 was apportioned for local education); for interest on debt, \$4,357,591; for capital outlay, \$26,224,591. Revenues were \$104,933,307. Of these, property taxes furnished \$17,880,161; income taxes, \$5,373,267; sales taxes, \$17,295,847 (including tax on gasoline, \$13,313,943); departmental earnings, \$6,440,995; rents and interest, \$7,303,417; sale of licenses, \$20,272,305; unemployment compensation, \$4,700,000; Federal or other grants-in-aid, \$21,638,865. Funded debt outstanding on June 30, 1937, totaled \$119,798,500; it included \$66,770,000 on account of rural credits but excluded \$8,352,705 of county-reimbursement road bonds, which were a charge on the State. Net of sinking-fund assets, the funded debt was \$62,559,097. On an assessed valuation of \$2,042,102,314 the State levied in the year ad-valorem taxes of \$17,374,196.

Education. Enrollments of pupils in the public schools in the academic year 1937-38 numbered 542,665; they comprised 394,452 from kindergarten to grade eight, inclusive, and 138,430 in high schools. In addition to those above, there were enrollments of 7430 as special students and 2353 in junior colleges. The year's expenditure for public-school education included \$42,546,642 for maintenance, \$4,022,442 for capital outlay, and \$5,435,000 for service of debt. Teachers numbered 22,179.

The public facilities for the transportation of pupils to and from public schools in Minnesota were much augmented and improved in 1938, according to the *Journal* of the National Education Association, and school houses built or receiving considerable additions numbered 60.

Charities and Corrections. The State's administration of all, save one, of its institutions of care and custody, as well as its dispensations of support to several classes of the needy, rested in the Department of Public Institutions, ruled by the Board of Control. Its Director of Public Assistance

(B. E. Youngdahl) had charge of old-age assistance, aid to the blind, work for child welfare, and aid to the support of children. Fourteen sanatoria for the tuberculous, maintained by counties, were under the supervisory authority of the Board of Control. The State institutions under its government had (June 30) 17,942 inmates. This included 9724 mentally unsound persons thus distributed: In the Anoka State Hospital, 1452; Hastings State Hospital, 1099; Willmar State Hospital, 1385; Fergus Falls State Hospital, 1855; Rochester State Hospital, 1594; St. Peter State Hospital, 1926; Moose Lake State Hospital, 175; Asylum for the Dangerous Insane, 238. The institutionalized feeble-minded and epileptic, 3518 in all, numbered 2414 in the School for the Feeble-minded and 1104 in the colony for Epileptics. Of the 733 delinquents, 445 were in the State Training School and 288 in the State Home for Girls. Of the 2472 under criminal sentence, 1398 in the State Prison, 995 in the Reformatory, and 79 in the Reformatory for Women. Outside these designations, a Hospital for Inebriates had 46 inmates; School for the Blind, 115 students; School for the Deaf, 305; State Public School, 433; State Sanatorium for Consumptives, 360 patients; and Hospital for Crippled Children, 236. The Minnesota General Hospital, not under the Board's control, was connected with the University of Minnesota.

Political and Other Events. At the general election (November 8) Harold E. Stassen (Rep.) was elected Governor, defeating by a vote of 678,839 to 387,263 (official count) Gov. Elmer A. Benson (Farmer-Labor party), who sought reelection. Republicans won 3 of the 5 Farmer-Laborite seats in the U.S. House of Representatives, in which they thus came to hold 6 of the 9 places, while the Farmer-Labor party retained 2 and the Democrats 1. The success of the Republican ticket in November was attributed in part to resurgence of conservatism in the State and in part to division in the Farmer-Labor party, resulting from a bitter and close struggle for its gubernatorial nomination. In this struggle, former Governor Hjalmar Petersen, who, as Lieutenant-Governor, had succeeded at Governor Olson's death in 1936, campaigned as the rival of his own successor and fellow-partisan, Benson. The latter had during his administration gone to conspicuous lengths of liberalism, while Petersen, as a member of the State Railroad and Warehouse Commission, had held a relatively conservative course and had favored ousting Communists from the Farmer-Labor party. Benson, in close accord with the New Deal, received aid from the Federal Administration in his campaign for the candidacy, President Roosevelt having ousted (June 10) Victor Christgau, State Administrator of the WPA, who had reportedly blocked plans of Benson's for the WPA to employ thousands of persons in pulling weeds throughout the State. Benson won the nomination from Petersen in the primary election by only a scant lead, although Petersen had campaigned without organized support; it appeared from the reduction of the totals of votes, below anticipated figures, in the Republican and Democratic primaries, that part of his vote came from outside the regular group of Farmer-Laborite voters.

In Minneapolis occurred (May 26) another incident in the persistent violence among organizations of labor in the Twin Cities; William S. Brown, head of the local General Drivers' Union, was shot to death by a companion said to have been his bodyguard. The widow of Walter Lig-

gett, journalist, who had been murdered in 1935 while engaged in writing articles hostile to Governor Olson, published in a popular magazine an article dealing with the deaths of her husband and several other individuals of note who had been assassinated in the State; this article, because of a reference to Olson, was barred from sale in Indianapolis, in virtue of a State law prohibiting defamation of the deceased.

The Associated Farmers of Minnesota was formed and, during the summer, became established among the agricultural population in a number of counties. Shaped after the league of similar name in California, it had the purpose of enabling people living by the soil to protect themselves, by lawful united action, against economic encroachments of organized labor. Starting a movement of opposition between farmers' and labor unions' interests, it worked in direct reverse to the purported spirit of the dominant Farmer-Labor party as evidenced in the latter's name. W. F. Shilling, leader of the new league, told farmers, "We think that there is something wrong when men who handle agricultural products get more for handling them than the producers do."

Officers. Minnesota's chief officers, serving in 1938, were: Governor, Elmer A. Benson (Farmer-Labor); Lieutenant-Governor, G. T. Lindsten; Secretary of State, Mike Holm; Treasurer, C. A. Halverson; Auditor, Stafford King; Attorney-General, William S. Ervin; Commissioner of Education, John G. Rockwell.

Judiciary. Supreme Court: Chief Justice, Henry M. Gallagher; Associate Justices, Andrew Holt, Royal A. Stone, Clifford L. Hilton, Harry H. Peterson, Charles Loring, Julius J. Olson.

MINNESOTA, UNIVERSITY OF. A coeducational State Institution for higher learning in Minneapolis, founded in 1851. The 1938 autumn registration of collegiate grade students was 15,148, while the summer session enrollment for the same year was 8610. The faculty numbered 1120. The income for the year ending June 30, 1938, amounted to \$11,961,872. Gifts received during the year amounted to \$570,278. The total of endowment funds for all purposes was \$15,538,834 on June 30, 1938. Income from endowment funds for the year totaled \$373,525. The following buildings were under construction during 1937-38: Business Administration Unit of the Social Science Group, estimated cost \$300,000; Forestry Building, estimated cost \$250,000; Board of Health and Psychology Building, estimated cost \$225,000. The library contained 1,016,799 volumes. Chancellor, Guy Stanton Ford, LL.D.

MINORITIES. See AUSTRIA, BRAZIL, BURMA, CANADA, CZECHO-SLOVAKIA, DENMARK, FRANCE, GERMANY, HUNGARY, LITHUANIA, POLAND, RUMANIA, UNION OF SOVIET SOCIALIST REPUBLICS, YUGOSLAVIA under *History*; JEWS.

MIQUELON ISLANDS. See ST. PIERRE AND MIQUELON.

MISSISSIPPI. Area and Population. Area, 46,865 square miles; included (1930) water, 503 square miles. Population: Apr. 1, 1930 (census), 2,009,821; July 1, 1937 (Federal estimate), 2,023,000; 1920 (census), 1,790,618. Jackson, the capital, had (1930) 48,282 inhabitants.

Agriculture. Acreage, production, and value of the chief crops of Mississippi, for 1938 and 1937, appear in the accompanying table.

Mineral Production. Natural gas continued to be the sole major mineral product of Mississippi. Production of natural gas rose to 12,248,000 M

Crop	Year	Acreage	Prod. Bu.	Value
Cotton	1938	2,600,000	1,715,000 *	\$ 77,175,000
	1937	3,467,000	2,692,000 *	115,371,000
Corn	1938	3,034,000	48,544,000	30,097,000
	1937	2,593,000	45,378,000	29,042,000
Hay (tame) .	1938	877,000	1,086,000 *	11,186,000
	1937	776,000	983,000 *	11,010,000
Sweet potatoes	1938	87,000	7,743,000	5,807,000
	1937	82,000	7,544,000	6,563,000

* Bales. ♢ Tons.

cu. ft. (1937), from 11,821,000 M (value \$2,646,000) for 1936. Of the total for 1937, 5,691,000 M cu. ft. were exported by pipe lines to consumers in Alabama, Georgia, Florida, and Louisiana. Almost all the gas came from the Monroe field; the old Amory field, though one well still produced in 1937, was reported as virtually depleted. While 1937 witnessed no great exploration for natural gas in the State, considerable geological work was done toward determining the prospects of petroliferous deposits. Salt domes, elsewhere often associated with petroleum, were located, and geophysical prospecting was carried on.

Finance. Mississippi's State expenditures in the year ended June 30, 1937, as reported by the U.S. Bureau of the Census, were: For maintaining and operating governmental departments, \$16,550,244 (of which \$2,516,688 was for highway maintenance and \$5,134,898 was for local education); for interest on debt, \$2,316,636; for capital outlay, \$21,292,443 (of which \$21,249,125 was for highway outlay). Revenues were \$40,635,105. Of these, property taxes furnished \$3,716,556; sales taxes, \$14,046,193 (including tax on gasoline, \$5,637,935); departmental earnings, \$1,952,333; income taxes, \$1,457,636; sale of licenses, \$2,807,809; unemployment compensation, \$1,137,382; Federal or other grants-in-aid, \$14,630,875. Funded debt outstanding on June 30, 1937, totaled \$52,816,584. Net of sinking-fund assets, the debt was \$51,459,688. On an assessed valuation of \$442,508,137 the State levied in the year ad-valorem taxes of \$3,540,065.

Education. Inhabitants of school age (between 6 and 20 years) in the academic year 1937-38 were stated to number 843,239. On account of separate provisions for the white and the colored the total of each was also given: White, 379,238; colored, 464,001. Enrollments of pupils in the public schools totaled 590,208; the white, 301,486, and the colored, 288,722. Those in the elementary group numbered 522,309, 242,389 being white and 279,920 colored pupils. Those in high schools numbered 67,899, of which the white component was 59,097 and the colored, 8802. The year's expenditures for public-school education totaled \$12,399,063. There were 16,326 teachers—10,396 white and 5930 colored. The salaries of all teachers averaged, for the year, \$600.

The Legislature increased in 1938 the State's grant toward the support of Mississippi's public schools by \$1,000,000. This action was intended to insure that all schools should give instruction for at least eight months a year. Other enactments sought to improve the transportation of public-school pupils and instituted a system for the certification of teachers.

Legislation. The Legislature met in regular biennial session in January. Among its enactments was a highway-financing measure authorizing the issue of \$60,000,000 of bonds, the greatest issue that had ever been authorized in the State. Of the total, \$20,000,000 was designed to pay notes that had been put out in the course of the previous two years to cover the State's share of the cost of the

earlier part of a project to build, with the aid of the WPA, roads at total expenditure of \$82,000,000. A separate act allocated the remaining \$40,000,000 of proceeds of the bonds to road-building in the several parts of the State: To the northern and southern districts, \$14,930,625 each, and to the central section, \$9,953,730. About \$12,000,000 was appropriated for public schools. The chancery courts were empowered to "padlock," or permanently close, as public nuisances, establishments openly selling liquor or running gambling machines and to put the operators of such establishments under bond not to resume operation for two years.

Political and Other Events. The State's seven U.S. Representatives, all Democratic, were re-elected at the general elections on November 8.

The State's progress in the creation of parks drew attention in 1938. Whereas as late as 1933 Mississippi was one of the seven States without State parks, it had by 1938 created nine of these, having a total area of 8200 acres and including several lakes, bathing beaches, and like facilities for recreation. The improvement of the park areas was effected with the aid of the National Park Service and the CCC.

Officers. The chief officers of Mississippi, serving in 1938, were: Governor, Hugh L. White (Dem.); Lieutenant-Governor, J. B. Snider; Secretary of State, Walker Wood; Attorney-General, Greek L. Rice; Treasurer, Newton James; Auditor, Carl N. Craig; Superintendent of Education, J. S. Vandiver.

Judiciary. Supreme Court: Chief Justice, Sydney Smith; Associate Justices, W. D. Anderson, James G. McGowen, George H. Ethridge, Harvey McGehee, V. A. Griffith.

MISSISSIPPI, UNIVERSITY OF. A coeducational, State institution of higher learning at University, Miss., chartered in 1844. The enrollment for the autumn of 1938 was 1314 (963 men, 351 women). The enrollment for the summer session of 1938 was 474. There were 112 faculty members at opening of the 1938 session. The endowment amounted to \$733,808, while the income for the year, exclusive of subsistence, was \$474,122. The library contained 65,319 volumes. Chancellor, Alfred Benjamin Butts, M.A., Ph.D., LL.B.

MISSOURI. Area and Population. Area, 69,420 square miles; included (1930) water, 693 square miles. Population: Apr. 1, 1930 (census), 3,629,367; July 1, 1937 (Federal estimate), 3,989,000; 1920 (census), 3,404,055. St. Louis (1930) had 821,960 inhabitants; Kansas City, 399,746; Jefferson City, the capital, 21,596.

Agriculture. Acreage, production, and value of the principal crops of Missouri, for 1938 and 1937, appear in the accompanying table.

Crop	Year	Acreage	Prod. Bu.	Value
Corn	1938	4,260,000	106,500,000	\$50,055,000
	1937	4,360,000	117,720,000	60,037,000
Wheat	1938	2,432,000	31,600,000	18,012,000
	1937	3,198,000	42,515,000	40,389,000
Hay (tame) ..	1938	2,214,000	2,251,000 ^a	14,406,000
	1937	2,176,000	2,226,000 ^a	18,031,000
Cotton	1938	368,000	337,000 ^b	14,828,000
	1937	558,000	404,000 ^b	15,887,000
Oats	1938	1,900,000	45,600,000	10,032,000
	1937	1,550,000	43,400,000	13,888,000
Potatoes ...	1938	54,000	5,832,000	2,916,000
	1937	55,000	4,950,000	3,118,000

^a Tons. ^b Bales.

Mineral Production. Among the components of Missouri's total value (\$48,383,540) of native minerals produced in 1936, the leading item, clay products, slightly surpassed lead, previously the

leader. Coal and cement ranked next after these in importance. Thereafter the quantity of lead in ores produced yearly advanced greatly to 157,631 short tons for 1937, from 110,428 for 1936; by value, to \$18,600,458, from \$10,159,376. The bulk of the lead came from the southeastern part of the State. The production of coal was not stated separately for the State in the U.S. *Minerals Year Book*, for 1937; for 1936 it totaled 3,984,999 net tons, in value \$7,559,000; producers' shipments of cement diminished slightly to 4,565,448 bbl. for 1937, from 4,632,191 for 1936; by value they rose to \$7,041,016, from \$7,034,240. Ores almost all in the southwestern part of the State yielded zinc, of which the quantity rose to 20,600 short tons for 1937, from 18,709 for 1936, and the value to \$2,678,000, from \$1,870,900.

Finance. Missouri's State expenditures in the year ended Dec. 31, 1937, as reported by the U.S. Bureau of the Census, were: For maintaining and operating governmental departments, \$54,293,519 (of which \$6,543,402 was for highways, \$16,008,837 was for charities, and \$12,241,811 was for local education); for interest on debt, \$4,855,872; for capital outlay, \$22,455,877. Revenues were \$86,967,042. Of these, property taxes furnished \$6,065,436; income taxes, \$7,393,361; sales taxes, \$32,785,440 (including tax on gasoline, \$11,089,091); departmental earnings, \$5,868,137; sale of licenses, \$14,388,975; Federal or other grants-in-aid, \$16,966,280. Funded debt outstanding on Dec. 31, 1937, totaled \$121,294,839. Net of sinking-fund assets, the debt was \$119,214,908. On an assessed valuation of \$3,797,473,075 the State levied in the year ad valorem taxes of \$5,730,299.

Charities and Corrections. The State Social Security Commission administered aid to the aged poor (70 years old or over) and to other needy classes embraced by the Federal-and-State system of social security. It also had the administration of the poor-aid that might be given by the State "in cases of public calamity" and carried on the services of the former Children's Bureau. The Eleemosynary Board governed the four State hospitals for mental patients, the State School for the Feeble-Minded and Epileptic, and the State Tuberculosis Sanitarium.

The Department of Penal Institutions, headed by three Commissioners, including a Director (J. E. Matthews), governed the institutions for imprisonment, reform, and correction. These, as reported in December, held 5468 inmates. The State Penitentiary, at Jefferson City, held 4091 of these, including 85 female prisoners; the Intermediate Reformatory for Young Men at Algoa, 666; the Missouri Training School for Boys, Boonville, 406; the Industrial Home for Girls, Chillicothe, 229; the Industrial Home for Negro Girls, Tipton, 76. The State created in 1938 a Board of Probation and Parole with jurisdiction in all cases of committal to any of these institutions. To alleviate overcrowding and other faults at the Penitentiary, additional cell-houses and hospital buildings were constructed there in 1938 with the aid of the Federal WPA and PWA.

The new Board of Probation and Parole, as prescribed by an act of 1937, took over from other authorities the duties of investigating the cases of prisoners for parole, commutation, pardon, and reprieve, with a view to recommending any such action to the Governor, and also started investigating defendants before sentence, with a view to advising courts as to probation and suspension of sentence. Authority to put the convicted under pro-

bation was granted, by the same act, to the Circuit and Criminal courts. The new Board of Probation and Parole consisted of three salaried members, two being four-year appointees and the third, the Lieutenant-Governor, ex officio. It maintained an executive Director (Robert C. Edson).

The Department of Penal Institutions continued, except as to matters in the hands of the new Board, to administer the State Penitentiary, Intermediate Reformatory, Missouri Training School for Boys, Industrial Home for Girls, and Industrial Home for Negro Girls. Patients in the State's four mental hospitals numbered, about the end of the year, 9266; the State School (for the feeble-minded and epileptic) had 1441; the State Sanatorium (for the tuberculous), 798; all these were under the authority of the State Board of Eleemosynary Institutions.

Political and Other Events. Ruling on the long-sustained legal contest over the control of distribution of about \$2,750,000 surrendered by fire-insurance companies as having been collected in excess of premiums on policies, the State Supreme Court (April 21) transferred the money to the Superintendent of Insurance for distribution among claimants. The same court held (May 16) that a legislative act of 1937, nullifying sale if in excess of half of the assets of a corporation that owed taxes, was unconstitutional. Governor Stark dismissed in May the supervisor of the State's department of inspection of traffic in liquor and removed, also, nearly half of the inspectors.

In Kansas City the sentencing of 52 more convicted defendants (May 29) to imprisonment or fines went far to clear the docket of pending cases in the wholesale and long-continued Federal prosecution of election officials for frauds in the general election of 1936. A system for running motor busses by overhead trolley was installed in the streets of the city's downtown district. The Sheffield Steel Co., the city's greatest single manufacturing enterprise, put into operation additional equipment designed to expand its potential output by one half. Bryce B. Smith, the Pendergast Democratic organization's candidate, was elected Mayor (March 29). At Osceola the public burning of \$250,000 of old bonds of St. Clair County marked the end of litigation that had brought over \$500,000 in judgments against the county since the issue of the bonds in 1870. These had originally been issued to aid the construction of a railroad in the county, which was never actually put through. The county judges had for many years failed to obey Federal Court orders to levy taxes to satisfy bondholders' claims and had served in jail under resulting sentences for contempt of court. See **CHILD LABOR**.

Elections. Bennett Champ Clark (Dem.) was re-elected U.S. Senator, defeating Ex-Governor S. Caulfield (Rep.); the Federal Administration had avoided any attempt to defeat Clark, such as it had made in the case of several other Democratic Senators who had failed to support all of its major proposals.

There were elected to the U.S. House of Representatives 12 Democrats and 1 Republican. Democratic control was maintained in the State Legislature. The majority of the State's elective offices were not due for election. The voters adopted a proposal to lower the age qualifying persons for old-age assistance to 65 years, from 70; they rejected a 10-year program of highway building and a proposed State constitutional convention.

Officers. The chief officers of Missouri, serving in 1938, were: Governor, Lloyd C. Stark (Dem.);

Lieutenant-Governor, Frank G. Harris; Secretary of State, Dwight H. Brown; Auditor, Forrest Smith; Treasurer, R. W. Winn; Attorney-General, Roy McKittrick; Superintendent of Public Schools, Lloyd W. King.

Judiciary. Supreme Court: Chief Justice, Charles Thomas Hays; Judges, James M. Douglas, Albert M. Clark, Ernest S. Gantt, C. A. Leedy, Jr., George Robb Ellison, Ernest M. Tipton.

MISSOURI, UNIVERSITY OF. A State institution of higher education in Columbia and Rolla, Mo., founded in 1839. The enrollment for all divisions for the first semester of 1938-39 was 5212, of whom 3883 were men and 1329 were women. The total enrollment for the 1938 summer session was 3361. There were 438 faculty members. The endowment amounted to \$2,438,809, while the total income from all sources was \$4,232,218. The libraries contain approximately 415,650 volumes. In 1938 new buildings were completed at a cost of \$1,450,000. President, Frederick A. Middlebush, Ph.D., LL.D.

MOLDAVIAN AUTONOMOUS SOVIET SOCIALIST REPUBLIC. See **UKRAINIAN SOVIET SOCIALIST REPUBLIC**.

MOLECULAR FILMS. See **CHEMISTRY**.

MOLLUSKS. See **ZOOLOGY**.

MOLUCCA ARCHIPELAGO. See **NETHERLANDS INDIES**.

MONACO, mōn'a-kō. A principality on the Mediterranean surrounded on its land sides by the French department of Alpes-Maritimes. Area, 370 acres; population (Jan. 1, 1938, census), 23,956. Chief towns: Monaco (capital), 1938 inhabitants; La Condamine, 11,339; Monte Carlo, 10,681. About 1,500,000 people visit Monaco each year. The gambling concession at Monte Carlo is the principal source of revenue. There was a profit of \$100,000 in 1937, while in 1936 there was a deficit of \$180,000. The budget estimates for 1933 balanced at 9,348,453 francs (franc averaged \$0.0503 for 1933). On Oct. 4, 1936, the National Bank of Monaco was formed. It has the exclusive right to issue national currency. The National Council, consisting of 12 members elected every four years, exercises with the Prince legislative power in the State. Ruler, Prince Louis II (succeeded, June 26, 1922).

MONEY. The table on page 473 from the 1938 annual report of the Secretary of the U.S. Treasury shows the distribution of the stock of money in the United States on June 30, 1938, with comparisons for May 31, 1938, June 30, 1937, Oct. 31, 1930, Mar. 31, 1917, June 30, 1914, and Jan. 1, 1879.

MONGOLIA. An extensive, vaguely defined region of east-central Asia, lying for the most part between the 40th and 50th parallels, N. lat., and the 90th and 120th meridians, E. long. On its southern border are China proper, Kansu, and Sinkiang; on the west and north, Russian Siberia, and on the east, Manchuria. An irregular line running through the Gobi Desert separates Outer Mongolia, on the north, from Inner Mongolia, on the south. Outer Mongolia, to some degree under Chinese authority in former times, now ranks as an autonomous republic, allied with the Russian Soviet Union, which by treaty in 1924 recognized the suzerainty of China over the area. Inner Mongolia comprises the Chinese provinces of Chahar, Suiyuan, and Ningxia, with Jehol and (in part) Hsining in Manchoukuo; a great section of this area, invaded from the east, was in 1938 held by Japanese forces.

According to estimates from Chinese sources the area of Mongolia approximates 1,024,000 square miles, inclusive of Jehol but not of any part of the

STOCK OF MONEY, MONEY IN THE TREASURY, IN THE FEDERAL RESERVE BANKS, AND IN CIRCULATION, BY KINDS, JUNE 30, 1938
[From Annual Report of the Secretary of the Treasury, 1938]

From annual report of the Secretary of the Treasury									
Money held in the Treasury			Money outside of the Treasury				Population of continental United States (estimated)		
Kind of money	Stock of money	Total	Amount held as security against gold and silver certificates (and Treasury notes of 1890)	Reserve against United States notes (and Treasury notes of 1890)	Held for Federal Reserve banks and agents	All other money	Total	In circulation	
								Amount	Per capita
Gold	\$12,962,953,931	\$12,962,953,931	\$10,723,816,779	\$156,039,431		\$2,083,097,721	\$2,893,978,399	\$78,499,899	\$0.60
Gold certificates	(10,723,816,779)	(7,829,838,380)			(\$7,829,838,380)			\$2,815,478,500	
Standard silver									
Dollars	547,079,218	503,647,170	472,087,492			31,559,678	43,432,048	3,985,979	.30
Silver bullion	1,037,163,305	1,037,163,305	1,037,163,305						
Silver certificates	(1,508,081,375)						1,508,081,375	277,925,144	9.46
Treasury notes of 1890									
Subsidiary silver	(1,169,422)							1,169,422	.01
Minor coin	373,461,485	8,721,845				8,721,845	364,739,640	22,797,778	2.63
U.S. notes	157,183,351	4,757,654				4,757,654	152,425,697	145,625,271	1.12
Federal Reserve notes	346,681,016	2,857,612				2,857,612	343,823,404	81,668,418	2.02
Federal Reserve bank notes	4,420,815,000	13,792,387				13,792,387	4,407,022,613	292,684,155	31.63
National bank notes	30,839,531	379,340				379,340	30,460,191	342,030	.23
notes	220,687,930	1,353,334				1,353,334	219,334,596	1,893,620	1.67
Total, June 30, 1938	\$20,096,864,767	\$14,535,626,578	\$12,233,067,576	\$156,039,431	(\$7,829,838,380)	\$2,146,519,571	\$9,964,467,385	\$3,503,576,070	\$49.62
Comparative totals:									
May 31, 1938	\$20,048,476,899	\$14,475,768,809	\$12,212,761,237	\$156,039,431	\$7,832,381,680	\$2,106,968,141	\$9,953,087,647	\$3,485,859,756	\$49.69
June 30, 1937	19,376,690,005	13,685,480,147	10,240,964,078	156,039,431	6,030,912,899	3,288,476,638	9,901,261,037	3,454,204,590	49.88
Oct. 31, 1920	8,479,620,824	2,436,864,530	718,674,378	152,979,026	1,212,360,791	352,850,356	6,761,430,672	1,063,216,060	53.21
Mar. 31, 1917	5,396,596,677	2,952,020,313	2,681,691,072	152,979,026		117,350,236	5,126,267,436	953,321,522	40.23
June 30, 1914	3,797,825,099	1,845,569,804	1,507,178,879	150,000,000		188,390,925	3,459,434,174	3,459,434,174	34.93
Jan. 1, 1879	1,007,084,483	212,420,402	21,602,640	100,000,000		90,817,762	816,266,721		16.92
									48,231,000

* Includes money held by the Cuban agency of the Federal Reserve Bank of Atlanta.

† The money in circulation includes any paper currency held outside the continental limits of the United States.

‡ Does not include gold other than that held by the Treasury.

§ Includes \$1,800,000,000 exchange stabilization fund.

¶ These amounts are not included in the total, since the gold or silver held as security against gold and silver certificates and Treasury notes of 1890 is included under gold, standard silver dollars, and silver bullion, respectively.

‡ This total includes credits with the Treasurer of the United States, payable in gold certificates in (1) the gold certificate fund, Board of Governors, Federal Reserve System, in the amount of \$7,820,450,860, and (2) the redemption fund for Federal Reserve notes in the amount of \$9,387,520.

§ Includes \$59,300,000 lawful money deposited as a reserve for postal savings deposits.

¶ The amount of gold and silver certificates and Treasury notes of 1890 should be deducted from this amount before combining with total money held in the Treasury to arrive at the total amount of money in the United States.

NOTE.—A part of the gold and silver included in the stock of money is held as a reserve against other kinds of money, as follows: (1) As a reserve for United States notes and Treasury notes of 1890—gold bullion varying in amount from \$150,000,000 to \$156,039,431 during the years included in the table; (2) as security for Treasury notes of 1890—an equal dollar amount in standard silver dollars (these notes are being canceled and retired on receipt); (3) as security for outstanding silver certificates—silver in bullion and standard silver dollars of a monetary value equal to the face amount of such silver certificates; and (4) as security for gold certificates—gold bullion of a value at the legal standard equal to the face amount of such gold certificates. Federal Reserve notes are obligations of the United States and a first lien on all the assets of the issuing Federal Reserve bank. Federal Reserve notes are secured by the deposit with Federal Reserve agents of a like amount of gold certificates or of gold certificates and such discounted or purchased paper as is eligible under the terms of the Federal Reserve Act, or, until June 30, 1939, of direct obligations of the United States if so authorized by a majority vote of the Board of Governors of the Federal Reserve System. Federal Reserve bank notes maintain a reserve in gold certificates of at least 40 per cent, including the redemption fund which must be deposited with the Treasury of the United States, against Federal Reserve notes in actual circulation. "Gold certificates" as herein used includes credits with the Treasurer of the United States payable in gold certificates. Federal Reserve bank notes and national bank notes are in process of retirement.

province of Hsingan in Manchoukuo; the population, 9,738,000. Other estimates vary widely, one putting the area as high as 1,875,000 square miles and the population as low as 850,000. The Mongols and Kalmuks, races that have long inhabited Mongolia, are pastoral and to some extent nomadic. The more recent settlement of Chinese has brought a population of farmers and added materially to the number of the inhabitants, particularly in Inner Mongolia. In Outer Mongolia, Mongols under Russian direction have made progress with agriculture, which, however, commonly needs irrigation to make it thrive.

Outer Mongolia. By a Chinese estimate the area of Outer Mongolia is 622,744 square miles; the population, 1,800,000. By Russian estimate, the area is 596,177 square miles; the population, 767,000. The capital, Urga, more recently named Ulan Bator Khoto, is reputed to have about 100,000 inhabitants. Trade, which is carried on largely with the Russian Soviet Union, is a governmental monopoly. Wool, hides, skins, and gold make up the chief part of the exports. In 1936 Mongolia ranked eighth in importance among the Soviet Union's export markets, taking Russian products to the value of 50,433,000 rubles, while exports from Outer Mongolia into the Soviet Union attained the total value of 32,120,000 rubles. Gold and coal are mined; an area between the Selenga and Orkhon rivers bears forests of potential value for marketable timber. An industrial establishment aided by the Russian Soviet Union is in operation at the capital, and a plant for cleaning wool by steam is established at Chat Chil. The social system and scheme of government bear much resemblance to the soviet pattern; privileges formerly enjoyed have been taken away from the Mongol princes and from the numerous class of Buddhist priests and monks; collective ownership embraces lands, forests, and mineral resources. Supreme authority rests in the Great Huruldan, a representative assembly elected by the males and females 18 years old or over; it meets at least once a year and names 30 of its members to form the Little Huruldan, to which executive powers are intrusted. This body in turn commits the care of ordinary current matters to a board of five, whose head may be called the chief executive of the republic. The smaller separate adjoining republic of Tannu Tuva (q.v.) is similar in government and population.

The Japanese forces established in the neighboring territory of Inner Mongolia did not attempt in 1938 to extend their advance into the territory of the Outer Mongolian Republic. Troops of the republic, however, were reported in January to have taken post in a fortified area just northwest of the border of Suiyuan, in which province the Japanese had established themselves.

Inner Mongolia. By the Chinese estimate already cited for Mongolia as a whole, Inner Mongolia's area totals about 401,266 square miles; its population, 7,938,000. The figures exclude parts of Hsingan province in Manchoukuo. The area in the military possession of the Japanese in 1938 included Chahar and part of Suiyuan (see map on p. 152). It did not appear that the Japanese had found a firm foothold farther west than Paotowchen on the Hwang Ho, at the western end of a railroad from Peiping. Under Japanese supervision a new state was to some extent organized, under the name of Meng Chiang, having its capital at Kweiwhaching, and in September it was announced that the Inner Mongolian government would be included in a Chinese United Council to be held at Peiping

by representatives of divers parts of China then in Japanese hands. A Japanese step of practical importance to the invaders was the effort made in 1938 to operate in the occupied part of Inner Mongolia a banking system that would afford the Japanese a currency with which to pay for the goods and services that they might require. An old bank of Charnan, reorganized to form a state bank, offered old notes of the three eastern provinces, stamped by it and the Bank of Manchoukuo, proceeded to take over other currencies, and sought to establish a degree of control over exchange. Military movements of the Japanese in Mongolia during the year were entirely subordinate to those in other, more crucial fields (see CHINA under History).

MONOPOLY INQUIRY ACT. See UNITED STATES under Congress.

MONTANA. Area and Population. Area, 146,997 square miles; included (1930) water, 866 square miles. Population: Apr. 1, 1930 (census), 537,606; July 1, 1937 (Federal estimate), 539,000; 1920 (census), 548,889. Helena, the capital, had (1930) 11,803 inhabitants.

Agriculture. Acreage, production, and value of the principal crops of Montana, for 1938 and 1937, appear in the accompanying table.

Crop	Year	Acreage	Prod. Bu.	Value
Wheat	1938	4,458,000	72,349,000	\$34,728,000
	1937	2,624,000	21,918,000	21,480,000
Hay (tame) .	1938	1,255,000	1,940,000 *	10,670,000
	1937	1,159,000	1,416,000 *	12,319,000
Sugar beets ..	1938	78,000	1,955,000 *	.....
	1937	70,000	1,852,000 *	4,490,000
Oats	1938	248,000	8,928,000	2,143,000
	1937	170,000	4,080,000	1,469,000
Barley	1938	132,000	3,828,000	1,225,000
	1937	91,000	2,093,000	1,088,000
Potatoes	1938	18,000	1,620,000	1,215,000
	1937	19,000	1,900,000	950,000
Corn	1938	156,000	2,340,000	1,217,000
	1937	139,000	1,251,000	813,000

* Tons.

Mineral Production. Of the total value (\$65,586,710) of all minerals produced in Montana in 1936, the metals gold, silver, copper, lead, and zinc furnished over three-fifths. Copper led all other products. Petroleum, natural gas, and coal led as to production among the non-metals. The output of petroleum dropped slightly to 5,765,000 bbl. for 1937, from 5,868,000 bbl. (value, \$7,700,000) for 1936. The production of natural gas rose to 23,879 M cu. ft. for 1937, from 23,003 M (value, \$6,217,000) for 1936; the increment was in the main taken by growing demand. Wells completed in 1937, adding heavily to the potential production of natural gas, were all driven in proved territory, as the sufficiency of the existing supply did not stimulate exploration. Coal, despite the competition of the other fuels, held its own, the yearly mined total rising somewhat, to 3,075,000 net tons (1937) from 2,988,524 tons (value, \$4,437,000) for 1936.

Montana's yearly production of gold, silver, copper, lead, and zinc, according to the U.S. Bureau of Mines' preliminary figures for 1938, dropped severely, to the aggregate value of \$27,625,000, from \$58,402,106 for 1937—a shrinkage of 53 per cent. Most of the decline occurred in the production of the predominant metal, copper, of which the yearly total dropped to 153,886,000 lb. (1938), from 289,056,000 (1937) and, in value, to \$15,080,828, from \$34,975,766. Though less important as to totals, the production of lead and that of zinc were even more sharply depressed. That of lead went down to some 17,228,000 lb. (1938), from 35,914,000

(1937), and to \$809,716, from \$2,118,926. That of zinc, to 15,410,000 lb. (1938), from 78,336,000 (1937), and to \$755,090, from \$5,091,840. Production of silver and of gold, though their prices did not directly depend on supply and demand, declined also. That of silver fell to about 6,306,792 oz. for 1938, from 11,812,093; by value, to \$4,077,118, from \$9,136,564. That of gold, to 197,200 oz. (1938), from 202,252 (1937), and to \$6,902,000, from \$7,078,820. The decrease in the production of gold and silver was largely attributable to reduced operations in the Butte district, where ores of copper and zinc yielded gold and silver as well. Curtailment of operations at Butte, the copper-mining center, varied greatly during the year; operations fell, in the summer, as low as one-eighth of the full possible rate and came back to a normal rate before the close of the year.

Charities and Corrections. Besides providing support, in concert with the Federal system of Social Security, for the aged poor and for needy children and blind persons, the State operated nine institutions for the care or custody of individuals. These were governed by the State's Board of Public Welfare, composed of five members and acting through an Administrator-Secretary (I. M. Brandjord). The administrative organization connected with the Board was the State's Department of Public Welfare. The State institutions under the Board's authority were: The State Industrial School, at Miles City; State Prison, Deer Lodge; State Training School, Boulder; State Vocational School, Helena; School for the Deaf and Blind, Great Falls; State Orphans' Home, Twin Bridges; State Hospital, Warm Springs; Montana Soldiers' Home, Columbia Falls; and Tuberculosis Sanitarium, Salem. Inmates of these institutions, by the latest count in 1938, numbered 3877. Outside the State institutions, poor farms had 518 inmates and county jails 642.

Political and Other Events. In the general election (November 8) the Republicans gained one of the State's two seats in the House of Representatives from the Democrats. The State was affected by Federal legislation authorizing the construction of a hydroelectric generating station at the Fort Peck dam; the maintenance and operation of this station, as well as its construction, were assigned to the Secretary of War, and the Federal Power Commission was authorized to set and change the charges for the sale of electricity thus produced; a considerable portion of the current was reserved for sale to public bodies and co-operatives prior to Jan. 1, 1941. The farmers in the State were not troubled during the year by any recurrence of the general drought that had blasted crops for several seasons previous; but a plague of grasshoppers did serious damage to growing grains in parts of eastern Montana in July.

Officers. The chief officers of Montana, serving in 1938, were: Governor, Roy E. Ayers (Dem.); Attorney-General, Harrison J. Freebourn; Secretary of State, Sam W. Mitchell; Treasurer, Ray N. Shannon; Auditor, John J. Holmes; Superintendent of Public Instruction, Ruth Reardon.

Judiciary. Supreme Court: Chief Justice, W. B. Sands and (successor, December 7) Howard A. Johnson; Associate Justices, Samuel V. Stewart, Ralph J. Anderson, C. F. Morris, Albert H. Angstman.

MONTANA STATE UNIVERSITY. A State institution for the higher education of men and women at Missoula, Mont., established in 1895. The enrollment for the autumn of 1938 was

2021; in the summer session of 1938, it was 866. The staff of the University totaled 136 including a faculty of 91. The income for current expenditures for the year amounted to \$468,582. There were about 230,000 volumes in the library. A dormitory for women costing \$240,000 was completed in 1938; and a Chemistry-Pharmacy Building, at a cost of \$300,000, and an addition to the Natural Science Building, at a cost of \$45,300, were under construction. President, George Finlay Simmons.

MONTE CARLO. See MONACO.

MONTSERRAT. See LEEWARD ISLANDS, BRITISH.

MOONEY, TOM. See CALIFORNIA; LAW.

MORAVIA AND SILESIA. See CZECHOSLOVAKIA.

MORAVIANS. A religious denomination, formed in Bohemia in 1457 among the followers of John Huss and Jerome of Praha. In 1741 Moravians, settling at Bethlehem, Pa., founded the first Moravian church in the United States, called also the Unitas Fratrum or United Brethren. There were later established the Evangelical Union of Bohemian and Moravian Brethren in North America and the Independent Bohemian and Moravian Brethren Churches. The doctrine of the denomination is evangelical, and in its policy it follows a modification of the episcopacy.

Unitas Fratrum. There are two co-ordinate provinces of this, the largest branch of the Moravian Church in the United States. The Northern Province, with headquarters in Bethlehem, Pa., has a provincial synod which meets every fifth year. The provincial synod of the Southern Province, whose headquarters are in Winston-Salem, N. C., meets every third year. On Jan. 1, 1938, the provincial elders' conferences of these provinces reported 152 churches, 158 ministers, 38,253 communicant members, and 149 Sunday schools with 23,657 pupils. The Society of the United Brethren for Propagating the Gospel among the Heathen carried on its work in Alaska, Nicaragua, Honduras, the West Indies, Labrador, Surinam, the Himalayas, Unyamwesi, Central Africa, and South Africa, reporting in 1937 a missionary membership of 148,034. The denomination also maintained the following educational institutions: Linden Hall at Lititz, Pa.; Moravian College and Theological Seminary and Moravian Seminary and College for Women at Bethlehem, Pa.; and Salem Academy and College for Women at Winston-Salem, N. C. The official periodical is *The Moravian*, a weekly. The Rev. S. H. Gapp was president of the provincial elders' conference of the Northern Province in 1938. The provincial elders' conference of the Southern Province was headed by the Rt. Rev. J. Kenneth Pfohl.

MORDVA AUTONOMOUS SOVIET SOCIALIST REPUBLIC. See RUSSIAN SOVIET FEDERATED SOCIALIST REPUBLIC.

MOROCCO. A region of northwestern Africa, divided politically into (1) the French Zone (area, 162,162 sq. miles; population, 6,296,000 at the 1936 census), comprising about 85 per cent of the total area and population; (2) the Spanish Zone (area, 13,125 sq. miles; population, estimated at 795,202 including 44,379 Europeans and 12,918 Jews in 1934); and (3) Tangier (q.v.). The 1936 census returns of the French Zone showed 5,875,000 Moslems, 206,500 Europeans and other foreigners, and 161,300 Jews. Populations of the chief cities of the French Zone in 1936 were: Casablanca, 259,000; Marrakech, 191,000; Fez, 144,000; Rabat (capi-

tal), 84,000; Meknes, 75,000; Oudjda, 35,000. Estimated populations of the principal towns in the Spanish Zone in 1934 were: Melilla, 64,328; Tetuan (capital), 49,535; Ceuta, 38,945; Alcazar, 30,762; Larache, 29,477. French and Spanish are used as the official and business languages in the French and Spanish Zones, respectively, but the natives speak mainly Moorish-Arabic and the various Berber dialects. Unless otherwise specified, the following statistics refer to the French Zone only.

Education. About 90 per cent of the population are illiterate. The school enrollment in 1937 was: Primary, about 30,000 Europeans, 15,000 Jews, and 17,000 Moslems; higher schools, 8000, mostly Europeans.

Production. The chief occupations are agriculture and stock raising. The acreage of sown land in 1937 was 10,079,165 exclusive of 59,220 acres of vineyards. The 1937 crop yields were: Wheat, 20,895,000 bu.; barley, 37,942,000 bu.; oats, 2,718,000 bu.; linseed, 398,000 bu.; wine, 15,385,000 gal.; and olive oil, 2,248,000 gal. Livestock in 1937 included 10,372,818 sheep, 6,275,801 goats, 2,025,813 cattle, 726,967 asses, 210,310 horses, 158,650 camels, 140,939 mules, and 56,673 swine. The estimated 1936 wool clip was 33,353,000 lb. Output of the chief minerals in 1937 was (in metric tons): Phosphate rock, 1,378,507; coal, 108,150; manganese ore, 75,671; salt, 11,208; lead ore, 28,002; and antimony, 22. Casablanca and Fedhala are important fishing centers.

The Spanish Zone raises much the same crops as the French Zone but in limited quantities. Tunny fishing and stock raising are important occupations and considerable iron ore (579,000 metric tons, metal content, in 1936) is exported from the Melilla district. Some antimony is mined. There are flour mills at Melilla and Larache.

Foreign Trade. Imports of merchandise in 1938 were valued at 2,126,400,000 francs (1,765,600,000 in 1937) and merchandise exports were 1,502,400,000 francs (1,143,900,000 in 1937). Refined sugar, cotton fabrics, gasoline and benzine, tea, wheat, and automobiles were the leading 1937 imports, in the order cited, and phosphate rock, wool, wheat, sardines, and eggs were the principal exports. France in 1937 supplied 31.6 per cent of the imports and purchased 46.9 per cent of the exports. Imports of the Spanish Zone were valued at about \$4,800,000 (old U.S. gold dollars) in 1937 and exports at \$2,400,000.

Finance. Budget estimates for 1937 placed revenues at 902,374,500 francs and expenditures at 902,362,310 francs.

Transportation. There were 1122 miles of normal-gauge railway lines in operation in 1937; 4425 miles of roads; 38,280 automobiles; and air services linking Casablanca with Toulouse, France, and Dakar, Senegal. During 1937, 3035 ships of 5,500-129 tons entered the French Zone ports. In the Spanish Zone there are about 72 miles of railway line and 540 miles of good roads.

Government. The Sultan of Morocco, who resides in the French Zone, usually at Rabat, exercises nominal executive authority in both the French and Spanish Zones. But in the French Zone his acts are subject to the approval of the French Resident-General. In the Spanish Zone the Sultan delegates his authority to a Khalifa, named by him from a list of two candidates submitted by the Spanish Government. Actual authority is exercised by the Spanish High Commissioner residing at Tetuan. Sultan in 1938, Sidi Mohammed, proclaimed Nov. 18, 1927. Resident-General and com-

mander-in-chief of the French Zone, Gen. Albert Nogués, appointed Sept. 16, 1936. Spanish High Commissioner, representing Gen. Francisco Franco's government, Col. Juan Beigbeder y Atenza (appointed Apr. 17, 1937). Khalifa of Spanish Morocco, Sidi Muley Hassan Ben el Mehedi.

History. In both French and Spanish Morocco the year 1938 passed with less political disturbance than had occurred in 1937. In Tetuan the partisans of Franco, who controlled the government of the Spanish zone, were inhospitable to the Moroccan Nationalist group, while many of the latter courted the Spanish Republican government. As Franco's party in Spain had reason to oppose Nationalist agitation in the Spanish part of Morocco, there was no opportunity for using the Spanish zone as a focus from which to spread nationalism into French Morocco. In Paris on February 2, Albert Sarraut, the cabinet member in charge of North African affairs, reported to a committee of the French Senate that the government was watching the proceedings of Nationalist and pan-Islamic leaders in Morocco as well as in Tunis and Algeria, and that the French chief authorities in each of the three divisions of French North Africa had received greater freedom to deal with special situations and had been supplied with additional armed forces.

In a riot reported from Casablanca (July 26) 15 Moroccans and two policemen were injured; the disturbance was said to have started in an attack made by some natives upon Algerian cavalymen accused of mistreating a Moroccan, and there appeared no indication that the riot had any political character. At the time of the diplomatic deadlock over the German demands upon Czecho-Slovakia, Sultan Sidi Mohammed announced that he and his subjects would side with France if that country became involved in a European war. In November the unveiling, at Casablanca, of a commemorative statue of Marshal Louis Hubert Lyautey, the man who had established the French power in Morocco, gave occasion for a display of the soundness of the existing relations between the Moroccans and the French government. Sultan Sidi Mohammed attended the ceremony and delivered over a radio network an address said to be his first public utterance; in this address he declared the friendship of France and Morocco "henceforth indispensable to the happiness and greatness of our two countries."

MORTALITY RATE. See CHILD WELFARE.

MORTGAGES. See FINANCIAL REVIEW.

MOTION PICTURES. Despite increased expenditures on many productions and a high-pressure advertising campaign at the end of the year, 1938 found the motion picture in a far from vigorous state. Due in part to the general recession, but also in part to a growing sales resistance on the part of the film public, production came to a virtual standstill at Easter and did not pick up again until mid-summer. Faced with a drop in attendance estimated as high as 40 per cent and the drying up of foreign markets, the industry became confused. It resorted either to costly, spectacular shows to tempt patrons back into theaters, or to cheap copies of former successes to cut down production costs. The result was a period which was certainly not notable for screen artistry.

It is highly indicative that the most popular and most entertaining photoplay of 1938 was Walt Disney's full-length animated cartoon, *Snow White and the Seven Dwarfs*, which was made quite outside the conventional field of Hollywood producing. Representing a vast improvement in the technique of pictorial animation, this adaptation of the

Grimm fairy tale was worthy of all the extravagant praise it received. A screen masterpiece in any terms of the cinema, as well as its own peculiar idiom, it won new adherents to the screen, made enormous profits for its creator, and paved the way for future achievements in one of the medium's oldest and most enchanting forms.

Of the conventional films, by far the best was *The Citadel*, made in England by Metro-Goldwyn-Mayer. At a time when producers were extremely chary about handling controversial material, it struck out with a challenging analysis of medical practice and the relation of the doctor to the community. Although it was staged by a crack American director, King Vidor, and had Rosalind Russell in a leading role, it derived a great deal of its provocative quality from the fact that it was made abroad, with authentic English backgrounds and an integrity of treatment that was rarely to be found in Hollywood productions. It was inspired by A. J. Cronin's best-selling novel, but it bettered its original in nearly every respect. In a manner somewhat similar to *The Life of Emil Zola* of the year before, it built its climax on a speech, with a physician fighting for his professional career in disbarment proceedings. Played with great skill by Robert Donat, the scene showed anew that ideas are not alien to the screen.

Translations of stage plays bulked large in the offerings of the year. *You Can't Take It With You*, converted by Frank Capra from a rousing Broadway success, was an exceedingly entertaining photoplay, even though it did not rank with the best of that eminent director's achievements. Dealing with an unconventional patriarch and his unconventional family, it gave domestic comedy intriguing accents of social commentary. *A Slight Case of Murder*, made over from Damon Runyon's amusing drama about gangsters, corpses, and the Saratoga racing scene, was one of the most hilarious comedies of the year. *Jezabel*, *If I Were King*, *Holiday*, *The Amazing Dr. Clitterhouse*, and *Tovarich* were other successful and popular films which stemmed from the theater.

Marie Antoinette, with its production cost of over two millions, was the most lavish spectacle presented. Although it had fine performances by Robert Morley, Norma Shearer, and John Barrymore, it was more spectacular than dramatically significant. Like so many of the screen's historical reconstructions, the story was frequently out of focus with the background of events. The same was true of *In Old Chicago*, *The Adventures of Robin Hood*, *Wells Fargo*, and *The Buccaneer*. Of these *The Adventures of Robin Hood*, with its exciting movement and color, was by far the best. In any case, historical subjects were in high favor, particularly those dealing with various phases of our national development. As a rule, they succeeded in achieving authenticity of settings, but showed little imagination in dramatic development or characterization.

The smaller budget films were uniformly of a low standard, although there were exceptions. The Hardy family series, starring the popular and gifted youngster, Mickey Rooney, proved engaging entertainments and were vastly successful. *A Man to Remember*, directed by a newcomer from the theater, Garson Kanin, was an extremely sincere and touching drama of a small town doctor, played with deep feeling by Edward Ellis. *Boys of the Street* dramatized the slums as breeding ground for gangsters effectively and unpretentiously. Then too, there was an excellent drama of domesticity,

Four Daughters, which gained immeasurably in conviction by its lack of production pomp and high-salaried stars. John Garfield, who made his debut in the film, gave notice that he is an actor to be watched.

Musical extravaganzas were conspicuous for their absence. In their stead were what can best be described as screen plays with music. The most successful of these was *Alexander's Ragtime Band*, in which a preposterous tale about an orchestra leader and a singer who went from the Barbary Coast to Broadway, was embroidered with an anthology of Irving Berlin tunes. Far better in quality were the two Deanna Durbin pictures, *Mad About Music* and *That Certain Age*. *The Goldwyn Follies*, which followed the old formula for film musical offerings, was pretentious and extremely dull. Incidentally Shakespeare was unrepresented for the first time in several years.

While the so-called "screwball comedy" cycle was extended in a score of presentations, there was a healthy tendency to base comedies on characterization rather than nonsense situations. *Sing, You Sinners*, with Bing Crosby, proved a delightful entertainment and so did *Vivacious Lady*, which had Ginger Rogers and James Stewart giving soundly amusing impersonations. There were several aviation films which made effective use of the melodramatic aspects of flying, particularly *Test Pilot*, and the usual quota of gangster photoplays, of which the best was *Angels With Dirty Faces*. What is known as social drama was scarcely touched, although Walter Wanger's production of *Blockade* made a half-hearted attempt to deal with the Spanish civil war; *Boys' Town* considered the plight of depression youngsters, and *Yellow Jack* celebrated the heroic struggle against yellow fever.

Color photography had no such widespread acceptance as had been anticipated in some quarters. On the whole, tinted photography was most agreeable when it was least conspicuous and when it dealt with adventure or outdoor stories. Of the score or more films made in color, those in which the dramatic effect was actually heightened were *The Adventures of Robin Hood*, *The Adventures of Tom Sawyer*, *Men With Wings*, and *Snow White and the Seven Dwarfs*, of course.

There was a slight drop in the total number of feature-length films produced as compared with 1937, but the total figure was again approximately 500. An estimate of the national weekly attendance at movie playhouses has been placed as high as 85,000,000, although there were several periods when patronage dropped far below that point. Although the number of theaters has been placed as high as 18,000, more than 2000 of these remained closed during most of the year. Production costs during 1938 are said to have totaled \$165,000,000. The industry invested \$600,000 in the Motion Picture's Greatest Year campaign which closed the period. It undoubtedly had a beneficial effect on the box office. The Federal anti-trust suit instituted during the year, aimed at divorcing production control from distribution and theater chain management caused alarm in the studios, but did not reach a definitive phase.

The biggest money-makers of the year were *Snow White and the Seven Dwarfs* and *Alexander's Ragtime Band*. Other films which have not already been noted which were popular were *Of Human Hearts*, *Three Comrades*, and *White Banners*. Short subjects flourished and some commentators saw in this fact, added to the increased length of many feature pictures, an indication that

the double-feature system was on the wane. In the specialized field of documentary films, the outstanding offering was Pare Lorentz's *The River*, a government subsidized screen enterprise.

The players who stood out most prominently were James Cagney, Spencer Tracy, Robert Donat, Robert Morley, Franchot Tone, James Stewart, John Barrymore, Charles Boyer, Edward Ellis, Clark Gable, Tyrone Power, and John Garfield among the men, and Margaret Sullavan, Bette Davis, Alice Brady, Katharine Hepburn, Ginger Rogers, Beulah Bondi, and Fay Bainter among the women. Shirley Temple continued to be the most popular of the child stars, although Mickey Rooney and Deanna Durbin, in a slightly older age classification, were also enormously successful as box office attractions. There was another large influx of foreign stars, with Hedy Lamarr making an instantaneous hit in *Algiers*.

France. While Hollywood had few fine films to offer, the French cinema, although highly disorganized, presented a series of excellent photo-plays. *Grand Illusion*, a study of the war through the eyes of prisoners, directed by Pierre Renoir, son of the famous impressionist painter, and played brilliantly by Jean Gabin, Pierre Fresnay, Erich von Stroheim, and Dita Parlo, was the best of these. Other superior productions included Julien Duvivier's *Life Dances On*, *Generals Without Buttons*, *Ballerina*, and *The Story of a Cheat* by and with Sacha Guitry.

Germany. The screen continued to languish artistically under Nazi guidance. Heavy-handed farces and silly musicals were the chief offerings of the German studios. Except for an occasional good performance by such a veteran as Emil Jannings, there was nothing to recommend them.

Great Britain. Although all reports were to the effect that the British screen was in a bad way, it did not fail to produce some of the most noteworthy films of the year. *The Lady Vanishes* proved another masterly melodrama staged by Alfred Hitchcock. Robert Stevenson's absorbing pastoral, *To the Victor*, based on "Bob, Son of Battle," was a brilliant achievement, while other first-rate English screen dramas included *South Riding*, *Pygmalion*, *The Beachcomber*, and *Three on a Week-end*.

U.S.S.R. For the most part the Soviet films which reached this country proved definitely inferior to those of former years. The Lenfilm studio turned out several minor offerings which had genuine screen excellence, and *Professor Mamlock*, which described the growth of Nazi influence in a German city and its effect on a Jewish surgeon, is worthy of special mention, but there was a lack of dramatic vigor and unity in the majority of offerings.

Awards. The New York Film Critics, making their selections for the third successive year, chose *The Citadel* as the best English-language film of 1938 and *Grand Illusion* as the best foreign screen drama. Alfred Hitchcock's staging of *The Lady Vanishes* was adjudged the best job of direction; James Cagney's performance in *Angels With Dirty Faces* the best male portrayal; that of Margaret Sullavan in *Three Comrades* the best piece of feminine acting, and a special award was given Walt Disney for *Snow White and the Seven Dwarfs*.

MOTORBOATING. See SPORTS.

MOUNTAIN CLIMBING. See EXPLORATION.

MOUNT HOLYOKE COLLEGE. An institution for the higher education of women at South Hadley, Mass., founded in 1837. The registration for the autumn session of 1938 was 1024 in residence, including 42 graduate students, 237 seniors, 220 juniors, 243 sophomores, 279 freshmen, and 3 unclassified students; 19 attending Mount Holyoke Freshman Year in Hartford, 5 juniors in France, and 2 in Germany. The faculty numbered 131. The endowment funds amounted to \$5,128,762, and the income for the preceding year was \$1,254,850. The total amount of gifts and bequests during the year 1937-38 was \$123,259. There were 152,000 volumes in the library. Ground has been broken for a new dormitory, the gift of Mrs. Emily Abbey Gill of Springfield. President, Roswell Gray Ham, Ph.D., LL.D.

MOZAMBIQUE, mō'zam-bēk' (**PORTUGUESE EAST AFRICA**). A Portuguese colony in East Africa, consisting of two separate administrative units: (1) The Province of Mozambique (245,773 sq. mi.), comprising seven districts, and (2) the two districts of Manica and Sofala (51,881 sq. mi.), administered by the Mozambique Company under a royal charter expiring in 1941. Total area, 297,654 square miles; total population (1932), 4,028,746. Lourenço Marques (capital of the Province) had 47,390 inhabitants (1935); Beira (capital of Manica and Sofala), 24,502.

Production and Trade. The chief products of the Province are sugar, maize, cotton, copra, sisal, and minerals. Livestock (1932): 519,149 cattle, 271,745 goats, 102,442 sheep, and 30,388 swine. In 1937 (in old U.S. gold dollars) imports were valued at \$11,700,000 (\$9,700,000 in 1936); exports, \$10,200,000 (\$8,200,000 in 1936). Imports into Manica and Sofala in 1936 totaled 1,839,694 gold escudos; exports, 1,849,341 gold escudos (the chief exports were maize, sugar, and gold).

Communications. In 1936, 2838 vessels aggregating 12,094,559 tons cleared the ports of the colony. The area administered by the government had 1408 miles of state railways in 1937, and 17,745 miles of roads. In Manica and Sofala there were 3123 miles of roads suitable for automobile traffic. Ships clearing the port of Beira in 1936 totaled 4,031,970 tons.

Government. The budget for 1938 balanced at 581,839,500 escudos. On Dec. 31, 1937, the public debt amounted to 21,973,003 escudos (escudo averaged \$0.0448 for 1937). The Province of Mozambique (the seven districts, Cape Delgado, Inhambane, Lourenço Marques, Mozambique, Nyasa, Quelimane, and Tete) is administered by a governor-general who is represented in each of the seven districts by a governor. Governor-General, Col. José Pereira Cabral. Governor of Manica and Sofala, Rear Admiral Luis Magalhães Correia.

History. During June of 1938, it was announced that a commercial treaty between Mozambique on the one side and Bechuanaland, Swaziland, and Basutoland on the other had been signed in Lisbon. The treaty provides for reciprocal most-favored nation treatment, with some exceptions. During 1938 a Portuguese military mission visited Mozambique and Angola to strengthen their defenses. See PORTUGAL under History.

MUNICH ACCORD. See CZECHO-SLOVAKIA under History. For repercussions, see CHINA, FRANCE, GERMANY, GREAT BRITAIN, IRELAND, ITALY, JAPAN, PANAMA, POLAND, RUMANIA, and YUGOSLAVIA under History.

MUNICH FESTIVAL. See MUSIC.

MUNICIPAL GOVERNMENT. The largest city to adopt the council-manager plan during the year was Yonkers, N. Y., which had a population of 134,646 by the 1930 Census. The vote on November 8, which included approval of proportional representation for members of the council, was 23,767 to 20,598. The plan becomes effective Jan. 1, 1940. Two previous attempts to adopt the manager plan were unsuccessful. Other cities adopting the council-manager during the year were Dover-Foxcroft and Milo, Me., Bendix, N. J., and Verdun, Que., by means of referendum; and, by ordinance, Ephrata, Penn., Lexington and Tappahannock, Va. Favorable preliminary action on the plan was taken at Greenwood, S. C., and Traverse City, Michigan. The most notable popular defeat, including both a proposed city manager and a council elected by proportional representation, was at Cambridge, Mass., on November 8; the final vote, which was a recount, was 21,722 to 19,955. Other Massachusetts cities that voted down the council-manager in November were Chicopee, Northampton, and Quincy, the first two by small majorities. Elsewhere during the year defeats were reported at Chesterfield, Va., Forsythe, Ga., Battle Creek, Berkeley, and Tecumseh, Mich., Des Moines, Iowa, Hutchinson, Kan., Little Rock, Ark., and Monterey Park, Calif. The voters of South Dakota disapproved a constitutional amendment authorizing managers for counties under 10,000 population. Proposals to give up the manager plan were defeated at Springfield, Vt., Wheeling, W. Va., Paducah, Ky., Beloit and Fort Atkinson, Wis., Huron, S. D., Excelsior Springs, Mo., and San Angelo, Texas, but carried at Ashland, Ky., the latter not effective until Jan. 1, 1940. At the close of the year there were 472 cities and 7 counties under the council-manager plan. Of the cities, 16 were in Canada, 1 in Puerto Rico, and 4 in Ireland. (For details see *Directory of Council-Manager Cities and Counties*, revised to October, 1938, by International City Managers Association of Chicago.) Among amendments to the Constitution of New York State affecting local government submitted to popular vote on November 8 was one prohibiting proportional representation, aimed particularly at New York City. It was defeated. Another one that met defeat was designed to make nearly all the decisions of state administrative bodies subject to court review in matters of fact as they are already in law. This was aimed particularly at the regulation of the rates of public utilities by the public service commission. An amendment that carried prohibits special acts of the legislature affecting New York City except on request of the mayor with the approval of the city council or on request of two-thirds of the council. By another amendment, New York City is empowered to repeal all special acts of the legislature passed since 1923 on the pretext of an emergency. The legislature retains control over education.

Bibliography. American City, *Municipal Index and Atlas*, 1938 (New York); American Public Works Association, *Public Works Engineers' Year Book*, 1938 (Chicago); Annals American Academy of Political and Social Science, Symposium, *Better City Government*, September, 1938 (Philadelphia); Bitterman, *State and Federal Grants-in-Aid*, I (New York); Fowler, *Revenue Bonds—Self-Liquidating Public Loans* (New York); Leventhal, *The ABC of Municipal Bonds* (New York); Mead, *City Government* (New York); Mumford, *The Culture of Cities* (New York); Richter, *Financial Statistics of Cities* (Washing-

ton); Ridley and Nolting, *The Municipal Year Book*, 1938 (Chicago); Sinclair, *The Big City, A Human Study of London*; Woolston, *Metropolis, A Study of Urban Communities* (New York).

MUNICIPAL OWNERSHIP. On January 3 a unanimous decision of the U.S. Supreme Court upheld the constitutionality of the PWA loans and grants to municipalities for the construction of electric light and power plants that would result in competition with plants of private companies. The suit was brought by the Alabama Power Co. against Harold L. Ickes, Federal Emergency Administrator of Public Works, to prevent PWA aid to Guntersville, Hartselle, and Russellville, Ala. By a brief collateral opinion the ruling was held against the Duke Power Co. and in favor of Greenwood County, S. C. The decision upheld an opinion of the District of Columbia Court of Appeals which in turn supported the trial court in the same district. The gist of the decision was that in the absence of fraud, coercion, malice, conspiracy, none of which was shown in the cases at bar, municipalities could legally compete with private companies even to the financial injury of the latter; and that such competition being legal PWA aid was also legal. On January 21, three Federal district judges upheld the constitutionality of the TVA Congressional Acts of 1933 in a suit brought by 19 electric utility companies operating in Tennessee, Alabama, Mississippi, the two Carolinas, the two Virginias, and Georgia. (U.S. Court for Eastern District of Tennessee, North Division: Tennessee Electric Power Co., complainants, vs Tennessee Valley Authority, defendants, Jan. 21, 1938, Equity, 228.) Among the rulings in the decision were: No conspiracy of the TVA, by itself or with PWA, against the utilities; no coercion of the municipalities to buy power from the TVA; that although the complainants will suffer damages by being forced to meet TVA rates these will be "damages in the absence of legal injury"; and that the primary function of the TVA is flood control and navigation, with power production secondary. An appeal is pending in the U.S. Supreme Court.

On September 2 Knoxville, Tenn., took over the local distribution of the Tennessee Public Service Co., a subsidiary of the National Power & Light Co., controlled by the Electric Bond & Share Co. Current will be bought from the TVA, recent purchaser of the property of the Tennessee Public Service Co. outside of Knox County. The cost of the properties of the last-named company was \$8,035,000, of which Knoxville paid \$5,483,000. (See *Public Management* Chicago, October, 1938.) At Memphis, Tenn., following the U.S. Supreme Court decision already mentioned, the city received from the PWA \$1,031,000 from a grant of \$3,092,000 for the construction of a system to distribute TVA power. Negotiations for the purchase by the city of the property of the Memphis Power & Light Co., a subsidiary of the National Power & Light Co., were broken off in September because of non-agreement on price. On November 30, the city made a "final" offer of \$17,385,000 for the local gas and electric plants. Meanwhile, the city had gone on with the construction of its own distribution system and was supplying TVA electric current to several thousand consumers. Arrangements completed November 15 brought to 88 the number of municipalities that will buy electric current from the TVA. The mayors of Jackson, Brownsville, and Humboldt, Tenn., signed agreements with the West Tennessee

Power & Light Co. to buy local systems from it from which current will be distributed to 18 other communities. The TVA will acquire transmission lines which will be sold later to co-operatives. Voters of Ogden, Utah, on August 8 disapproved a contract for building a municipal electric light and power system for \$2,600,000, payable in bonds to be redeemed by income from the system. The legality of the contract had been attacked by the Utah Power & Light Co. and the Intermountain Branch of the Associated General Contractors. The State Supreme Court held that revenue bonds could be issued outside the debt limit and that competitive bidding was not required on construction contracts paid for by revenue bonds. A referendum vote was necessary and resulted in defeat of the project. In the waterworks field, Utica, N. Y., took over the property of the Consolidated Water Co. on November 1, paying \$7,900,000. Of this sum, \$7,000,000 were provided by the sale of water revenue bonds through the U.S. Reconstruction Finance Corporation. The bonds, which bear interest rates of 2.75 and 2.6 per cent, according to maturity, were sold at 101, making the net charge 2.637 per cent.

Bibliography. Burns & McDonnell, *Water Works Ownership in the United States; Record of 2868 Cities* as of Jan. 1, 1938 (Kansas City, Mo.); O'Brien, *British Experiments in Public Ownership and Control* (New York); Thurston, *Government Proprietary Corporations in the English Speaking Countries* (Cambridge, Mass.).

MUNROE, CHARLES EDWARD. An American chemist, died at Forest Glen, Md., Dec. 7, 1938. Born in Cambridge, Mass., May 24, 1849, he was educated at Harvard University (B.S., *summa cum laude*, 1871) where he became assistant in chemistry after graduation. He remained at Harvard until 1874 and established and conducted there the first summer school of chemistry. He joined the faculty of the U.S. Naval Academy as professor of chemistry in 1874, serving until 1886. During this period he was also connected with the U.S. Naval Institute and was editor of the *Proceedings* of the Institute, 1880-86. Then he was named chemist to the torpedo corps of the U.S. Naval Torpedo Station and War College, Newport, R. I. Here he began his study of explosives that resulted in his invention of indurite in 1889, the first smokeless powder used by the U.S. Navy for the larger guns. At this time he also developed the principle of detonation known in the Navy as the "Munroe effect."

Munroe delivered the Lowell Lecture in Boston during 1891-92, and in the latter year he joined the faculty of Columbian College in Washington, D. C., as professor of chemistry, as dean of the Corcoran Scientific School (until 1893), and as dean of the faculty of graduate studies. In 1904 the University was renamed George Washington. Dr. Munroe was retired as professor emeritus in 1918.

Active in all phases of his profession, he was first interested in sanitary chemistry, then in technical chemistry, and finally in the chemistry of explosives, in which he became a recognized authority. He was a member of the U.S. Assay Commission in 1885, 1890, and 1893, and during the Spanish-American War organized and directed a voluntary torpedo corps at Analostan Island and was a consulting engineer of the Engineering Board on the defense of Washington. He organized and conducted the first national census of the chemical industry in 1900 and conducted the same for the succeeding censuses of 1905 and 1910. Also, he was consulting expert for the U.S. Geological Sur-

vey (1907-10), the U.S. Bureau of Agriculture (1908-09), of the Bureau of Mines (1910-19), for which he was chief explosive chemist during 1919-33; and of the U.S. Forestry Service from 1934. In 1900 he was appointed by the Swedish Academy of Science to nominate the candidate for the Nobel prize in chemistry. Also, he was chairman of the advisory committee of the American Railway Association which in 1905 drafted the regulations governing the transportation of explosives.

One of the leading chemists of his day, he was the last-surviving charter member of the American Chemical Society, which he served as president during 1898-99. He held membership in leading scientific societies; was president of the Washington Chemical Society (1896), giving as his presidential address a history of the development of smokeless powders; and was president of section IIb of the 8th International Congress of Applied Chemistry and the section on Applied Chemistry of the 2d Pan American Scientific Congress. Dr. Munroe was decorated by Turkey in 1901 and by Belgium in 1920.

The author of many pamphlets and articles in scientific magazines, he also wrote *Chemistry and Explosives* (1888); compiled an *Index to the Literature of Explosives* (Pt. I, 1886; II, 1893), and with Clarence Hall wrote *Primer for Coal Miners* (1909; 1911) and *Primer for Metal Miners* (1915).

MURAL PAINTING. See PAINTING.

MUSIC. General News. Despite the unfavorable economic outlook in the United States during the first half of the year and two major political crises in Europe, 1938 brought no apparent lessening of the intensity of musical activities in America or Europe. The absorption of Austria into the German Reich in March naturally brought about important changes in the general scheme of musical activities in the former republic. Jewish musicians, including prominent figures such as Bruno Walter, were ousted from organizations such as the Vienna State Opera and Vienna Philharmonic Orchestra, which were incorporated into the Reich's national musical plan.

A conspicuous result of the German annexation of Austria, from a musical point of view, was its effect upon the Salzburg Festival which, especially since Arturo Toscanini had become its principal figure, had been the most internationally noted summer event of its kind. Mr. Toscanini canceled his 1938 engagement in January, as soon as he had heard of the Berchtesgaden agreement which foreshadowed the *Anschluss*, and Bruno Walter was forced to withdraw on racial grounds in March. He was active in Paris in the spring and fall opera and orchestral seasons, and became a French citizen in September. Although the originally planned schedule was carried out, the Salzburg Festival became an event of mainly German, rather than international, interest.

The Federal Music Project, organized as a part of the Works Progress Administration in 1935, continued its efforts along the same general lines as in 1937, offering an extensive program of orchestral, band, chamber music, and soloists' concerts and, in some cities, opera. A national festival of American music was held from February 21 to 23 in over 100 communities. According to figures published in the autumn, 2642 persons were employed in 38 Federally sponsored orchestras throughout the country. No general program has yet been prepared to meet the possibility of the government's withdrawal from this field, but in some cases the Federal support of an organization has

been supplemented by private contributions, permitting a larger personnel or an expanded schedule.

Plans for Federal support of the arts on a more permanent basis than that provided by the WPA received considerable discussion. Hearings on bills presented by Senator Claude Pepper of Florida and Representative John Coffee of Washington, calling for the establishment of a Federal Bureau of Fine Arts, were held before the Senate's sub-committee on Education and Labor early in March. Objections to two features of the plan, the carrying over of all artists employed in WPA projects into the new set-up and the influence assigned to "organizations representing the artists employed in the projects within the region" in choosing the proposed regional administrators and committees, were vigorously voiced at the hearings by Walter Damrosch, dean of American conductors. He thought that the plan would operate as a relief measure rather than for the best interests of the arts and would give the unions concerned too much power in administration and policies. The bills also had influential support but did not reach a vote in Congress. In December Mr. Damrosch published a plan of his own for a Federal Fine Arts Bureau.

The American Guild of Musical Artists devoted attention principally to the organization of the opera field, seeking agreements recognizing it as the sole bargaining agency for the artists of the various companies and establishing minimum standards of pay and working conditions. After six months' negotiations, an agreement was signed with the Metropolitan Opera Association on July 26, and another with the San Francisco Opera Association in August, leaving the Chicago City Opera Co. as the only organization of consequence still unsigned.

The Guild's first agreement of this kind, made in October, 1937, and renewed in 1938, with the Southern California Symphony Association, which directs the summer and winter activities of the Los Angeles Philharmonic Orchestra, proved to be the source of a controversy between the Guild and Yehudi Menuhin over the young violinist's engagement as soloist with the Los Angeles Philharmonic on November 3 and 4. The agreement provided that all soloists appearing with this orchestra, except in special cases, should be Guild members. Mr. Menuhin, however, declined to join the Guild, claiming that its conditions of membership and policies jeopardized his freedom as an artist. The Guild's governing board published a statement censuring his attitude as unwillingness to co-operate with his fellow artists in aiding their colleagues as a whole, and declined to grant the Los Angeles organization exemption in his case. Mr. Menuhin, however, kept his engagement, while the Guild took no further steps in the controversy, the first to arise from its agreements, before the end of the year.

Early in the winter 48 representative American composers organized the American Composers' Alliance with Aaron Copland as chairman of its executive board. Its announced general purpose was to promote the cultural and economic interests of all writers of "serious music" in the United States, while its first objective was the collection of due royalties for performances of copyright works.

One of the principal American musical prizes of the year, the Joseph H. Bearns award of \$900, offered by Columbia University for music by a young American composer, was divided between Elizabeth Marting of Rutherford, N. J., for a string quartet, and Ernest V. Lubin of New York for his *Variations on a Bach Theme* for string quartet and *Suite in Old Style* for strings. Charles

Naginski of New York, an American composer born in Egypt, won the Damrosch Fellowship for study at the American Academy in Rome. The year's most notable prize competition in Europe was the Ysaye Contest for pianists held at Brussels in the spring. Out of 100 entrants from 25 countries, 12 aspirants reached the finals. Emil Guilels, a Russian, 22 years old, won the first prize of 50,000 Belgian francs.

Early in the year an unknown *Rumanian Rhapsody* for piano by Franz Liszt was discovered in the Liszt archives in Weimar, Germany. Two unpublished songs by Handel, thought to be the first which he had composed to English texts, were discovered in a manuscript volume which the British Museum had acquired in 1882, by William C. Smith, a specialist in Handelian. Prof. Alfred Orel discovered among the papers of the Vienna Society of Friends of Music a fragment of a quartet by Franz Schubert in C minor, dated Apr. 23, 1814, in the composer's handwriting. This was performed in Vienna by the Graf Kurz Quartet on February 9.

An important project for a new Italian edition of Palestrina's music with Mgr. Raffaele Casimiri as editor was announced in October, calling for 34 volumes in chronological order, each with instructions for performance. Their issue was expected to take five years.

Artists. To meet the perennial question of how to restrict free admissions to recitals and at the same time to provide some sort of audience for young or little-known concert artists, New York concert managers announced in August that free passes would be replaced by non-taxable student coupons costing from 15 to 25 cents. These, it was claimed, would cost their holders little more than the Federal tax which they had paid on their passes, while the receipts from this source would go to the artist instead of the government.

Two of the still surviving pupils of Franz Liszt, Emil Sauer and Moriz Rosenthal, were still in active concert service during 1938, the former in Europe and the latter in America, where he celebrated the fiftieth anniversary of his New York debut with a Carnegie Hall recital on November 13, five weeks before his 76th birthday. Another prominent pianist, Josef Hofmann, who celebrated the semi-centennial of his American debut with a long tour of the United States in the winter and a London concert April 25, resigned on September 26 from the directorship of the Curtis Institute of Music, in Philadelphia, one of the principal American endowed music schools. He had held this position for 10 years. Ignace Jan Paderewski, nearly 78 years old, gave a 40-minute piano recital over the radio on September 25 at Lausanne. This was only the second time that he had played for the radio.

The year's most acclaimed newcomer to the American concert stage was Robert Virovai, a 17-year-old violinist from Yugoslavia, who had studied in Budapest with the late Jeno Hubay and had already won considerable *réclame* in Central Europe. In his American debut as soloist with the New York Philharmonic-Symphony Orchestra on November 3 in Vieuxtemps's concerto in D minor, he won unusually warm praise from the critics for musicianship, fire, and expressive ability, in addition to technical virtuosity. This impression was confirmed three days later in the Brahms concerto. Gertrude Pitzinger, a mezzo-soprano from the Sudeten German region, was praised as a lieder-singer of exceptional interpretative ability in her American debut in a New York recital January 17,

The Town Hall, one of New York's two principal concert auditoriums, inaugurated a new plan to aid young musicians by inviting critics to name the artist under 30 years old who, in their opinion, had given the season's best performance in this hall, and assigning the artist chosen a place in the Endowment Fund Series, in which the other participants are musicians of box-office prominence. Rosalyn Tureck, an American pianist, received the first award.

Beniamino Gigli, Italian tenor, sang in London at Covent Garden in its spring season for the first time since 1931, and began his first American tour in six years in October, singing with the San Francisco and Chicago City Opera companies and in concerts. The Metropolitan Opera in New York, which he had left in 1932 after a disagreement over a salary reduction, engaged him for five performances beginning in January, 1939.

Vladimir Horowitz, Russian pianist and Arturo Toscanini's son-in-law, resumed his concert activities after a three-year lapse owing to illness with a recital in Zurich on September 26.

Chamber Music. Celebrating the 20th anniversary of her first chamber-music festival on this site, Mrs. Elizabeth Sprague Coolidge presented a three-day festival from September 21 to 23 at South Mountain, Pittsfield, Mass., where the first day's schedule was carried through despite the hurricane which was devastating New England at the time. Among the participating artists were the members of six string quartets (Berkshire, South Mountain, Gordon, Coolidge, Kolisch, and Roth), and the solo quartet of St. Bartholomew's Church in New York. Works heard for the first time were Anton von Webern's quartet, Op. 28; Frederick Jacobi's *Hagiographa* for string quartet and piano, Louis Gruenberg's second quartet, and Frank Bridge's fourth quartet. Ernst Toch was the pianist with the Roth group in the second performance of his quintet, which they had first played during the summer season at Stanford University. Berkshire Festivals had been held annually at Pittsfield through 1924, and also in 1928 and 1934.

At the Library of Congress in Washington, which has been the principal center of the chamber-music activities sponsored by Mrs. Coolidge since 1925, the Roth and the Coolidge Quartets presented several programs during the winter and spring, devoting a generous portion of the programs to works of living composers. In the eastern United States, summer chamber music was centered mainly in New England, but this form of music flourished even more in California in the San Francisco area, with summer concerts by the Kolisch Quartet at the University of California in Berkeley, by the Roth Quartet at Stanford University in Palo Alto, and by the Pro Arte Quartet at Mills College, Oakland.

In New York the second season of concerts by the New Friends of Music at Town Hall on Sunday afternoons at 5:30, with a repertoire of songs and chamber music by Mozart, Schubert, and Schumann, closed on March 20. The balance sheet showed a net profit of \$338.54, as compared with a deficit of \$407.95 in 1936-37.

The last completed work of the late Albert Roussel, a trio for strings, Op. 50, was first played in January at Basel, Switzerland, by the local section of the International Society for Contemporary Music, which had commissioned the trio and Béla Bartók's sonata for two pianos with percussion for this concert. The composer and his wife, Ditta Bartók, were the soloists in the latter work.

Choral Music and Societies. Two European choruses of differing types paid their first visits to America in the season of 1937-38. One, the Helsinki University Chorus from Finland, made its first appearance in Boston, with the Boston Symphony, December 31. The other, the Mozart Boys' Choir of Vienna, conducted by Dr. George Gruber, former leader of the Wiener Saengerknaben, was first heard in New York on January 26.

The Schola Cantorum of New York, under Hugh Ross, gave the first performance of *The End of St. Petersburg* by the Russian-American composer Vladimir Dukelsky and the American première of Delius's *Mass of Life* on January 12. On December 16 it sang for the first time in America *The Deeds of the Holy Brothers Cyril and Methodius* by Bozidar Sirola, a Yugoslav composer. Most of the larger American cities continued to support large choral societies, while, from coast to coast, a large number of glee clubs and community choral groups made less conspicuous but valuable contributions to American activity in this field. There is still a lack of choral organizations giving frequent performances, such as the former Society of the Friends of Music in New York, and widening the opportunity for acquaintance with the less familiar choral classics, such as Bach's cantatas, and with significant modern works. The Mutual Broadcasting System, under Alfred Wallenstein's direction, did valuable work in this regard by opening a weekly series of Bach cantata programs on Sunday nights in the fall.

American Festivals. The eighth annual American Music Festival, held by the Eastman School of Music in Rochester, N. Y., under Howard Hanson's direction, took place from April 25 to 29, with orchestral, choral, chamber, and band music occupying one program each and, as usual, a ballet program on the last evening. Over 20 composers were represented. Among the orchestral works heard for the first time in public were David Diamond's *Elelgie in Memory of Ravel*, La Vahn Maesch's *Suite on Children's Tunes*, and Charles Vardell's *Folk Symphony from the Carolina Hills*.

The third combined Talbott Festival and Festival of Contemporary American Music of the Westminster Choir School took place at Princeton, N. J., May 23 to 26, with programs of choral and chamber music. A virtual festival of modern American music was supplied by the principal concerts of the annual summer Music Period at the Yaddo estate in Saratoga Springs, N. Y., on September 4, 10, and 11. Two *Choric Dances* by Paul Creston, of New York, were cited as the most impressive of the new scores offered.

The 48th festival of the University of Michigan Choral Union at Ann Arbor consisted of six programs from May 11 to 14, in which the Philadelphia Orchestra, under Eugene Ormandy's direction, took part with the Choral Union under Earl V. Moore. Among the principal works offered were Rachmaninoff's *The Bells* and Bizet's *Carmen*, given in concert form with Bruna Castagna and Giovanni Martinelli, of the Metropolitan Opera, as principals. Mr. Ormandy also took the Philadelphia Orchestra to White Plains, N. Y., for the 14th annual Westchester Music Festival on May 20 and 21.

Frederick A. Stock and Hans Lange conducted the Philadelphia Orchestra in the Northwestern University Festival Association's festival at Evanston, Ill., in May. An unaccompanied choral work, Albert Noelte's *Night Song* had its first performance with Max Krone conducting. Albert Stoessel

continued as director for the 79th festival at Worcester, Mass., from October 3 to 8, which closed with a stage performance of Verdi's *Rigoletto* sung in English by Metropolitan Opera artists.

Bach's *St. John Passion* and Mass in B minor were the principal works sung by the Bach Choir of Bethlehem, Pa., in its annual festival on May 27 and 28 under Bruce Carey's direction. Dr. Carey later resigned and was succeeded by Ifor Jones. Other Bach festivals were held by the Baldwin-Wallace Conservatory at Berea, Ohio, June 10 and 11, and at Carmel, Calif., for a week in July.

The fifth annual Berkshire Symphonic Festival, and the third in which the Boston Symphony Orchestra took part under its regular conductor, Serge Koussevitzky, was the first to be held in the semi-open-air Music Shed on the Tanglewood estate at Lenox, Mass. Beethoven's Ninth Symphony, with the Cecilia Society of Boston as the assisting chorus, was performed in the first of the six concerts during the first fortnight of August.

A festival at Silvermine, New Canaan, Conn., launched in 1937 with a single concert, was expanded to a length of four days, August 18 to 21, and included three concerts by the New York Philharmonic-Symphony Orchestra under José Iturbi and Eugene Ormandy, plus a children's concert, and three chamber-music concerts by the Roth Quartet.

Foreign Festivals. The International Society for Contemporary Music chose London for its annual festival from June 17 to 24 with the BBC Symphony Orchestra and Chorus, the London Select Choir, and other choral organizations and chamber-music groups among the participants. The conductors were Sir Adrian Boult, Hermann Scherchen, Arnold Fulton, Boyd Neel, Clarence Raybould, and Leslie Woodgate. Critics united in the choice of Anton von Webern's *Das Augenlicht* for orchestra and chorus as by far the most genuinely modern and convincing work in the programs.

The annual British Three Choirs Festival, the 218th of this venerable series, took place in Worcester from September 4 to 9. A novelty in the programs, which were mainly devoted to familiar choral and instrumental music, was Lennox Berkeley's *Domini est Terra*.

The 14th annual festival of early music played on instruments of its period under Arnold Dolmetsch's direction at Haslemere, England, began July 18 with a schedule of 12 concerts. The programs gave due prominence to English 17th- and 18th-century music, but were international in character. An American work, Josephine Forsyth's setting of the Lord's Prayer, was chosen as a test piece for the principal competition of the National Welsh Eisteddfod in August at Cardiff. This was won by the Siloam Chapel Choir of Swansea. Another American work, Bryceson Treharne's *The Banshee*, had its first public hearing.

Sir Thomas Beecham was the musical director of a Sibelius Festival in London from October 27 to November 12, consisting of four orchestral concerts, one concert of chamber music and other works in the smaller forms, and one concert of music for small orchestra.

There was a notable profusion of music festivals in Germany, including the operatic summer series at Bayreuth, Munich, and Salzburg. A feature of the Reich Music Week Festival at Düsseldorf from May 22 to 29, at which Joseph Goebbels, Minister of Propaganda, proclaimed the regime's intention of saving German music from the danger of de-

cadence, was an exhibition of "degenerate music," including records with facilities for playing them, books, articles, and scores, and a special division for the "theorists of atonality."

The annual international festival in Stuttgart was held May 18 to 26 with programs of opera, choral, orchestral, chamber, and solo music. Another international festival of contemporary music, the third of the series, took place in Baden-Baden April 22 to 25 under the direction of Gotthold Lessings, conductor of the local Kur Orchestra. The programs included Hungarian, Italian, Swiss, Belgian, and French music in addition to German works. At about the same time the Neue Bachgesellschaft held its 25th Bach festival in Leipzig.

The Munich Festival, which opened with the world premier of Richard Strauss's one-act opera, *Friedenstag*, extended from July 24 to September 7, and was regarded as probably the most interesting, as well as the longest, of the three major German opera festivals. Strauss's collaboration with an unmistakably Aryan writer, Joseph Gregor of Vienna, for the libretto, implied that the composer had made his peace with the Nazi regime. The plot, laid in a besieged German city at the end of the Thirty Years' War, was considered unusual for a Strauss opera, and the music was also described as marking a new departure in style and form. Clemens Krauss conducted and Hans Hotter, Viorica Ursuleac, Ludwig Weber, and Julius Patzak sang leading roles. Wagner and Mozart again played the most important parts in the repertoire of the festival which, thanks to Krauss, was thought to have marked an improvement over its predecessors.

According to the usual schedule at Bayreuth, this would have been an off year, but a Wagner festival was held along the usual lines in July and August as an observance of Wagner's 125th anniversary. The repertoire included *Tristan und Isolde*, *Parsifal*, and the *Ring* with Karl Elmen-dorff, Heinz Tietjen, and Franz von Hösslin as the conductors.

The musical repertoire for the Salzburg Festival, July 23 to August 31, followed the plan outlined before the *Anschluss*. The Vienna Philharmonic Orchestra gave several concerts, and there were also the usual Cathedral concerts of religious music, "serenades" with Mozart programs at the Residenz, and a performance of Mozart's Mass in C minor in St. Peter's Church. Foreign critics thought that the general musical standard was below that of previous seasons or that of the other two major 1938 opera festivals. The Festspielhaus was altered and enlarged, and further improvements were promised for 1939.

The 29th annual fortnight of performances of Wagner music dramas in the outdoor theater at Zoppot, near Danzig, July 17 to August 4, had the most ambitious program in the history of the series, including *Lohengrin* and the *Ring* with Dr. Hermann Menz, of Danzig, as artistic director.

The new international festival at Lucerne began late in July and continued for six weeks. Arturo Toscanini conducted an orchestra composed of Switzerland's best instrumentalists at the Villa Tribschen on August 25 and at the Konzerthaus in Lucerne two days later. Other conductors taking part were Fritz Busch, Bruno Walter, Willem Mengelberg, and Count Gilbert Gravina (Liszt's grandson). Soloists and recitalists included Dusolina Giannini, American soprano; Adolf Busch, violinist; Rudolf Serkin and Alfred Cortot, pianists, and Emanuel Feuermann, cellist. Plans for

the 1939 festival, in which Mr. Toscanini agreed to take part, included the addition of opera and the construction of a Festspielhaus.

The fourth annual Musical May Festival in Florence began its six weeks' schedule on April 28. The only absolute operatic novelty was Malipiero's *Antonio e Cleopatra*, based on Shakespeare's play, which was produced May 4. With a style harking back to Monteverdi, it was regarded as pointing a way in which a modern opera might be written, if not as completely successful in itself. Bruno Walter conducted Beethoven's *Missa Solemnis* and Brahms's *A German Requiem*. The Berlin Philharmonic Orchestra gave two concerts under Furtwaengler, and France was represented by Serge Lifar and three other solo dancers from the Paris Opéra.

The sixth international festival of contemporary music in Venice, organized by Mario Corti and Goffredo Petrassi, took place September 6 to 13. Thirty-three composers, of whom 15 were Italian, were represented in the programs, which included one work from the United States, a concerto for piano and orchestra by Leo Sowerby. There was also a "retrospective concert" of music composed within the last 30 years.

Opera in America. The fifty-third regular season at the Metropolitan Opera House in New York and the third under the general management of Edward Johnson began Nov. 29, 1937, and continued for 16 weeks, 2 more than its last four predecessors. A 3-weeks' tour began March 21, followed by 3 post-season performances in New York on April 13, 15, and 16. Including the weekly opera concerts, the company gave 139 performances in 1937-38, as compared with 117 in the shorter 1936-37 season, at the Metropolitan, and 171 performances as compared with 154, including those given out of town. Owing, however, to the decision not to present a third popular-priced spring season, the grand total of 1937-38 performances did not quite equal that of 1936-37. The usual series in Brooklyn was abandoned, while the Philadelphia series was increased from six to eight performances. Two performances were given in Hartford and one in Newark. On the tour, 3 performances were given in Baltimore, 13 in Boston, 8 in Cleveland, and 1 in Rochester.

In all, 94 singers, 10 more than in 1936-37, were heard in solo roles. Ten European artists sang for the first time with the company: Rose Pauly, soprano, who specialized in the title role of *Elektra*; Zinka Milanov, Yugoslav dramatic soprano; Mari- ta Farrell, a German-Czech soprano; Enid Szan- tho, Hungarian contralto; Carl Hartmann, German tenor, whose best work was in *Siegfried*; Bruno Landi, Italian tenor; Jan Kiepura, Polish tenor; Carlo Tagliabue, Italian baritone; Adolf Vogel, German bass-baritone, and Nicola Moscona, a young Greek basso. Two American newcomers each sang only once, Amri Galli-Campi, coloratura soprano, in Cleveland, and Glenn Darwin, baritone, in the single performance of Walter Damrosch's *The Man without a Country*, which had been first produced in the spring season of 1937. Two of the young Americans taken into the regular company after spring appearances, Helen Traubel and Max- ine Stellman, sopranos, also sang in the Damrosch opera. The others, Donald Dickson and Robert Weede, baritones, sang only in the Sunday con- certs.

Erich Leinsdorf, a 26-year-old Viennese musi- cian engaged as an assistant conductor, directed several Wagnerian performances and one of

Strauss's *Elektra*, winning much praise, and was named a regular conductor the following season. Meanwhile the Wagnerian wing of the company, headed by Kirsten Flagstad, Marjorie Lawrence, Kerstin Thorborg, Lauritz Melchior, Friedrich Schorr, Ludwig Hofmann, and Emanuel List, again held the greatest artistic prestige.

Among 35 operas the only work new to the Met- ropolitan was *Amelia Goes to the Ball*, with book and music by Gian-Carlo Menotti, a young Italian composer who had studied at the Curtis Institute of Music. This was produced in George Mead's English version on March 3, with Muriel Dickson, Mario Chamlee, John Brownlee, and Norman Cor- don as the principals, and won a very favorable re- ception. *The Man without a Country* also counted as a novelty. Opera in English was also represented by a restoration of Puccini's *Gianni Schicchi* after a year's absence, and a single Cleveland perform- ance of Smetana's *The Bartered Bride*.

Three of the revivals were of works by Richard Strauss, hitherto never represented at the Metro- politan by more than one opera at a time. These were *Der Rosenkavalier* (December 2) with Ker- stin Thorborg, Lotte Lehmann, and Emanuel List; *Elektra* (January 7) with Mmes. Pauly and Thor- borg and Irene Jessner, and *Salome* (February 4) with Marjorie Lawrence in the title role. Verdi's *Otello*, absent for nearly 25 years, had a generally distinguished revival on December 22 with Giovan- ni Martinelli as Otello, Elisabeth Rethberg as Desdemona, and Lawrence Tibbett as Iago. This proved to be one of the season's most successful offerings at the box office, receiving 8 perform- ances, not counting those out of town, as com- pared with 9 for *Tristan und Isolde*. Works re- stored to the repertoire after shorter absences included Mozart's *Don Giovanni*, Gounod's *Romeo et Juliette*, and Rossini's *Il Barbiere di Siviglia*.

The American Ballet gave four ballets, besides those in the operas. Its contract was not renewed, the Metropolitan engaging Boris Romanoff, a Rus- sian ballet master, who had served as the Royal Opera in Rome, to organize a new ballet corps for 1938-39.

Before the opening of the 16-week 1938-39 se- ason with *Otello* November 21, Mr. Johnson and the two assistant general managers, Edward Ziegler and Earle R. Lewis, were re-engaged for two years. Aiming to restore the company's Italian- singing contingent to its former prestige, which had waned in the last few years, Mr. Johnson engaged 6 new Italian singers in a total list of 14 new- comers: Maria Caniglia, soprano, who sang Des- demona on the opening night; Mafalda Favero, Marisa Morel, and Lina Aimaro, sopranos; and Galliano Masini and Alessio De Paolis, tenors. There were four new German artists: Herbert Janssen and Hans Hermann Nissen, baritones, both well known in Europe; Erich Witte, tenor, and Herbert Alsen, basso. Jussi Björling, Swedish ten- or, and three Americans, Rise Stevens, contralto, John Carter, tenor, and Leonard Warren, baritone, completed the debutant list.

The repertoire included no novelties. The first revival was Gluck's *Orfeo ed Euridice*, which had an entirely new production November 26 with Mme. Thorborg as Orpheus. Verdi's *Falstaff* was revived December 16, with Lawrence Tibbett in the title role for the first time. Works restored in December after short absences were *Mignon*, with Rise Stevens, *Tosca* with Mme. Caniglia, *Lakmé* with Lily Pons, and *Fidelio* with Kirsten Flagstad.

The touring San Carlo Opera Co. introduced

opera to the large Center Theater in Rockefeller Center in May, and reappeared there in September before large audiences. Other operatic activities in New York were limited to occasional low-priced performances of variable quality at the Hippodrome; productions at the Juilliard School, including a new work, *The Sleeping Beauty*, with text by John Erskine and music by Beryl Rubinstein, head of the Cleveland Conservatory, January 19, and a fortnight's visit in January by the London Intimate Opera Company, a group of three. The Columbia Broadcasting System presented its second commissioned radio opera, *Beauty and the Beast*, by Vittorio Giannini and Robert A. Simon on November 24.

The San Francisco Opera Association under Gaetano Merola's direction presented an ambitious repertoire in its sixteenth season, October 7 to November 3, including the local premières of Debussy's *Pelléas et Mélisande* with two French artists, Georges Cathelat and Janine Micheau, imported for the occasion in the title roles, Erich Leinsdorf conducting, and Strauss's *Elektra* with Mme. Pauly, Fritz Reiner conducting. Another relatively unfamiliar offering was *Don Giovanni* with Ezio Pinza as the Don; Wagner was represented only by *Die Meistersinger*. In all, there were 21 performances.

The company's personnel consisted of 33 guest artists, including most of the principals, of whom several were from the Metropolitan, and 18 resident artists. Newcomers to San Francisco, besides Mme. Micheau and Mr. Cathelat, were Irene Jessner, Mafalda Favero, and Anne Jamison, sopranos; Ebe Stignani, contralto; Alessandro Zilliani and Galliano Masini, tenors; Carlo Tagliabue, baritone, and Salvatore Baccaloni and Carlton Gauld, basses. Beniamino Gigli made his first American operatic appearance in six years on the opening night as the protagonist of *Andrea Chenier*. Mr. Merola and Gennaro Papi completed the list of conductors, with Armando Agnini and Herbert Graf, of the Metropolitan, in a guest status, as stage directors. Six performances in Los Angeles followed the San Francisco season.

The Chicago City Opera Co.'s sixth season under Paul Longone's management again lasted for seven weeks, October 29 to December 18, with 45 performances of 27 operas. Two sopranos well known in Europe, Hilde Reggiani and Maria Reining, made their American debuts. Other newcomers to the company included Beniamino Gigli, Dusolina Giannini, Joel Berglund, Bruna Castagna, James Melton, Annunziata Garrotto, Adolf Vogel, Douglas Beattie, Hertha Glatz, Deszö Ernster, Constance Merrell, and Anthony Marlow.

Eva Turner and Alexander Kipnis made their first Chicago operatic appearances since the days of the Civic Opera sponsored by Samuel Insull. The Metropolitan had several representatives in the roster, including Kirsten Flagstad and Lily Pons. The conductors were Roberto Moranzoni, Angelo Canarutto, Louis Hasselmans, Henry G. Weber, and Edwin McArthur.

For first-class opera, Philadelphia depended mainly upon the Metropolitan, but occasional performances of Italian and German works were given by the local Civic Grand Opera Co. In Baltimore a local company gave the première of *The Captive*, by Gustav Strube and Frederick Arnold Kummer, both of that city, on February 28 with a Baltimorean cast. The San Carlo Opera Co. made its 28th and 29th transcontinental tours, and the Salzburg Opera Guild, after touring throughout the

winter, left several artists who joined the Metropolitan, Chicago, and San Carlo companies. Among college performances of opera was what was thought to be the first American production of Gluck's *Alceste* at Wellesley College, with Malcolm Holmes conducting.

Apart from the annual Municipal Opera season of light opera and musical comedy in St. Louis, the principal summer opera series in the United States was the seventeenth Zoo Opera season in Cincinnati, which ran for six weeks with casts including some of the Metropolitan's younger artists and singers.

Floro M. Ugarte was reappointed general director for the opera season at the Teatro Colón in Buenos Aires, from May to September. The principal conductors were Tullio Serafin, Albert Wolff, and Erich Kleiber. As usual, the casts consisted mainly of singers well known in Europe and the United States. Two artists from that country, Rise Stevens, contralto, and Frederick Jagel, tenor, made their Argentine debuts. Among works heard for the first time in Buenos Aires were Pizzetti's *Orseolo*, Henri Rabaud's *Roland et la mauvais Garçon*, conducted by the composer; Monteverdi's *L'Incoronazione di Poppea*, and Mozart's *Die Entführung aus dem Serail*. An Argentine opera, Constantine Gallo's *Petronio*, was revived after 20 years.

Opera in Europe. The annual international opera season in London at Covent Garden was seven weeks long, beginning May 2 with a German and Italian repertoire. Erich Tauber made his London grand opera debut on the opening night as Tamino in Mozart's *Die Zauberflöte*, with Tiana Lemnitz, Gerhard Hüsch, and Herbert Janssen in other leading roles. The Wagnerian list included *Der Fliegende Holländer*, in which a young Polish soprano, Margaret Kubatzki, made her debut on May 3, *Lohengrin*, *Tannhäuser*, and two *Ring* cycles. Sir Thomas Beecham, Wilhelm Furtwaengler, and Fritz Zweig conducted. Vittorio Gui made his London debut as conductor of the Italian repertoire, in which Beniamino Gigli was the principal figure in the casts.

A three-weeks' season of operas in English was presented by the Covent Garden English Opera Society in the fall. *The Serf*, by a young Cornish composer, George Lloyd, with a libretto by his father, William Lloyd, had its première October 20 with Albert Coates conducting. The music was regarded as promising, but some critics thought the libretto too literary and too given to Anglo-Saxon words. London's permanent English opera company at Sadler's Wells had an ambitious year with a repertoire including *Don Giovanni*, *Die Walküre*, *Tannhäuser*, *Boris Godunoff*, in the original version, *Don Carlos*, and a revival of Nicholas Gatty's *Greysteel*.

The fifth opera season presented by John Chrystie at Glyndebourne, Sussex, May 21 until early in July, was mainly devoted to Mozart, but for the first time added two operas by other composers: Verdi's *Macbeth* with the American soprano Franca Somigli (Marian Clark) as Lady Macbeth, and Donizetti's *Don Pasquale*. Fritz Busch again was the musical director.

The year's first novelty at the Paris Opera was Florent Schmitt's choreographic drama, or danced tragedy, *Oriane et le Prince d'Amour*, produced January 7. Wagner's *Flying Dutchman* had its first performance in this theater later in the month. Reynaldo Hahn conducted a revival of his *Merchant of Venice* in May, and in the fall Kirsten Flagstad

was a guest artist in a Wagner series conducted by Franz von Hösslin. The Paris Opéra-Comique produced Darius Milhaud's *Esther de Carpentras* in a well-received première in February. Marcel Rousseau's *Le Roi Dagobert* and Jean Duperier's *Zadig* were among the spring productions. The Bizet centenary was celebrated at this theater late in October with a gala performance of *Carmen*, in which Renée Gilly and Georges Thill headed the casts and Eugene Bigot conducted.

In the winter season at the Royal Opera in Rome the first revival was Mascagni's *L'Amico Fritz*, followed by a restoration of Boito's *Mefistofele* in March in a new edition by Tullio Serafin. Later additions to the repertoire included first performances of Franco Vittadini's *Caracciola* and Pietro Canonica's *Miranda* and the Roman première of Strauss's *Die Frau ohne Schatten* (*La Donna senz' ombra*) with Rosa Pauly and Benvenuto Franci as principals.

The season's first novelty at the Teatro alla Scala in Milan was *Margherita di Cortona*, the second opera by the priest-composer Licio Refice with a book by Emilio Mucci. Augusta Oltabella sang the title role. The music was described as fluent, rather eclectic, and sometimes over-orchestrated. Other novelties of the winter season were Renzo Bianchi's *Proserpina* and Enzo Gamussi's *Il Volto della Vergine*. In April the Munich State Opera visited La Scala to present Wagner's *Ring* under Clemens Krauss. Milan also had a summer outdoor season of 46 performances of a repertoire of 12 works.

Ernest Bloch's *Macbeth*, first produced in Paris in 1910, was produced March 5 at the San Carlo Opera in Naples under Antonio Guarnieri's direction, and Felice Lattuada's *La Caverna di Salamanca* in one act was first produced in April at the Carlo Felice Theater in Genoa.

In addition to *Friedenstag*, another short opera by Richard Strauss, *Daphne*, whose book was also by Joseph Gregor, had a first hearing in 1938, at the Dresden State Opera on October 15 with Margarete Teschenacher in the title role and Karl Böhm conducting. From the standpoint of those interested in modern music, a more important production of a new German opera was that of Paul Hindemith's *Mathis der Maler*, with a libretto by the composer, at the State Theater in Zurich, Switzerland, on May 28. Robert Denzler conducted and Ager Stig sang the title role. It was also produced at Zurich in November, after Hindemith had made a few slight revisions.

The Zurich State Theater which, under Karl Schmid-Bloss's direction, had become one of the principal lyric stages of Europe from an artistic point of view, also produced *Die Wirtin von Pinsk* by Richard Mohaupt of Breslau. This work had been praised on the occasion of its first production at Dresden, February 10, but was soon withdrawn, owing, it was rumored, to having met official disfavor.

The Scarlet Letter, by the American composer, Vittorio Giannini, was first produced in Hamburg June 2 under the German title of *Das Brandmal*, with the composer's sister, Dusolina Giannini, as Hester Prynne, and Eugen Jochum conducting. This was well received. Relatively few operas had their world premières in Berlin, although both the State Opera and the Deutsches Opernhaus offered many revivals and restagings. Herbert von Karajan, the young general music director of the Aachen Opera, joined the State Opera's conductorial staff after winning much praise for his guest performances.

The Leipzig Opera observed the 125th anniversary of Wagner's birth with a festival series of all his works, including the fragmentary *Die Hochzeit* and the oratorio *Das Liebesmahl der Apostel*, from February 13 to June 20.

One indirect result of the political changes of the early fall in Czecho-Slovakia was the closing on September 26 of the German Opera House in Prague, an institution which had attained much cultural importance in Central Europe. Among the Prague Czech Opera's novelties of the year were Boleslav Vomcik's *Vodnik*, Zdenek Fibich's *Hedy*, and Bohuslav Martinu's fourth opera, *Juliette*. Wagner played an important part in a rather eventful winter and spring season in Stockholm. The Wagner Society of Amsterdam presented a Dutch opera, *De Snock*, with music by Willem Andre, in April. Despite the Spanish civil war, there was a 1937-38 opera season in Barcelona with a repertoire of French and Spanish works.

Orchestras in America. The NBC Symphony Orchestra, organized in New York in the fall of 1937 with Arturo Toscanini as musical director, gave 33 radio programs on Saturday nights, 11 of these under Mr. Toscanini, who was in charge from Christmas Day until March 5. Conductors for the remainder of the series through June 23 were Pierre Monteux, Artur Rodzinski, Carlos Chavez, Hugh Ross, Howard Hanson, Sir Adrian Boult, Dimitri Mitropoulos, and Hans Wilhelm Steinberg, who was engaged as Mr. Toscanini's assistant for the next season. Mr. Toscanini, who had agreed to conduct this orchestra up through 1940-41, began his second season on October 15, conducting eight concerts before he was relieved by Dr. Artur Rodzinski for four programs. His lists included a fair proportion of unfamiliar works, but his only absolute novelties were two short works: an Adagio for strings and an *Essay for Orchestra* by a young American composer, Samuel Barber.

In its summer Sunday radio concerts, the Columbia Broadcasting System's orchestra under Howard Barlow presented many new American works, of which a few had been commissioned in advance.

The Philharmonic-Symphony Society of New York gave all its regular concerts of 1938 under John Barbiroli, who began a three-year term as its conductor in 1937, except for five weeks, from January 4 to February 6, under Georges Enesco. Mr. Enesco introduced to America works by three of his Rumanian compatriots, Alfred Alessandresco, Theodor Rogalski, and Michael Andrico, in addition to Germaine Tailleferre's violin concerto (January 8) with Yvonne Astruc as soloist. Under Mr. Barbiroli, the orchestra gave the American premières of five new parts of William Walton's *Façade* suite (March 30), Delius's *Appalachia* with the Schola Cantorum's chorus (April 13), and John Ireland's *A London Overture* (April 10). American works first performed in these concerts were Quincy Porter's first symphony (April 2) and Charles Haubiel's *The Plane Beyond*, both chosen in the Philharmonic-Symphony Society's composers' competition, and Anis Fuleihan's second piano concerto (December 10) with Eugene List as soloist. The 1938-39 season, also 28 weeks long, was the Society's 97th. Ernest Schelling, who had been unable to take part in the Young People's concerts in 1937-38 and had been relieved by Rudolph Ganz, resumed charge of this series in the fall.

The training orchestra of the National Orchestral Association under Leon Barzin gave first performances of Anis Fuleihan's first piano concerto

(January 24), Robert McBride's *Fugato on a Well Known Theme*, and Anton Bilotti's piano concerto (March 21) and Aurelio Giorini's Symphony in D major (April 25). The New York Women's Symphony Orchestra, in its fourth season under Antonia Brico, offered a \$500 prize for a new American composition and played the winning work, Philip James's *Song of the Night*, on March 15.

The post of musical director of the Philadelphia Orchestra was revived for Eugene Ormandy, who received a new three-year contract beginning with 1938-39. Stravinsky's *Jeu de Cartes* had its American concert premiere on January 14, and Harl McDonald, of the University of Pennsylvania, was represented by two new works, his fourth symphony (April 8) and *Lament for the Stolen* for orchestra with women's chorus (December 30). Bernard Wagenaar's concerto for flute, harp, and cello was first performed March 18. The opening of the new season on October 7 coincided with a drive for a \$100,000 maintenance fund to wipe out a seven years' deficit. Leopold Stokowski was announced to conduct for three and possibly four weeks at the end of the season.

Serge Koussevitzky began his fifteenth season with the Boston Symphony Orchestra and that organization's 58th year on October 7. Daniele Amfitheatoff conducted for two weeks in January and Eugene Goossens for a week in November, and other guests were Georges Enesco and Nadia Boulanger, who was the first woman to conduct this organization. Richard Burgin, the concertmaster, also conducted a few programs. American works heard for the first time were Walter Piston's first symphony (April 9), Leo Sowerby's organ concerto (April 22) with E. Power Biggs as soloist; Nicolai Berezowsky's *Toccata, Variations, and Fugue* for string quartet and orchestra, with the Coolidge Quartet; Edward Burlingame Hill's violin concerto, with Ruth Posselt as soloist (November 11) and Vladimir Dukelsky's *Dedicaces* (December 16). Foreign works played for the first time in the United States included Prokofieff's *Peter and the Wolf* (March 25), a cello concerto by Thomas de Hartmann, an Ukrainian (April 14), played by Paul Tortelier, and Ernst Krenek's second piano concerto, played by the composer (December 22). The orchestra gave its annual "Pop" series under Arthur Fiedler in May and June.

Fritz Reiner, who was one of the guest conductors who shared the direction of the reorganized and enlarged Pittsburgh Symphony Orchestra in 1937-38, began his first season as its regular conductor November 18, when music from Strauss's ballet *Josephslegende* was played for the first time in the United States. The National Symphony Orchestra of Washington, D. C., continued a successful career under Hans Kindler, and José Iturbi began his third season with the Rochester (N. Y.) Orchestra in the fall.

Frederick A. Stock, with Hans Lange as associate conductor, began his 35th season with the Chicago Symphony Orchestra on October 13. Among the season's novelties were a concerto grosso by David Van Vactor, the orchestra's first flutist (February 17), and Zoltan Kurthy's symphonic rhapsody *Pusztá* (January 13). Paul Hindemith conducted the American premiere of his somewhat lengthy Symphonic Dances on March 3. Other works introduced to America were Nicolai Miaskovsky's Fourth Symphony (October 20) and *Hymns on Gregorian Melodies* by Karl Hoeller, a young German composer (November 3).

The year's first novelty in the programs of the Cleveland Orchestra under Artur Rodzinski was Arthur Shepherd's *Song of the Pilgrims* (January 13). Ernest Bloch's violin concerto had its first performance anywhere on December 15, with Joseph Szigeti as soloist, and Reinhold Gliere's third symphony, composed in 1897, was introduced to America November 3. Georges Enesco and Albert Stoessel conducted in December during the four weeks of Dr. Rodzinski's guest engagement with the NBC Symphony.

Eugene Goossens continued as conductor of the Cincinnati Symphony Orchestra, with José Iturbi and Hans Lange as guest leaders during his absence in England for the first six weeks of the 1938-39 season, the orchestra's 44th. For this season special features, including opera, which had been tried during the last few years, were dropped on grounds of expense. Mr. Goossens introduced John Moeran's new symphony to the United States in March and gave the first performance of his *Two Nature Poems*, originally written for piano 20 years before, on April 22.

In March, Vladimir Golschmann was reappointed for his eighth season as conductor of the St. Louis Symphony Orchestra, which began October 28. He directed the world premiere of Roland Manuel's *Peña de Francia*, February 25, and offered *Lohengrin* in concert form March 18. Albert Stoessel, in a guest appearance February 4, introduced a suite from his opera *Garrick*. Two new permanent conductors, Franco Ghione and Dimitri Mitropoulos, took charge of the Detroit and Minneapolis Symphony Orchestras in 1937-38. Mr. Ghione, whose associate was again Victor Kolar, introduced several Italian works to the United States. The Minneapolis Symphony substituted visits to other Minnesota cities for a tour.

The Portland (Oregon) Symphony Orchestra, conducted by Willem van Hoogstraten since 1924, suspended its activities for at least two years after 1937-38, owing to a six years' accumulated deficit. Nikolai Sokoloff, national director of the Federal Music Project, succeeded Basil Cameron in the fall as conductor of the Seattle Symphony Orchestra. The San Francisco Symphony Orchestra, late in February, gave the world premiere of Ernest Bloch's *Evocations* under Pierre Monteux. Otto Klemperer received a new three-year contract as conductor of the Los Angeles Philharmonic Orchestra, beginning with 1938-39.

Several of the regular conductors of the principal American symphony orchestras shared the direction of the various major summer outdoor orchestral series, such as the Stadium Concerts in New York and the Robin Hood Dell concerts in Philadelphia, both lasting for eight weeks, the six-week season on the Chicago Symphony at Ravinia, Ill., the five weeks of concerts in Washington, and the two months' season of the Los Angeles Philharmonic in the Hollywood Bowl, in which opera played an important part. Fifteen instrumental organizations, including the Chicago Symphony, and several internationally prominent soloists took part in 67 free summer concerts at Grant Park in Chicago under the auspices of the Chicago Federation of Musicians.

As before, Canada's principal organization was the Toronto Symphony Orchestra conducted by Sir Ernest MacMillan, with 85 musicians. Reginald Stewart again conducted a weekly Promenade series in Toronto from May 26 to October 13. Montreal had Les Concerts Symphoniques under Wilfred Pelletier and the Montreal Orchestra under

Douglas Clarke. The Orquesta Sinfonica de Mexico held its tenth summer season of weekly concerts under Carlos Chavez in Mexico City. Havana had two active orchestras, the Philharmonic under Amadeo Roldan and the Symphony under Gonzalo Roig.

Orchestras Elsewhere. Sir Henry Wood celebrated the 50th anniversary of the beginning of his career as a conductor with a jubilee concert in London at the Albert Hall on October 5, with Sergei Rachmaninoff as soloist. London was well served orchestrally in the winter, spring, and fall with the BBC Symphony Orchestra under Sir Adrian Boult, the London Philharmonic Orchestra under Sir Thomas Beecham, and the London Symphony Orchestra under guest conductors as the principal organizations. The BBC (British Broadcasting Corporation) Symphony Orchestra closed its 1937-38 season with a festival series under Toscanini in May and June. The Berlin Philharmonic Orchestra under Furtwaengler visited London in the spring and the Prague Philharmonic, under Rafael Kubelik, in November. Among prominent foreign conductors making guest appearances with the London orchestras were Felix Weingartner, Willem Mengelberg, Nicolai Malko, and Georg Szell, who is John Barbirolli's successor as conductor of the Scottish Orchestra.

Among new works presented in London were E. J. Moeran's first symphony, in G minor (L.P.O. under Leslie Heward, January 13); Robin Milford's Concerto Grosso, and Jean Francaix's piano concerto (Courtauld-Sargent concert under Malcolm Sargent, February 7); Arthur Benjamin's Romantic Fantasy for violin and viola (L.P.O., March 24, with the composer conducting); Ernst Krenek's piano concerto (BBC under Boult, April 8), and Cyril Scott's harpsichord concerto (L.P.O., in May). Jelly d'Aranyi introduced Schumann's violin concerto to England February 16 with the BBC Symphony under Boult. Its reception by the London critics was somewhat more favorable than that given by their New York colleagues earlier in the season.

The 44th season of London's Promenade Concerts under Sir Henry Wood had a 10 weeks' schedule beginning August 6. Novelties included a suite from Constant Lambert's ballet *Horoscope*, Benjamin Britten's piano concerto and variations on a theme by Frank Bridge, and Anthony Lewis's wordless choral overture.

Paris again had what was probably the largest quantity, if not the highest quality, of orchestral concerts among the world's large musical centers, with seven or more orchestras regularly in the field. One of the year's numerous new productions was Stravinsky's *Dumbarton Oaks* concerto, neoclassic in style, which was first played in a *La Serenade* concert in the spring. The critical reception was unfavorable.

The transfer of the Berlin Philharmonic Orchestra to state control made it possible to curtail the number of its miscellaneous concerts and guest conductors. The regular 1938-39 schedule offered two major subscription series of 10 concerts each, besides the morning public rehearsals, with Wilhelm Furtwaengler in charge of seven concerts of the first series. Owing to the public demand, Mr. Furtwaengler had to schedule a repetition of his programs, but this series was also sold out in advance. A third series under several conductors replaced the former popular series.

After the *Anschluss*, the personnel of the Vienna Philharmonic was Aryanized, and Wilhelm

Jerger, a double-bass player, was placed in charge as commissar. Siegmund von Hausegger resigned his post as conductor of the Munich Philharmonic Orchestra after 20 years' service, and was succeeded by Oswald Kabasta of Vienna.

Vaclav Talich continued as conductor of the Prague Philharmonic Orchestra. The principal orchestral centers in Italy during 1938 were Rome and Florence, with Bernardino Molinari as regular conductor of the Adriano concerts in the capital. Milan, apart from a few concerts by the orchestra of La Scala, depended mainly upon visiting organizations.

The post of associate conductor of Willem Mengelberg's Concertgebouw Orchestra of Amsterdam, long reserved for prominent conductors, was given to a Dutch conductor, Edward van Beinum, in January. Karl Krueger, the American conductor of the Kansas City Philharmonic, made guest appearances with the Budapest Concert Orchestra at home and on tour in Italy and Yugoslavia. A feature of the Warsaw Philharmonic Orchestra's winter season was the first performance of *The New Age* by the young Russian composer, Igor Markevitch. In Switzerland the Musik-Kollegium municipal orchestra in the small city of Winterthur gave a notably ambitious season under Hermann Scherchen and prominent guests.

Arturo Toscanini reappeared with the Palestine Symphony Orchestra in April, directing six concerts in three cities. The rest of the season was shared by Hans Steinberg, Eugen Szenkar, and Malcolm Sargent. In the opening concert of its autumn season the Tokio New Symphony Orchestra under Josef Rosenstock gave the first performance of a Japanese work, Saburo Moroi's second symphony, which was mainly Western in style, but distinguished by some Japanese touches. Malcolm Sargent and Georg Szell both made guest appearances in July and August with the principal orchestras of Australia.

Bibliography. The following is a partial list of important books upon musical subjects published in 1938.

REFERENCE: Oscar Thompson, editor: *The International Encyclopedia of Music and Musicians*, New York; Albert E. Wier, *The Macmillan Encyclopedia of Music and Musicians*, New York; Ernest Fowles, *The Oxford Companion to Music*, New York and London; Claire Reis, *Composers in America* (new edition), New York; Pierre V. R. Key, *Pierre Key's Music Year Book, 1938*, New York; Richard Franko Goldman, *The Band's Music*, New York; *Who's Who Today in the Musical World*, New York.

THEORY AND TECHNIQUE: Sir James Jeans, *Science and Music*, London and New York; Rosamond E. M. Harding, *Origins of Musical Time and Expression*, London; Vladimir Bakaleinikoff, *Elementary Rules of Conducting*, New York; André Pjacheski, *La Clef Unique*, St. Andre, Aube, France; William J. Henderson, *The Art of Singing*, New York; Bruno Aulich and Ernst Heimeran, tr. D. Millar Craig, *The Well-Tempered String Quartet*; Winthrop Parkhurst, *The Anatomy of Music*, New York; Ernst Ferand, *Die Improvisation in der Musik*, Zurich; Mrs. Justine Ward, *Music, Third Year* (Teachers' Manual), Washington; Mother Georgia Stevens, R.S.C.J., *Keys to Music-Land*, New York; Edwin Evans, *Technics of the Organ*, New York; Carl Emil Seashore, *Psychology of Music*, New York.

HISTORY: Nicolas Slonimsky, *Music Since 1900*, New York; Stewart Macpherson, *Cameos of Musical History*, London; Hugo Leichtentritt, *Music, History and Ideas*, Cambridge, Mass.; Francis W. Galpin, *Music of the Sumarians and Their Immediate Successors*, Cambridge, England; C. S. Phillips, D.D., *Hymnody Past and Present*, London; Gerald Abraham, *A Hundred Years of Music*, London and New York; Wesley La Violette, *Music and Its Makers*, Chicago; H. E. Jacob, *Johann Strauss und das neunzehnte Jahrhundert*, Amsterdam; Julius Kapp, *Geschichte der Staatsoper*, Berlin; Heinrich von Kralik, *Die Wiener Philharmoniker*, Vienna; May Silva Teasdale, *20th Century Opera at Home and Abroad*, New York; Josef Müller-Blattau, *Geschichte der deutschen Musik*, Berlin.

BIOGRAPHY: W. J. Turner, *Mozart, the Man and His*

Works, London and New York; Ferruccio Busoni, *Busoni's Letters to His Wife*, tr. Rosamond Ley, London and New York; Henry Coates, *Palestrina*, London; Vincent Seligman, *Puccini Among Friends*, New York; Frances Alda, *Men, Women, and Tenors*, New York; Geraldine Farrar, *Such Sweet Compulsion*, New York; Benget de Torne, *Sibelius, A Close-Up*, Boston; S. Kracauer, *Orpheus in Paris* (Offenbach), tr. Gwenda David and Eric Mossbacher, New York; *Mozart's Correspondence*, tr. and ed. by Emily Anderson, London; Imogen Holst, *Gustav Holst*, London; Nina Bernerowa, *Tschaikowsky, die Geschichte eines einsamen Lebens*, Berlin; Ignace Jan Paderewski, with Mary Lawton, *The Paderewski Memoirs*, New York; Clara Clemens, *My Husband, Gabrielowitsch*, New York; Daniel Gregory Mason, *Music in My Time*, New York; David Mannes, *Music Is My Faith*, New York; Lotte Lehmann, *Midway in My Song*, New York; Sir Henry Wood, *My Life in Music*, London; Mrs. Richard Powell, *Edward Elgar, Memories of a Variation*, London; Sam Franko, *Chords and Discords*, New York; Arthur Hoérée, *Albert Roussel*, Paris; Madeleine Goss, *Deep-flowing Brook, the Story of Johann Sebastian Bach*, New York; *Letters of Mozart*, ed. Hans Mersmann, tr. M. M. Bozman, London; *The Letters of Mozart and His Family*, ed. and tr. C. B. Oldman, vol. iii, London; Rudolf Gerber, *Johannes Brahms*, Potsdam; Friedrich Herzfeld, *Minna Planer und ihre Ehe mit Richard Wagner*, Leipzig; Walther Vetter, *Johann Sebastian Bach, Leben und Werk*, Leipzig; Marc Delmas, *Georges Bizet, 1838-75*, Paris; Georges Hoffmann, *Stradivarius, l'enchanteur*, Paris; Leo Slezak, *Song of Molley*, London; Richard Wagner, *Ausgewählte Schriften und Briefe*, ed. Alfred Lorenz, Berlin; Miles M. Kastendieck, *England's Musical Poet, Thomas Campion*, New York.

AESTHETICS AND CRITICISM: Pierre Aguetant, *Saint-Saëns par lui-même*, Paris; Bernard Shore, *The Orchestra Speaks*, London and New York; Donald Francis Tovey, *Essays in Musical Analysis*, vol. v, Vocal Music, London and New York; Frank Howes, *A Key to the Art of Music*, New York; Basil Maine, *The Glory of English Music*, London; Merle Armitage, ed. George Gershwin, New York; Sacheverell Sitwell, *La Vie Parisienne, A Tribute to Offenbach*, London; Lawrence Gilman, *Toscanini and Great Music*, New York; Eric Blom, *Beethoven's Piano Sonatas Discussed*, London; Cecil Gray, *The Forty-eight Preludes and Fugues of Bach*, London; Schima Kaufman, *Everybody's Music*, New York; Robert Bory, *La vie et l'oeuvre de Richard Wagner par l'image*, Paris; Joseph Loisel, *Manon, de Massenet, Etude historique et critique*, Paris; Julien Tiersot, *La damnation de Faust, Etude historique et critique*, Paris.

MISCELLANEOUS: Wolfgang Amadeus Mozart, *Verzeichniss meiner Werke* (facsimile), ed. Otto Erich Deutsch, Vienna; H. Howard Taubman, *Opera, Front and Back*, New York; H. H. Schwartz, *The Story of Musical Instruments*, New York; Lillias Mackinnon, *Music by Heart*, London; Dennis Stoll, *Music Festivals of Europe*, London; Gladys Burch and Helmut Ripperger, *The Music Quiz*, New York; Hans Renner, *Die Wunderwelt der Oper*, Berlin.

MUSICA, PHILIP (F. DONALD COSTER). An American manufacturer, committed suicide in Fairfield, Conn., Dec. 16, 1938. Philip Musica was born in Naples in 1877 and brought to New York City by his parents in 1883. The family subsequently entered the importing business, and in 1909 Philip was convicted of bribing customs weighers and was sentenced to Elmira Reformatory. Pardoned by President Taft in the following year, he, with others of the family, established the United States Hair Co. They were highly successful, but in 1912 the business collapsed revealing a gigantic fraud in which American and foreign banks were swindled out of a million dollars. The Musicas were captured just as they were about to escape to Honduras. Accepting full responsibility, Philip pleaded guilty, but in order that he might help the authorities untangle the affairs of the company, his sentence was deferred. He remained in the Tombs Prison, New York, from 1914 to 1916, when he received a suspended sentence and was released. Subsequently he worked as an investigator, under the name of William Johnson, for the U.S. Attorney's office in New York City. In 1920 he was indicted for subornation of perjury in the Baff murder case. Thereafter Philip Musica disappeared.

In 1922 Frank D. Coster established Girard & Co., manufacturers of hair tonic. His business so expanded that in 1926 he borrowed a million dol-

lars and purchased the drug firm, McKesson & Robbins Manufacturing Co., which he merged with his own business. During the ensuing years he bought several wholesale drug firms, the whole forming the firm of McKesson & Robbins, Inc. The firm prospered exceedingly, but in November, 1938, there were rumors that all was not well, and in December a petition was filed for reorganization declaring that the Company, in its last financial statement, overvalued its assets, the shortage appearing to be in the crude drug department ruled over by the president—F. Donald Coster. An investigation was immediately begun and after a search for an \$18,000,000 shortage, Coster was arrested on December 14. On the following day his fingerprints revealed the astounding fact that he was Philip Musica. Three of his brothers, also masquerading under false names, were associated with the firm and they too were arrested. Rather than face the charges brought against him, Philip committed suicide. Subsequent investigation of his business dealings led to the belief that he was implicated in other illegal activities.

Possessing great natural ability as a promoter, Musica fabricated elaborate frauds and created phantom companies and profits, as well as inventing a new life for himself, including a birth certificate, an education, and a profession.

MUSICK, EDWIN C. An American aviator, died in an airplane accident near Pago Pago, American Samoa, Jan. 11, 1938. Born in St. Louis, Mo., in 1894, his family moved to Los Angeles when he was a child and he received his education there in the local schools. Becoming interested in aviation, he learned to fly at a commercial school in California, and from 1914 to 1917 engaged in exhibition and commercial flying. He then entered the U.S. Army Air Corps, graduating from the flying school at San Diego, Calif., and served as a civilian instructor during the War.

After the Armistice he once again engaged in commercial flying. In 1921 he was associated with the Aeromarine Airways, learned the differences of overland and overwater flying, and began the study of navigation. Subsequently he was with the Mitten Air Transport, flying between Washington and Philadelphia. On Oct. 28, 1927, he joined the Pan American Airways and his first assignment was the opening of the initial 90-mile link between Key West and Havana. His reputation as a skillful and careful flyer brought him advancement, and in 1930 he was made chief pilot of the Caribbean division of the airline, which included the then longest overwater run in the world, 664 miles between Cristobal, C. Z., and Kingston, Jamaica. His experiments and the data gathered while on this post he later applied to the San Francisco-Manila run made in 1935. In 1934 he conducted with Colonel Lindbergh the test flights of the *Brazilian Clipper* at Bridgeport, Conn., and in August of that year made the initial flight of the *Clipper* to Buenos Aires and return in two days.

In 1935, Captain Musick made the first trial flight of the *China Clipper*. Starting from Alameda, Calif., on April 16, he landed at Pearl Harbor, Honolulu, the next day, establishing a record for the 2410-mile hop across that part of the Pacific, the time being 17 hours, 45 min. A second trial flight was made in June, a third in August, and a fourth in October. In November, the *Clipper* made the first regular transpacific passenger and mail commercial air flight to Manila under his command. They left Alameda, November 22, arrived at Honolulu, November 23, 2410 miles in 21 hours,

2 min.; left Honolulu, November 24 and arrived at the Midway Islands, November 24, 1320 miles in 9 hours, 1 min.; left Midway, November 25 and arrived at Wake Island the same day, covering 1269 miles in 8 hours, 28 min.; left Wake Island, November 26 and arrived at Guam, November 27, 1507 miles in 10 hours, 3 min.; left Guam, November 28, and arrived in Manila, November 29, 1508 miles in 11 hours, 25 min. The total distance was approximately 8115 miles, and the time taken 7 days or, in actual flying time, 59 hours and 47 min. This feat won for Captain Musick the Harmon Award for 1935 as the world's outstanding flyer and for his pioneering work in the transpacific service.

Later in March, 1937, the Pan American Airways sent him southward from Honolulu on a survey for an airway to Auckland, N. Z. Stops were made at a steamer anchored inside Kingman Reef and at Pago Pago, American Samoa. After completing the survey, he returned to Manila where the clipper was named the *Hong Kong Clipper* and put into service between Manila and Hong Kong. Later in the year it was remade into a plane for the New Zealand service and christened the *Samoa Clipper*, and on December 23, Captain Musick left Honolulu, reaching Auckland on December 26 and inaugurating the Auckland commercial service on December 29. Making its second round trip on this line linking the United States with Australia early in 1938, the *Samoa Clipper* was destroyed by a sudden fire resulting from the dumping of surplus fuel when preparing for landing at Pago Pago with one of its four engines not functioning. Captain Musick and his six associates perished.

With 15,000 hours and almost 2,000,000 miles of sea flying to his credit without a serious accident, Captain Musick ranked with Charles Lindbergh and Wiley Post among American aviators. Never a spectacular flyer, his pioneering work was done in the regular routine of his job, but he was more than an airplane pilot, being an expert navigator, a scientist, a meteorologist, and an economist. His voluminous reports and opinions were the basis for many of the plans of the American international air-mail and passenger system. His death closed a perfect record of 25 years.

MUTUAL ASSISTANCE PACTS. See ALBANIA, CZECHO-SLOVAKIA, FRANCE, GERMANY, GREAT BRITAIN, ITALY, RUMANIA, TURKEY, UNION OF SOVIET SOCIALIST REPUBLICS, and YUGOSLAVIA under *History*; BALKAN ENTENTE; BALTIC ENTENTE; LITTLE ENTENTE; PAN AMERICAN CONFERENCE.

NAKHICHEVAN AUTONOMOUS SOVIET SOCIALIST REPUBLIC. See AZERBAIJAN SOVIET SOCIALIST REPUBLIC.

NANYO. See JAPANESE PACIFIC ISLANDS.

NARCOTICS. The Advisory Committee on Traffic in Opium and other Dangerous Drugs held its 23d session in Geneva from June 7 to 24, 1938. From May 23 to June 15, the Advisory Committee met as a "preparatory committee for a conference to consider the possibility of limiting and controlling the cultivation of the opium poppy and the production of raw opium."

The Committee's report to the Council dealt mainly with: (1) Progress achieved in the application of the Opium Conventions; (2) the illicit traffic; (3) the position in the Far East; (4) the preparation of the conference for limiting the cultivation of the opium poppy and the production of raw opium.

On the basis of the annual reports, which were

more numerous in 1938 (145 as compared with 126 in 1937), the Committee reviewed the results obtained in the application of the 1925 and 1931 Conventions. It was noted with satisfaction that there was an increasing activity in the legislative field, several governments having announced the promulgation of new laws or the modification of existing legislation to bring it into conformity with their international obligations. In Argentina, the government had decided to accede to the Conventions of 1912, 1925, and 1931. A state monopoly had been set up for narcotic drugs, applicable in the province of Córdoba.

In Uruguay, the government, which had already established a state monopoly for the import and distribution of narcotic drugs in 1937, put into force the regulations in application of that law. A new law intended to give effect to the provisions of the International Conventions of 1912, 1925, and 1931 went into force in Czecho-Slovakia. Under the law a strict control was instituted over the production and sale of narcotic drugs and severe penalties were imposed. In Iran, since the institution of the monopoly, the system of export authorizations based on import certificates had been applied. Regulations had been issued with a view to limiting the use of smoking opium among workers in factories.

Information communicated to the Committee by the representatives of the United States of America pointed to an appreciable reduction in the number of addicts.

In Japan, important and rapid results had been obtained, according to the annual report of that country, in the treatment of drug addicts at the clinic established by the Medical Police Bureau at Tokyo in the Musashino Hospital. Of 536 addicts receiving treatment at the hospital, 522 had been discharged as cured following an average treatment of 12 days and 176 had relapsed.

In Egypt addiction has also decreased. The number of addicts in prison had fallen from 3500 in 1930 to 300 at the present time, a reduction of 95 per cent. The government proposed, after the abolition of the system of capitulations, to establish a definite and strict jurisdiction with a view to regulating foreign maritime traffic in Egyptian waters, thus barring the way to the international traffic in drugs, especially in the Suez Canal, where the passage of large quantities of drugs from the Far East destined for the United States of America was a real international danger.

In its report for 1937 the Committee reached the following general conclusions:

The manufacture of the five principal drugs (morphine, diacetylmorphine, cocaine, codeine, and dionine) had greatly decreased since 1931 in comparison with previous years, and the surplus from lawful manufacture, which might have escaped into the illicit traffic, had disappeared.

After 1931, the lawful world production of morphine corresponded very closely to legitimate world requirements; during the period 1931 to 1935, it almost coincided with the average annual requirements (approximately 29 tons).

From 1931 to 1935, through the stricter and more general application of the international conventions, not only was it possible to reduce considerably the total quantity of drugs manufactured and dealt in, but manufacture actually showed a definite tendency to become stabilized at the level of legitimate requirements.

The examination of the statistics for 1936 (the last year for which complete statistics are available) shows that as compared with 1935, there was a general and very marked increase in manufacture, a more or less pronounced increase in consumption and likewise a very marked increase in the quantities of morphine converted into other drugs. As regards world stocks of the five drugs in question, the position remained almost unchanged; on the other hand, there was a considerable falling off in the exports of those drugs.

The manufacture of morphine rose from about 30.8 tons in 1935 to 36.8 tons in 1936; of codeine, from 19.9 tons in

1935 to 24.3 tons in 1936; of dionine, from 1850 kg. in 1935 to 2600 kg. in 1936. The increase in the manufacture of heroin morphine amounted to 30 per cent of the total quantity, manufactures rising from 679 kg. in 1935 to 870 kg. in 1936. The quantity of cocaine manufactured in 1935 was approximately 4 tons and in 1936 4.2 tons.

The Opium Committee examined in detail the situation in the Far East and received substantial information which showed that the position to which attention was drawn in 1937 in the report to the League Council had grown still worse. These statements were made by the representatives of China, United States of America, Egypt and Canada. The Advisory Committee also heard a statement by the representative of Japan.

The Chinese representative reported that of the seven provinces which were still authorized to cultivate the opium poppy, two had already suppressed cultivation (Ninghsia and Shensi); two had advanced the date of suppression by two years, from 1940 to 1938 (Kansu and Kweichow); two provinces (Suiyuan and Szechuan) would have to suppress cultivation in 1939, while only one province (Yunan) had been obliged to postpone by one year the date of suppression (1939 instead of 1938).

With respect to manufactured drugs, hostilities had resulted in bringing about the disappearance of the Japanese and Korean traffickers in the territories not occupied by the Japanese troops. There was as a result an improvement in the situation. In the Chinese territories where Japanese influence was at work or which were occupied by Japanese troops, the production and consumption of opium or manufactured drugs was not only tolerated, but encouraged by the Japanese authorities. At Nanking the Chinese Government had succeeded in suppressing the use of opium and manufactured drugs. These products were openly sold after the occupation of the capital by the Japanese.

According to information supplied by the representative of the United States, a civil government set up by the Japanese army in Hopei had immediately taken charge of the supervision of narcotic drugs. The temporary laws of the Chinese National Government against opium and such drugs had been rescinded. Legal supervision of narcotic drugs in Northern China had ceased to exist in August, 1937, and illicit traffic and clandestine manufacture had grown to a considerable extent. The manufacturers had at their disposal an unlimited supply of raw materials in the shape of crude morphine from the factory of the Manchoukuo Opium Monopoly and Iranian opium.

The system established by law and by the regulations promulgated under the law seemed designed for no other purpose than to secure to the Government Monopoly the profits from manufactured drugs as well as those from raw and prepared opium. At the beginning of March, 1938, the Monopoly shops in Manchoukuo were selling opium without restrictions and without the production of permits. This opium came from Korea and its illicit introduction into Manchuria had been openly encouraged, aided, and abetted by the Governor-General of Korea. The exports notified by Korea as having been effected directly to Manchuria had increased from 1899 kg. in 1933 to 11,238 kg. in 1936.

According to information supplied by the Representative of Egypt, the existence of a heroin and opium Monopoly in Manchoukuo was an admitted fact. In 181 cities in Manchuria and Jehol there were 3840 opium saloons and 8400 heroin dens.

The representative of Japan, after explaining the position in the light of this information, chal-

lenged the accuracy of the details provided by the representatives of China, the United States, and Egypt and denied some of them. He categorically denied that the Japanese military authorities or any officer of the Japanese army had encouraged illicit traffic or illicit manufacture of narcotics or that the army was implicated in cases of the kind. The Japanese Government was of the opinion that the promulgation of regulations in narcotic drugs in Manchoukuo and the application of the opium legislation by a unified administration would result in reducing difficulties in the future and enabling the government to carry out its program for the control of opium and narcotic drugs. At the end of the debate the Committee adopted a resolution in which it drew the attention of the Council "to the gravity of the situation," and recommended that the Council should officially communicate to the governments of China and Japan and to the other governments concerned, through the Secretary-General, the minutes of the Advisory Committee's discussions on the situation in the Far East.

NATAL. See SOUTH AFRICA, UNION OF.

NATIONAL ACADEMY OF DESIGN.

An organization of American artists, established in New York City in 1825 and incorporated in 1828 for the purpose of "the cultivation and extension of the arts of design." In 1906 the Society of American Artists merged with the Academy.

The Academy maintains annual Exhibitions of painting, sculpture, and engraving, to which all artists may contribute, subject to jury. At these exhibitions various prizes are awarded. It conducts an Art School at which no tuition is charged. It also administers the Henry W. Ranger Fund for the purchase of paintings, to be presented to various museums. Its membership is limited to professional painters, sculptors, engravers, and architects.

The Academicians elected at the annual meeting in April, 1938, were: Randall Davey, Raymond P. R. Neilson, George Oberteuffer, Abram Poole, J. Scott Williams, and Andrew Winter, painters; Gaetano Cecere and Sidney Waught, sculptors; and Paul P. Cret, architect. The Associates elected in March, 1938, were: Kenneth M. Adams, Carl Oscar Borg, Jon Corbino, Frederick G. Hall, Bernard M. Keyes, Antonio Martino, Ogden M. Pleissner, Helen Sawyer, and Alice Kent Stoddard, painters; Eleanor M. Mellon and Wheeler Williams, sculptors; and Ralph Adams Cram, Wallace K. Harrison, and Charles Z. Klauder, architects; Asa Cheffetz and Stow Wengenroth, Workers in the Graphic Arts.

The officers were: Jonas Lie, president; Charles C. Curran, corresponding secretary; Charles S. Chapman, recording secretary; and Henry Prellwitz, treasurer. Headquarters are at Amsterdam Avenue and 109th Street, New York City, where there also is located the Academy's School, Charles L. Hinton, dean, and Virginia Ferrell, clerk of the Academy.

NATIONAL ACADEMY OF SCIENCES.

The National Academy of Sciences was incorporated by Act of Congress in 1863 for the purpose of investigating, examining, experimenting, and reporting upon any subject of science or art whenever called upon by any department of the United States Government. Membership is by election, in recognition of outstanding achievements in scientific research, and is limited to 350 active members and 50 foreign associates. Members must be citizens of the United States. New members are elected by the Academy on nominations from its 11 Sections: Mathematics, Astronomy, Physics,

Engineering, Chemistry, Geology and Paleontology, Botany, Zoology and Anatomy, Physiology and Biochemistry, Pathology and Bacteriology, and Anthropology and Psychology. The names considered by the Sections in their nominating ballots originate from suggestions made by the members.

At the Annual Meeting held in Washington, D. C., Apr. 25-27, 1938, 15 new members were elected, as follows: Carl David Anderson, Walter Hermann Bucher, Edward Adelbert Doisy, John Adam Fleming, Theodore von Karman, Warren Kendall Lewis, William de Berniere MacNider, Carl Shipp Marvel, Theophilus Shickel Painter, Worth Huff Rodebush, Lewis John Stadler, George Walter Stewart, Marshall Harvey Stone, Louis Leon Thurstone, Simeon Burt Wolbach. Four additional foreign associates were elected: Alfred Fowler, of London; Pierre Janet, of Paris; S. P. L. Sørensen, of Copenhagen; and D. M. S. Watson, of London. Two gold medals were presented at the dinner on April 26: The Agassiz Medal for Oceanography, which had been awarded to Edgar Johnson Allen, director emeritus of the Plymouth Laboratory of the Marine Biological Association of the United Kingdom, Plymouth, England, in recognition of his personal researches on marine biology and the great influence which he has exerted on the study of marine organisms in their relation to the marine environment, was received for him by a representative of the British Embassy, for transmission through diplomatic channels. The Public Welfare Medal was presented to Mr. Willis Rodney Whitney, of the General Electric Company research laboratories, in recognition of his outstanding work in the fundamentals of scientific research for the public good.

The Autumn Meeting was held at the University of North Carolina, Chapel Hill, N. C., Oct. 24-26, 1938. The Academy publishes an Annual Report, Biographical Memoirs of its deceased members, occasional scientific Memoirs, and monthly Proceedings.

The officers of the Academy are: Frank R. Lillie, president; Arthur L. Day, vice-president; L. J. Henderson, foreign secretary; F. E. Wright, home secretary; Arthur Keith, treasurer. The Academy building is at 2101 Constitution Avenue, Washington, D. C.

NATIONAL ADVISORY COUNCIL ON RADIO IN EDUCATION. THE. An organization established in 1930 to promote the more effective utilization of the art of broadcasting in the general field of American education. It was incorporated in December, 1931, and membership, which is open to those interested in the development of educational broadcasting, is active and associate. Active membership is limited, but associate is unlimited. Funds for the basic administration and maintenance of the organization, for a minimum period of three years, were provided by John D. Rockefeller, Jr., and by the Carnegie Corporation of New York. The Council is now maintained by a grant from the Carnegie Corporation.

The fifth Annual Assembly of the Council was held in Columbus, Ohio, in May, 1935, in conjunction with the sixth Annual Institute for Education by Radio. The second National Conference on Educational Broadcasting was held in Chicago, Ill., Nov. 29, 30, and Dec. 1, 1937, under the sponsorship of various organizations interested in the various aspects of education and radio. Bulletins and publications relating to the Council's work and kindred subjects are issued at intervals.

The officers in 1938 were: President, Robert A.

Millikan; vice-presidents, Livingston Farrand, Robert M. Hutchins, Meta Glass, Walter Dill Scott, Robert G. Sproul; treasurer, William J. Donovan; secretary, Levering Tyson. Headquarters are at 60 East 42d St., New York City.

NATIONAL ASSOCIATION OF MANUFACTURERS. A voluntary organization of corporations and individuals engaged in production of manufactured goods. Founded in Cincinnati in 1895, the membership numbers approximately 6000 manufacturers from all industrial centers of the United States. These members, who are conservatively estimated to employ more than 50 per cent of the manufacturing employees of the country, contribute to the support of the Association. Offices are maintained in New York, Washington, D. C., and San Francisco, and the policies are controlled by a Board of Directors, consisting of representatives of large and small firms in various industries from all parts of the country. The general aims and purposes of the Association as set forth in its Constitution are:

The promotion of the industrial interests of the United States, the fostering of the domestic and foreign commerce of the United States, the betterment of the relations between employer and employee, the protection of the individual liberty and rights of employer and employee, the education of the public in the principles of individual liberty and ownership of property, the support of legislation in furtherance of those principles and opposition to legislation in derogation thereof.

Activities are grouped under four general headings: Public Relations, Economic Research, Employment Relations, and Legislative. To serve its members the Association issues a weekly *News Letter*, a bi-monthly *Social Security Bulletin*, a monthly *Labor Relations Bulletin*, a monthly *Law Digest*, and occasional bulletins on agriculture, tariffs, and other subjects related to industrial management. Also, it maintains a research staff and an industrial library to furnish information to its members. Principal among the institutions which the Association has fought for during the past 42 years are the Panama Canal, the U.S. Department of Commerce, the original "pure-foods" laws, an enlarged foreign trade, the Parcel Post, the Federal Reserve System, the non-partisan, semi-judicial tariff commission, a strong merchant marine, Workmen's Compensation, and Safety Work. The Association also was instrumental in forming the National Industrial Council Board, the National Safety Council, and the Chamber of Commerce of the United States.

At the annual meeting of the Association, held in New York, Dec. 7-10, 1938, and at which Anthony Eden was the principal speaker, a "Program for American Progress" was adopted which strongly urged reduction and revision of Federal taxes; amendment of the Wagner Act and the Wage-Hour Act; and enactment of additional legislation to encourage employment providing investment in public industry.

The officers of the Association for 1938 were: Chairman of the Executive Committee, C. M. Chester, Chairman of the Board of General Foods Corporation; Chairman, Board of Directors, William B. Warner, President, McCall Corporation; President, Charles R. Hook, President, The American Rolling Mill Co.; Vice-Presidents, Edgar M. Queeny, President, Monsanto Chemical Co.; Walter J. Kohler, Chairman of the Board, Kohler Co.; S. Clay Williams, Chairman of the Board, R. J. Reynolds Tobacco Co. There are also seven regional Vice-Presidents. Walter B. Weisenburger

is Executive Vice-President of the Association and the active full-time head.

NATIONAL BAPTIST CONVENTION OF AMERICA (NEGRO). The Convention held its session in the Masonic Mosque at Fort Worth, Texas, Sept. 7-12, 1938. "Christ, the Hope of the World" was the slogan for the entire five days' session. Reports were made to the parent body by the Publishing Board, the Woman's Auxiliary, the Foreign Mission Board, Home Mission Board, Benevolent Board, B.Y.P.U. Board, Evangelical Board, and the Railroad Commission. These reports were all adopted and became a part of the convention's work.

There were 44 accomplishments during the week, as were set out in detail in the *National Baptist Union-Review*, following the close of the convention's fifty-eighth annual session. Fraternal representatives brought greetings to the convention from the Southern Baptist Convention (white). One additional state convention was added to the list of members, bringing the affiliated state organization up to 67 in number.

There was reported 22,240 ordained ministers, with a church membership of 3,780,320. There were 21,802 organized Sunday Schools and Baptist Young People's Unions with an enrollment of 2,651,510. Contributions from all sources of the convention raised by the various churches, state, and district associations in sympathy with or members of the convention, passed the \$10,000,000 mark.

The next session of the convention was awarded to Los Angeles, Cal., the dates will be Sept. 6-10, 1939. No changes were made in the personnel of the chairmen and secretaries of the several boards operating under the convention that are to do the work of the entire body during the interim.

The headquarters of the National Baptist Convention of America were designated as 523-2d Avenue North, Nashville, Tenn., at the National Baptist Publishing Board's plant. The personnel of the officials is Rev. G. L. Prince, D.D., president, Galveston, Texas; Rev. C. P. Madison, D.D., secretary, Norfolk, Va.; Rev. A. A. Lucas, D.D., treasurer, Houston, Texas; Rev. G. C. Coleman, D.D., first vice-president, Oakland, Cal.

NATIONAL CHILD LABOR COMMITTEE. See CHILD LABOR.

NATIONAL CIVIC FEDERATION, THE. This movement was organized in 1900 to seek the solution of some of the great problems related to social and industrial progress. It provides especially for the discussion of questions of national import, aids in the crystallization of an enlightened public opinion, and promotes legislation when desirable.

During 1938 it inaugurated a movement for the Protection of American Civil and Property Rights in foreign countries with particular reference to the expropriation by the Mexican Government, without probability of payment, of American-owned mining, oil, timber, fruit and farm lands, factories, and other properties. The purpose of the undertaking is to uphold Secretary of State Cordell Hull in his attitude against confiscation, urging the continuation and, if necessary, the extension of his firm policy in relation thereto. It takes the position that the action of the Mexican Government places in jeopardy the vast structure of our investments and prestige; and that, to admit the right of any government through its own legislation to take the property of American citizens without just and

immediate compensation would imply the acceptance by our own Government of the nullification of a universally accepted principle of international law based upon reason, equity, and justice.

As there have been, since Jan. 1, 1934, criminal violations of our laws, the Federation has advocated that there be invoked, in the interest of law enforcement, the Federal Act providing punishment for seditious conspiracy and the various state statutes penalizing criminal syndicalism and criminal anarchy. It has continued to urge that the Congress of the United States make sufficient and adequate appropriation to enable the Bureau of Investigation of the U.S. Department of Justice to be fully advised at all times of the activities of any party, group, or organization, which seeks the overthrow of the Government of the United States by force, violence, or any unlawful means.

The Federation maintains as its definite policy the findings of its Municipal Ownership Commission in favor of private operation of municipal utilities with adequate regulation, and is furthering the study thereof.

The executive in charge is the founder of The National Civic Federation, Ralph M. Easley, Chairman Executive Council. The headquarters are at 570 Lexington Ave., New York City.

NATIONAL COMMITTEE ON EDUCATION BY RADIO. This Committee, appointed by the U.S. Commissioner of Education (see *NEW INTERNATIONAL YEAR BOOK* for 1934, p. 609), is the official representative of the nine important national educational associations which constitute its membership. It acts as a spokesman in radio for organized education. It assists in protecting the privileges of educational broadcasting stations, promoting broadcasting to schools, and stimulating the improvement of the public broadcasting service.

The Committee's activities include publishing the periodical—*Education by Radio*. The Committee called a national conference on "The Use of Radio as a Cultural Agency in a Democracy." This conference, held on May 7 and 8, 1934, adopted a set of fundamental principles which are basic to the setting up of a sound system of broadcasting. The Committee has encouraged research in education by radio and has promoted and co-ordinated experiments in the use of radio, both in school and adult education. It has sent representatives to state, national, and international conferences and has furnished speakers for important national civic groups.

At present the Committee is sponsoring the development of a Public Broadcasting Service. The purpose of this Service is to create a working organization through which educational institutions and agencies, service departments, and citizens' groups can mobilize their broadcasting resources, raise the standards of their presentation, and demonstrate a co-operative method of maintaining working relationships between broadcasting stations and the producers of noncommercial programs. This can be done on local, regional, or national bases.

The chairman of the Committee is Arthur G. Crane, president, University of Wyoming. The vice-chairman is H. J. Umberger, director, division of extension, Kansas State College of Agriculture and Mechanic Arts. The secretary, who administers the Committee's activities, is S. Howard Evans. The offices of the Committee are located at Room 308, 1 Madison Avenue, New York, N. Y.

NATIONAL CONGRESS OF PARENTS AND TEACHERS, THE. A national welfare body organized on Feb. 17, 1897, in Washington,

D. C. The co-founders were Mrs. Theodore W. Birney and Mrs. Phoebe H. Hearst, both of Washington. The original name was "National Congress of Mothers." In 1908 the name was changed to "National Congress of Mothers and Parent-Teacher Associations," and again was changed to "National Congress of Parents and Teachers" in 1924. It functions through approximately 27,000 local parent-teacher associations in urban and rural communities in every state, District of Columbia, Hawaii, and Alaska.

The local parent-teacher association has a three-fold purpose: To know the child through child study and parent education; to co-operate with the schools and other educational agencies in his training, through shared participation with teachers and educators; and to control and build his environment through the development of public opinion and civic activity.

The Congress membership as of Apr. 15, 1938, was 2,222,218. Persons interested in child welfare become members of the National Congress by joining a Congress parent-teacher association. The annual dues for membership in the National Congress is five cents. The life membership fee is \$50.

The P.T.A. is founded on the premise that the community itself is the true school of youth, and that all activities of the community tend to modify the development of children and young people. The P.T.A. capitalizes on all community institutions and sentiments that tend to improve the environment of children.

Because the objects of the organization are broad enough to cover practically all needs and interests of American children and youth, the program of work of the P.T.A. has been very flexible through the years. The fields covered include civic welfare, health, education, and family relationships.

The Congress publishes many books, leaflets, pamphlets, bulletins, and other publications on subjects of major interest to its local associations. The annual *Proceedings* and *Parent Education Yearbooks*; leaflets on organization and standing committee subjects; the *Parent-Teacher Manual*; and the monthly *National Congress Bulletin* are among its most widely used publications. The *National Parent-Teacher* is the official magazine.

The Congress holds an annual convention in the spring to which its state branches send delegates. Reports and papers of permanent value presented at these meetings are included in the *Proceedings* of the Convention. The Board of Managers, composed of selected officers, chairmen of standing committees, and presidents of state branches, meets semi-annually.

The National Office of the Congress is located at 1201 Sixteenth Street, N.W., Washington, D. C.

NATIONAL EDUCATION ASSOCIATION OF THE UNITED STATES. An organization of approximately 200,000 persons actively engaged in educational work or interested in the promotion of education. Its purpose is to "advance the interests of the teaching profession, promote the welfare of children, and foster the education of all the people." The Association was organized in Philadelphia in 1857 and incorporated by an act of Congress in 1906. The *Journal of the National Education Association* is the official monthly publication. Various branches of education are represented in the Association by 24 departments. A large group previously organized separately came into the Association as a department during the year with the name American Association for Health, Physical Education, and Recrea-

tion. As a continuation of the Horace Mann Centennial celebration, the Association is sponsoring Future Teachers of America, an organization which serves youth in high schools and colleges.

The seventy-sixth annual convention of the Association was held in New York City, June 26-30, 1938. There was an address by President Franklin D. Roosevelt in which he pointed out the need for Federal aid to equalize educational opportunity throughout the nation. The convention registered an attendance of 15,075 with 1672 delegates to the representative assembly. The winter convention under the direction of the American Association of School Administrators was held in Atlantic City, N. J., Feb. 27 to Mar. 3, 1938. The subject of the yearbook prepared for discussion at this meeting was *Youth Education Today*.

The officers of the NEA for 1938-39 are: President, Reuben T. Shaw, Philadelphia, Pa.; executive secretary, Willard E. Givens, Washington, D. C.; secretary emeritus, J. W. Crabtree, Washington, D. C.; and treasurer, R. E. Offenbauer, Bowling Green, O. Headquarters are at 1201 Sixteenth Street, N. W., Washington, D. C.

NATIONAL FIRE PROTECTION ASSOCIATION. See FIRE PROTECTION.

NATIONAL FORESTS. See FORESTRY.

NATIONAL GALLERY OF ART. See ART MUSEUMS.

NATIONAL HOUSING ACT. See UNITED STATES under CONGRESS; FINANCIAL REVIEW.

NATIONAL INDUSTRIAL RECOVERY ACT (NIRA). See MINIMUM WAGE.

NATIONAL KINDERGARTEN ASSOCIATION. An organization founded and incorporated in New York City in 1909, with the object of helping to secure the advantages of kindergarten education for all of the nation's children. The Association is supported entirely by voluntary gifts. The money is used for the purpose of promoting a knowledge of and an interest in the value of the kindergarten as an integral part of the public school system. Field Secretaries are employed in every state to keep this matter before the public and assist parents in having classes organized for their children.

The Association has been instrumental in securing the establishment to date of 2229 kindergartens, which have enrolled over 868,106 children. Where no adequate provision has been made in the State school laws for the maintenance of kindergartens, the Association has worked to stimulate an effort to secure the enactment of improved laws and has been instrumental in obtaining their passage in 16 instances.

Early in 1938 the work being done on the Cope-land-Bloom Pregrade Education Bill, which was introduced into Congress by the Association in 1937, was transferred to the Harrison-Thomas-Fletcher Bill. It was expected that before the latter was passed, an amendment in favor of pregrade classes would be secured. The Association plans to continue the effort in 1939.

The officers of the Association are: Maj. Bradley Martin, president; Hon. P. P. Claxton, honorary president; Miss Lena Madesin Phillips, vice-president; Mrs. Roger C. Aldrich, secretary; Miss Bessie Locke, executive secretary; and Julian M. Gerard, treasurer. Headquarters are at 8 West Fortieth Street, New York City.

NATIONAL LABOR RELATIONS BOARD (NLRB). See LABOR ARBITRATION; LABOR UNIONS; MINIMUM WAGE; UNITED STATES under Administration.

NATIONAL MUNICIPAL LEAGUE. An organization which acts as a central clearing house for current information on improvements in local and State government, founded in 1894 and incorporated in 1923. Its aim is to promote honest, efficient, economical, and responsive local government. Among its committees are those on model corrupt practices law, public works, county government, liquor legislation, model tax collection law, new municipal program, model administrative code, citizen organization for municipal activity, selection of judiciary, model special assessment law, model State constitution, proportional representation, and personnel. The national federation of citizens' councils is a section of the league.

The 44th annual meeting of the league was held in Baltimore, Md., Dec. 1-3, 1938. Co-operating in this conference were the Proportional Representation League and the National Association of Civic Secretaries. The officers elected for 1938-39 were: President, Clarence A. Dykstra, Madison, Wis.; vice-president, Marguerite M. Wells, Washington, D. C.; treasurer, Carl H. Pforzheimer; and secretary and editor of the *National Municipal Review*, Howard P. Jones. Headquarters are at 309 East Thirty-fourth Street, New York City.

NATIONAL PROGRESSIVES OF AMERICA. See WISCONSIN.

NATIONAL RECREATION ASSOCIATION. An association organized in 1906, under the name of the Playground Association of America, for the purpose of uniting in a national movement the efforts made in various parts of the United States to provide safe and adequate areas where children might play under experienced leadership. In recent years, however, its work has expanded to include the community as a whole, a staff of field workers being maintained to assist cities in organizing year-round programs for adults as well as for children.

The association carries on its work through such services as physical education, music, drama, park recreation, recreation for girls and women and for institutions, a bureau of colored work, and, in co-operation with the U.S. Department of Agriculture, a service to rural leaders. It conducts institutes for the training of recreation workers and an annual Recreation Congress. Its official magazine is *Recreation*, a monthly. The officers in 1938 were: President, John H. Finley, Ph.D.; treasurer, Gustavus T. Kirby; and secretary, Howard S. Braucher. Headquarters are at 315 Fourth Avenue, New York City.

NATIONAL RESEARCH COUNCIL. An organization of American scientists, originally established in 1916 by the National Academy of Sciences for the purpose of co-ordinating the research facilities of the United States for work on war problems involving scientific knowledge, and reorganized in 1918 as a permanent body for the general encouragement of research in the natural sciences. The Council has close relationship with governmental scientific agencies, and has the formal recognition and co-operation of over 80 national scientific and technical societies, its membership being composed mainly of appointed representatives of these societies.

Among the major undertakings of the Council during 1938 were the administration of postdoctorate fellowships (numbering 42); the publication of the third report of the Committee on Photochemistry; and the compilation of material for a sixth edition of the list of industrial research laboratories of the United States; plans for the establishment

of a journal for the publication of contributions in the field of psychosomatic medicine; investigations upon educational uses of the radio, motion pictures, phonograph, microphotography for record purposes, and the development of special calculating machines; and research upon problems relating to the physics of the earth, highway construction and highway safety, electrical insulation, heat transmission, the preservation of books and records, the chemistry of cellulose and allied substances, problems of mathematics as related to chemistry, density currents, the chemistry and pharmacology of narcotic drugs, psychobiological aspects of sex, endocrinology, the effects of radiation on living organisms, aerobiology, and problems of neurotic behavior.

The general administrative officers of the Council for 1938-39 were: Chairman, Ross G. Harrison, Sterling professor of biology, emeritus, Yale University, New Haven, Conn.; Treasurer, Arthur Keith, geologist, 2210 Twentieth Street, N.W., Washington, D. C.; Executive Secretary, Albert L. Barrows. Headquarters: National Academy of Sciences Building, 2101 Constitution Avenue, Washington, D. C.

NATIONAL RESOURCES COMMITTEE. See CITY, DISTRICT, STATE, REGIONAL, and NATIONAL PLANNING; SEWERAGE AND SEWAGE PURIFICATION; WATERWORKS AND WATER PURIFICATION.

NATIONAL SAFETY COUNCIL. A co-operative association, devoted to the conservation of human life through a continuous campaign of accident prevention in industry, on the highway, in the home, and elsewhere. In 1938 there were nearly 5000 members, including corporations, firms, individuals, public officials, schools, chambers of commerce, clubs, and civic organizations. About 70 per cent of the members were industrial concerns. Affiliated with the national organization were 56 local councils in as many communities throughout the United States.

During 1938 the Council's activities laid especial emphasis on the highway accident problem. The Council was happy to report a markedly lower total of traffic accident fatalities for 1938—the first decrease in six years.

The Seventh Annual National Traffic Safety Contest was conducted, in which 1158 municipalities in 47 States participated.

The Council publishes the *National Safety News* and *The Industrial Supervisor* for industry; *Public Safety*, a magazine that treats all phases of the automobile traffic accident problem, for public officials, police chiefs, etc.; *Safety Education* for schools; *The Safe Worker* and *The Safe Driver* for industrial employees. It also issues *Safe Practices* and *Health Practices Pamphlets* for industry.

The 27th National Safety Congress was held in Chicago, Ill., Oct. 10-14, 1938. The officers for 1938-39: President, D. D. Fennell; Vice-President for Membership, R. T. Solensten; Vice-President for Industrial Safety, Frank H. Harrison; Vice-President for Public Safety, Dr. Miller McClintock; Vice-President for Engineering, Walter S. Paine; Vice-President for Safety Councils, A. V. Rohweder; Vice-President for Education, Albert W. Whitney; Vice-President for Finance and Treasurer, C. W. Dempsey; Secretary and Managing Director, W. H. Cameron. National Safety Council offices: Civic Opera Building, 20 North Wacker Drive, Chicago, Ill. See PSYCHOLOGY.

NATIONAL YOUTH ADMINISTRATION. See CHILD WELFARE.

NATURAL GAS. See GAS.

NAURU, nā'ōō-rōō. An atoll in the Pacific (166° E. longitude and 26 miles south of the equator), mandated to the British Empire, on Dec. 17, 1920, by the League of Nations. Area, 8.43 square miles; population (Apr. 1, 1937), 3097, including 194 Europeans. The principal industry is the mining of phosphate (688,900 tons exported in 1937); a small amount of copra is exported. In 1937 imports were valued at 144,453 Australian pounds; exports, £A513,989. In 1936, 91 vessels (441,804 gross tons) entered and cleared. There is a wireless station on the island. For 1936 revenue amounted to £24,906; expenditure, £23,989.

During July, 1919, Great Britain, Australia, and New Zealand agreed that Australia should appoint the first administrator for a term of five years, and subsequently the administrator was to be appointed as the three governments should decide. The administrator has all the powers of government (administrative, legislative, and judicial) in the island. Administrator, Commander Rupert C. Garsia (appointed, Jan. 17, 1933).

NAVAL EXPANSION ACT. See UNITED STATES under Congress.

NAVAL PROGRESS. The struggle among naval powers to gain relative superiority over potential opponents continued at an accelerated rate. The admiralies gave ample evidence that advantage in sea power, not merely a quantitative superiority, was the end sought. This competition for the utmost in fighting strength of individual units brought about continually increasing expenditures for each ship built; a striking example of that being the increase in estimated costs of America's new battleships from \$50,000,000 when first proposed to the latest figures of \$80,000,000. Naval progress was concerned not only with more, faster, and stronger combatant vessels, but with development of naval aviation, training, and indoctrination of skilled personnel, provisions for well-equipped and well-defended naval bases, and with availability of suitable and ample auxiliaries.

During 1938 the money and the efforts expended in connection with those subsidiary activities for increasing naval power and mobility were noteworthy. The United States organized a board, headed by a former Commander-in-Chief of its fleet, to make an exhaustive study of the naval needs for fleet and air bases. Japan continued to provide high-speed auxiliaries for naval service, particularly tankers, and vessels capable of rapid conversion into aircraft carriers. Italy went forward with her development of bases, and apparently was firmly entrenched in the Spanish Balearic Islands. England, with work on the great Singapore base completed, gave attention to the development of facilities at Alexandria and Capetown. Germany not only expanded her building plants in the homeland; but gave well-informed observers cause for alarm over alleged occupancy of advance bases in Spanish territory. France made further provisions for removing naval upkeep and repair facilities on the African coast to a greater distance from Italian air bases. Smaller powers made progress in developing their own plants in order to lessen dependency on the great powers for building and major repairs.

Governments and their technicians found increasing difficulty in making qualitative comparisons between their fleets and those of other powers because large and rapid building programs resulted in considerable variations in the characteristics of ships of the same size being built by the various

powers, and because the nature of new devices and even the general characteristics of ships were kept secret. Legislative bodies and publicists concerned themselves principally with numbers of ships and the size of guns, but technicians were no less interested in speed, cruising radius, amount of armor, and the like. The powers who adhered to the 1936 London Naval Treaty exchanged information with one another in accordance with terms of that treaty as to ships laid down, their size, and the number and sizes of guns but not as to other features. But such important powers as Russia and Japan were neither parties to that treaty nor to similar ones; and they carefully guarded all information connected with their naval building activities.

While no new types of ships were brought forth certain general tendencies were evidenced. The United States sacrificed some speed in her new battleships in order to mount 16-inch guns and to use more horizontal and vertical armor. Germany chose to build a large number of small submarines rather than fewer large ones. Japan was reported as emphasizing armament; so much so, that some naval constructors felt that stability may have been too much sacrificed. Italy and France were insistent on very high speed for light forces; and the former country apparently gave great attention to use of mines. Great Britain followed its usual conservative trend, but gave increased consideration to anti-aircraft protection, and elected to arm her destroyers with 4.7-inch guns rather than with the 5-inch more generally adopted. That country also gave more attention than did any other to the development of escort and patrol vessels. The smaller powers devoted large proportions of their naval expenditures to submarine construction, and, in general, demanded high speed for such light-surface craft as they ordered.

The large number of battleships under construction and authorized clearly showed that all powers regarded those heavy ships as the bulwark of naval power, and that the doubts of a few years past that they would be able to withstand aircraft attacks had been dispelled. The treaty tonnage of most of those laid down during the year was 35,000; but those building in Japan were believed to be somewhat larger. Plans for some projected ships authorized but not commenced were being drawn for 45,000 tons. The United States ships were to carry 16-inch guns in their main batteries; the newest construction in Great Britain and Japan was expected to have guns of that same caliber; while the heavy ships of other powers were reliably reported as being equipped with 15-inch types. Their anti-aircraft batteries were no longer to be 3-inch but 4.5-inch or 5-inch. Questions of weight and ammunition supply prevented adoption of 6-inch guns for that purpose. In some instances separate batteries were provided for anti-aircraft and anti-torpedo craft defense; in others, guns and mounts were designed and arranged to serve the double purpose. Machine-gun batteries of .50 caliber or more were provided to supplement the primary anti-aircraft defense.

The trend in size of destroyers continued upward, so much so that there remained but little line of demarcation between large destroyers and small cruisers except that the former carried more torpedoes. There was an increased proportion of the number that carried all torpedo tubes on the center line, and quadruple tubes were becoming commonplace.

Among naval air forces there were no marked

changes in the normal line of developments, but there was a considerable numerical increase. From an administrative viewpoint there was a growing tendency toward closer association between naval air and surface activities, and wider separation between naval air and other air arms. In addition to aircraft carried in ships several major naval powers maintained forces of flying boats specially equipped and trained to carry out certain naval functions. During the year progress was made in increasing the strategic mobility of those squadrons through the construction and development of suitable bases and building of specially designed tenders.

The accompanying tabulation of numbers and tonnages of the various classes of combatant ships for each of the great naval powers furnishes a basis of comparison in those particulars. In some instances the data while not official are based upon reliable information.

expected to be commissioned early in 1939. Except for the two battleships built in 1915, she was the largest vessel in the navy. With a displacement of 7000 tons she carried 9 6-inch guns in 3 triple turrets, 4 4-inch A.A. guns, 6 21-inch torpedo tubes, 2 small aircraft, and made a speed of 31 knots. The disposition of her turrets, 2 forward and 1 aft, the arrangement of her A.A. battery aft, and the general layout gave her the appearance of the British *Arethusa* class except for the flush deck. Like British cruisers in general her two funnels were wide apart with the catapult between. This arrangement came from placing engine and fire rooms alternately to minimize danger of losing all motive power from flooding two machinery compartments.

Brazil. As a part of its 10-year building program 6 destroyers were ordered built in England at a total cost of £1,628,000. No action was taken regarding the 2 cruisers of the program. The 3 minelaying submarines built in Spezia, Italy, were

COMPARATIVE DATA—THE GREAT NAVAL POWERS AS OF JULY 1, 1938

[Classifications according to 1936 London treaty]

	Commissioned and under age		Total built		Building and appropriated for as far as known		Grand total	
	No.	Tons	No.	Tons	No.	Tons	No.	Tons
United States:								
Capital ships	15	464,300	15	464,300	6	210,000	21	674,300
Aircraft carriers	3	80,500	3	80,500	4	72,500	7	153,000
Cruisers (8" guns)	17	161,200	17	161,200	1	10,000	18	171,200
Cruisers (6" guns)	10	70,500	10	70,500	13	122,000	23	192,500
Destroyers	37	56,380	204	245,580	55	85,700	259	331,280
Submarines	24	35,470	86	78,810	20	28,995	106	107,805
Total	106	868,350	335	1,100,890	99	529,195	434	1,630,085
British Empire:								
Capital ships	15	474,750	15	474,750	7	259,000	22	733,750
Aircraft carriers	7	120,150	8	127,050	6	115,000	14	242,050
Cruisers (8" guns)	15	144,220	15	144,220			15	144,220
Cruisers (6" guns)	25	176,850	44	266,000	24	130,000	68	396,000
Destroyers	89	120,000	160	200,000	40	70,000	200	270,000
Submarines	40	48,000	53	55,239	20	21,000	73	76,239
Total	191	1,083,970	295	1,267,259	97	595,000	392	1,862,259
Japan: *								
Capital ships	10	301,400	10	301,400	2 *	80,000 *	12 *	381,400 *
Aircraft carriers	2	109,500	7	109,500	5 *	47,700 *	12 *	157,200 *
Cruisers (8" guns)	12	107,800	12	107,800			12 *	107,800 *
Cruisers (6" guns)	12	81,000	21	116,000	2 *	17,000 *	23 *	133,000 *
Destroyers	91	114,000	117	139,500	10 * (?)	16,000 *	127 *	155,500 *
Submarines	41	60,000	57	73,000	3 * (?)	5,000 *	60 *	78,000 *
Total	173	773,700	224	847,200	22 *	165,700 *	246 *	1,012,900 *
France:								
Capital ships	6	137,445	6	137,445	5	166,500	11	303,945
Aircraft carriers	2	32,146	2	32,146	2	36,000	4	68,146
Cruisers (8" guns)	7	70,000	7	70,000			7	70,000
Cruisers (6" guns)	11	80,000	11	80,000	3	23,000	14	103,000
Destroyers	69	115,300	70	116,200	20	32,000	90	148,200
Submarines	76	74,000	76	74,000	22	22,000	98	96,000
Total	171	508,891	172	509,791	52	279,500	224	789,291
Italy:								
Capital ships	4	94,000	4	94,000	4	140,000	8	234,000
Aircraft carriers								
Cruisers (8" guns)	7	70,000	7	70,000			7	70,000
Cruisers (6" guns)	12	74,000	14	81,000			14	81,000
Destroyers	81	87,750	114	113,600	36	52,000	150	165,600
Submarines	83	64,200	90	66,700	40	47,000	130	113,700
Total	187	389,950	229	425,300	80	239,000	309	664,300
Germany:								
Capital ships	4	56,000	6	82,000	4	131,000	10	213,000
Aircraft carriers					2	38,500	2	38,500
Cruisers (8" guns)					3	30,000	3	30,000
Cruisers (6" guns)	6	35,400	6	35,400	4	34,000	10	69,400
Destroyers	24	29,000	29	32,300	11	19,000	40	51,300
Submarines	36	12,424	36	12,424	27	13,500	63	25,924
Total	70	132,824	77	162,124	51	266,000	128	428,124

* Japan data only partially reliable. Information as to the number and tonnage of ships building or appropriated for subject to considerable error.

Argentina. The new cruiser, *La Argentina*, which had been building at Vickers-Armstrong in England, was completed late in the year and was

delivered. The 6 destroyers mentioned, *Jaruema*, *Jaguaribe*, *Javary*, *Jutahy*, *Japura*, and *Jurua*, were to displace 1500 tons, make 36 knots, carry 4 5-inch

guns and 8 torpedo tubes; the general characteristics being of the English *Hero* class. Brazilian authorities hoped that expansion of their own shipyards would make it unnecessary to let contracts abroad for future construction. They expected, however, that it would continue to be necessary to purchase armament and machinery from other countries.

China. The Chinese Navy, never an effective force, ceased to exist. Ships that were not "sitting targets" for Japanese aircraft were sunk in attempts to blockade streams against the enemy advances or were otherwise destroyed by the Chinese themselves.

Denmark. The Commander-in-Chief and Director General of the Ministry of Marine stated that the most important duty the Danish Navy might be called upon to perform would be preservation of neutrality by closing the Baltic and safeguarding the Kattegat. The budget for 1938-39 amounted to 40 million kroner. This permitted continuation of the program announced last year, viz., construction of 3 submarines of 330 tons, 3 torpedo boats of 350 tons, 1 minelayer of 500 tons, 3 trawlers, 3 subchasers, and several small auxiliary craft. In addition to these, 24 seaplanes were being added to the navy. An oil and gas depot with a permanent garrison of about 112 officers and men was established on the southwest coast of Greenland. Construction of a new naval academy was begun at Holmen, Copenhagen.

Estonia. The current program included building 4 400-ton torpedo boats at Tallinn, each equipped for minelaying; and 3 250-ton submarines in Finland. Several fast motorboats with special apparatus for destruction of mines was provided for. The program was to be financed in part at least by voluntary popular subscription.

Egypt. The scheme for Egyptian military organization and armament included expenditure of £E40,000,000 in a five-year period. Of this amount £E1,000,000 was made immediately available for the navy. Hitherto, this had consisted of 3 patrol vessels and 5 coastal motorboats. The nucleus fleet to be ordered was tentatively set as 36 units made up of destroyers, submarines, minelayers, minesweepers, and torpedo boats. The official intimation of this decision was accompanied by an explanation that, "these vessels, with the shore defenses will be able to defend Egypt from an attack by sea if the British Fleet is engaged elsewhere." This program was, of course, independent of the British development of Alexandria as a naval base; a development made necessary by the change in the strategic value of Malta when Italian air power grew strong enough to seriously threaten that base.

France. Naval construction that had been greatly retarded for several years because of recurring labor troubles continued to suffer severely from delays in building yards. A striking instance was that of the submarine *Sidi Ferruch* 1930 program, laid down in 1932 and completed in 1938. The three cruisers of the *DeGrasse* class were hardly past the planning stage. Orders were placed, however, for the third and fourth battleships of the *Richelieu* class, the *Clemenceau* and the *Gascogne*. The *Joffre*, first of the new aircraft carriers, was laid down in November; and the second, the *Painleve*, was scheduled to follow shortly afterwards. Four of the 1350-ton aircraft tenders of the *Sans Souci* class were laid down. Progress on the 630-ton minesweepers, *Elan* class, was slow, but three of them being launched during the year.

The train of events in the Far East prompted

France to make some readjustment of her naval forces there and to improve the base facilities at Saigon. Some improvements were also effected at Camranh (It was there that the ill-fated Rojdestvensky stopped on his way to Tsushima in 1904).

On the coast of Africa, work went forward on a new naval base that the French authorities insisted would be one of the finest on the Mediterranean. It was being developed at Mers-el-Kebir on the Bay of Oran, Algeria, at an estimated cost of 275 million francs. The value of the base at Bizerta had become increasingly uncertain with the rapid development in range and striking power of the Italian air force.

No long-term building program was in prospect of adoption but the one for 1938 included, in addition to the 2 battleships mentioned, an 8000-ton cruiser, 6 destroyers of moderate size, and 4 800-ton submarines.

The *Strasbourg*, sister-ship of the *Dunkerque*, was completing rather lengthy tests before commissioning. The latter ship with its quadruple turrets was reported as being very successful. At first much criticized as a risky innovation, French naval officers were coming to consider it with great pride. Each turret with its equipment and 14-inch armor weighed over 2000 tons but handled smoothly enough at all angles of elevation; and the 4-gun salvos caused no internal disarrangement or discomfort.

Important vessels under construction or appropriated for are listed in the accompanying table.

FRANCE: WARSHIPS BUILDING OR APPROPRIATED FOR, 1938

Class and name	Laid down	Standard displacement	Speed
Capital Ships:			
<i>Strasbourg</i>	1934	26,500	29.5
<i>Richelieu</i>	1935	35,000	30
<i>Jean Bart</i>	1936	35,000	30
<i>Clemenceau</i>	1938	35,000	
<i>Gascogne</i>	1938	35,000	
Aircraft Carriers:			
<i>Joffre</i>	1938	20,000	
<i>Painleve</i>	1938	20,000	
Light Cruisers:			
<i>DeGrasse</i>	1937	8,000	34
Two others of about the same size appropriated for but probably not yet laid down.			
Destroyers:			
<i>LeHardi</i>	1936	1,772	37
<i>Fleuret</i>	1936	1,772	37
<i>Epée</i>	1936	1,772	37
<i>Casque</i>	1936	1,772	37
<i>Lansquenec</i>	1936	1,772	37
<i>Mameluk</i>	1937	1,772	37
<i>LeCorsaire</i>	1937	1,772	37
<i>LeFlibustier</i>	1937	1,772	37
<i>LeFier</i>	1937	1,000	34
<i>L'Agile</i>	1937	1,000	34
<i>L'Entreprenant</i>	1937	1,000	34
<i>LeFarouche</i>	1937	1,000	34
Three <i>Fleurets</i> were appropriated for and possibly were laid down during December.			
Three <i>LeFiers</i> were included in the same program but actual shipyard work on them was not commenced.			
Submarines:			
<i>Roland-Morillot</i>	1937	1,605	23
<i>Aurore</i>	1936	805	14.5
<i>Ceres</i>		597	14
<i>Pallas</i>		597	14
<i>LaCreole</i>	1937	597	14.5
<i>LaBayadere</i>	1937	597	14.5
<i>LaFavorite</i>	1937	597	14.5
<i>L'Africaine</i>	1937	597	14.5
<i>LaPraya</i>		1,605	23
<i>Emeraude</i>	1937	669	12
(minelayer)			
X		1,600	
X		1,600	
X		1,600	
X		1,600	
Four <i>Aurores</i> were appropriated for as were four others of almost the same size.			

Germany. The most important news from Germany came late in the year when it was learned that representatives of the British Admiralty were informed that Germany would invoke the escape clause of the 1935 Anglo-German naval agreement and would increase her submarine tonnage to parity with that of Great Britain. The agreement mentioned had provided for a 10 to 3.5 ratio in each class of ships subject to certain escape clauses. It was generally assumed rather than known that increase in Russian naval building was the reason assigned for the sudden expansion in submarine tonnage. The British, having made great strides toward meeting a submarine menace, were less jittery over the announcement than might have been expected.

During the past two years the size of battleships, destroyers, and submarines had increased considerably; and the displacements of ships under construction were up to full treaty limits: For the first time aircraft carriers were building for the German Navy. They differed from those being built in other countries in that they had unusually heavy A.A. batteries; and a considerable measure of protection at the expense of the number of planes to be carried.

Although many enthusiastic reports were circulated as to the success of the Diesel engines of the *Deutschlands* it was noted that steam machinery was being installed as the main motive power in the new battleships, a clear indication that the heavy oil engines were not yet ready to completely supplant the more conventional types. The newly commissioned 26,000-ton battleship *Gneisenau*, however, did have Diesel engines for cruising speeds. No further information was divulged as to the hydrogen-oxygen submarine motor that was designated to obviate the necessity for periodic "surfacing" in order to recharge batteries.

No announcement had been made regarding personnel for the new carrier aircraft. The naval wing that had supplied personnel for seaplanes and aircraft of catapult ships was the VIth Area of the German Air Force. The officers had all previously served in the navy but they wore air force uniforms. The main base for naval air units was Holtenau, Kiel.

While the additions to the cruising fleet during the year were only one battleship and several destroyers and submarines, material progress was made on the ships under construction and there was every indication that within a few years Germany would be completely built up to the limit of 35 per cent of British tonnage.

Important vessels under construction or appropriated for are listed in the table in next column.

Great Britain. The 1938 net estimates were £123,707,000 exclusive of additional amounts for the 1938 building program which would require supplementary estimates when taken in hand. The corresponding amount for the preceding year was about £18,000,000 less. Provision was made for a maximum personnel strength of 119,000 as compared with 112,000 in 1937. The fleet air arm was to receive an increase to £5,718,000 from £4,200,000. Nearly all the increase otherwise was attributable directly to ship construction.

The building program for the year called for 2 battleships of about 42,000 tons with 16-inch guns; 1 carrier; 4 large and 3 small light cruisers; 3 submarines; and various small craft and auxiliaries. The total number of ships was the smallest in years, but the reduction was readily understandable to informed authorities, acquainted with the

GERMANY: WARSHIPS BUILDING OR APPROPRIATED FOR, 1938

Class and name	Laid down	Standard displacement	Speed
Capital Ships:			
<i>Scharnhorst</i>	1934	26,000	30
(F)	1936	35,000	
(G)	1937	35,000	
(H)		35,000	
Aircraft Carriers:			
(A)	1936	19,250	
(B)		19,250	
Heavy Cruisers:			
<i>Blücher</i>	1935	10,000	33
<i>Admiral Hipper</i>	1935	10,000	33
(I)	1936	10,000	
Light Cruisers:			
(K)	1937	10,000	
(L)	1937	10,000	
Two others of 7,000 tons not yet laid down.			
Destroyers:			
<i>Bernhard von Arnim</i>	1935	1,625	
<i>Erich Giese</i>	1935	1,625	
<i>Erich Koellner</i>	1935	1,625	
<i>Erich Steinbrinck</i>	1935	1,625	
<i>Friedrich Eckoldt</i>	1935	1,625	
<i>Diether von Roeder</i>	1938	1,811	36
<i>Hans Ludemann</i>	1938	1,811	36
<i>Hermann Kunne</i>	1938	1,811	36
<i>Karl Galster</i>	1938	1,811	36
<i>Wilhelm Heidkamp</i>	1938	1,811	36
<i>Anton Schmidt</i>	1938	1,811	36

18 600-ton torpedo boats building or appropriated for.

Submarines:

Eight of 740 tons, 7 of 517 tons and 4 of 250 tons building; and 8 others appropriated for.

tremendous number of ships ordered in the years immediately preceding, who realized that the navy already had under contract or authorized 5 battleships, 5 aircraft carriers, 17 cruisers, about 40 destroyers, and 17 submarines. The omission of destroyers occasioned some surprise and not a little criticism, however, even though that type had been built steadily for a long period of years and some thirty-odd were in the combined program of the two preceding years. But though no destroyers were provided for, the Admiralty did place orders for 12 high-speed motor torpedo boats. Heretofore, it had looked with no great favor on that type, but during the preceding year 6 of them with experimental hulls had been used in the Mediterranean. They proved satisfactorily seaworthy in relatively sheltered water, and demonstrated their capability of cruising several hundred miles. Those ordered were to be 68 feet long, displace 28 tons and carry 2 torpedoes.

The *Afridi*, first of the *Tribal* class of destroyers to be ready for service, was the largest and most powerfully gunned vessel of that category ever constructed for the British Navy. Fifteen others either joined the fleet or were expected to do so early in 1939. They displaced 1850 tons, developed 40,000 shaft horsepower, and made 36 knots with Parsons geared turbines. The most interesting feature in connection with them was that they carried but 4 torpedo tubes but were equipped with 8 4.7-inch high-angle guns. That fact suggested that they were intended less for the form of warfare associated with their classification than for patrol duties and anti-aircraft defense. They seemed to form a fairly effective response to the superdestroyers of some of the Continental powers.

Another small vessel completed during the year worthy of note was the *Egret*, illustrative of the kind being built for escort duty. Of but 1100 tons, she was completed in but little over a year; her speed was 20 knots; and she carried 6 4-inch A.A. guns and 5 smaller ones.

The carrier *Ark Royal* was easily the most important vessel completed, as she was the first modern vessel of that type to take her place in the fleet.

Her period of service was too short to draw conclusions as to how satisfactory her design would prove. A general account of her characteristics appeared in the 1937 YEAR BOOK. Among the more interesting features was the arrangement of her 16 4.5-inch quick-firing high-angle guns disposed in 8 twin mounts on sponsons carried well out from the sides of the ships, 2 each side forward and 2 each side aft.

Important vessels under construction or appropriated for are shown in the accompanying table.

GREAT BRITAIN: WARSHIPS BUILDING OR APPROPRIATED FOR, 1938

Class and name	Laid down	Standard displacement	Speed
Capital Ships:			
<i>King George V</i>	1937	35,000	30
<i>Prince of Wales</i>	1937	35,000	30
<i>Jellicoe</i>	1937	35,000	30
<i>Beatty</i>	1937	35,000	30
<i>Anson</i>	1937	35,000	30
Two others appropriated for, probable tonnage 42,000.			
Aircraft Carriers:			
<i>Illustrious</i>	1937	23,000	31
<i>Victorious</i>	1937	23,000	31
<i>Formidable</i>	1937	23,000	31
<i>Indomitable</i>	1937	23,000	31
One other appropriated for.			
Light Cruisers:			
<i>Gloucester</i>	1936	9,300	32
<i>Belfast</i>	1936	10,000	32
<i>Edinburgh</i>	1936	10,000	32
<i>Dido</i>	1937	5,000	
<i>Euryalus</i>	1937	5,000	
<i>Naiad</i>	1937	5,000	
<i>Phoebe</i>	1937	5,000	
<i>Sirius</i>	1937	5,000	
<i>Bonaventure</i>	1937	5,300	
<i>Hermione</i>	1937	5,300	
<i>Trinidad</i>		8,000	
<i>Fiji</i>		8,000	
<i>Kenya</i>		8,000	
<i>Mauritius</i>		8,000	
<i>Nigeria</i>		8,000	
Destroyers:			
<i>Inglefield</i>	1936	1,455	36
<i>Jervis</i>	1937	1,695	36
<i>Kelly</i>	1937	1,695	36
10 Tribal class	1936	1,850	36
16 Javelin class	1937	1,650	36
8 Lance class		1,650	36
Submarines:			
<i>Cachalot</i> (minelayer)	1936	1,520	16
<i>Sterlet</i>	1936	670	
<i>Seal</i> (minelayer)	1936	1,520	16
<i>Thetis</i>	1936	1,090	
<i>Undine</i>	1937	540	
<i>Unity</i>	1937	540	
<i>Ursula</i>	1937	540	
<i>Triumph</i>	1937	1,090	
<i>Tribune</i>	1937	1,090	
<i>Trident</i>	1937	1,090	
<i>Taku</i>	1937	1,090	
9 Tarpon class			

Greece. The two destroyers *Krol Jerzy I* and *Krolowa Olga* were nearing completion in England. Their displacement was reported as 1350 tons; speed 35 knots; armament 4 5-inch guns and six torpedo tubes. Two small submarines were begun by Krupp.

Italy. Light craft continued to be delivered from the builders with great regularity; the time from drafting room to service in the fleet being remarkably short. Fifteen-hundred-ton destroyers of the *Oriani* class laid down in 1936 were delivered in 1938, and the smaller ones were built in less time. All 19 submarines of the 1937 program were launched and a few were completed. No cruisers were built or building but toward the end of the year it became generally known that no fewer than 12 3500-ton ships were about to be started. In effect, they were to be built as protected destroyer leaders, with some 300 tons of armor. The reported speed of 39 knots, and provisions for mines fol-

lowed the Italian practice in those respects. The armament of 8 5.5-inch guns was subject to modification if it were found desirable to use a smaller caliber in order to gain in volume of anti-aircraft fire.

In view of her strategic situation Italy took no steps to follow the practice of other naval powers in providing aircraft carriers for her fleet, but she did carry on numerous exercises that involved close co-ordination by and with air units. The larger combatant ships were, of course, supplied with a few aircraft for reconnaissance purposes.

Thorough modernization of the last 2 of the 4 pre-war battleships was completed and all could make 27 knots. Satisfactory progress was made on the 2 battleships laid down in October, 1934; and in May the 35,000-ton *Impero* was laid down, followed in September by the sister ship *Roma*. Their general characteristics were to follow those of the *Littorio* with 9 15-inch, 12 6-inch, and 12 3.5-inch guns and a speed approaching 30 knots.

The cost of the construction work was enormous. The budget for the year called for over two billion lire, an increase of more than 155 million from the preceding year. About 600 million was allocated for new construction and 150 million for maintenance and repairs.

With the rapid expansion of the fleet had necessarily followed increase in personnel as was shown by the 5000-odd officers and over 70,000 enlisted men of 1938 as compared with 3000 officers and 44,000 men in 1930. Some difficulty had been experi-

ITALY: WARSHIPS BUILDING OR APPROPRIATED FOR, 1938

Class and name	Laid down	Standard displacement	Speed
Capital Ships:			
<i>Littorio</i>	1934	35,000	
<i>Vittorio Veneto</i>	1934	35,000	
<i>Roma</i>		35,000	
<i>Impero</i>		35,000	
Destroyers:			
<i>Camicià Nera</i>	1937	1,620	39
<i>Ascaro</i>	1937	1,620	39
<i>Corazziere</i>	1937	1,620	39
<i>Pontiere</i>	1937	1,620	39
<i>Aviere</i>	1937	1,620	39
<i>Artigliieri</i>	1937	1,620	39
<i>Fuciliere</i>	1937	1,620	39
<i>Alpino</i>	1937	1,620	39
<i>Bersagliere</i>	1937	1,620	39
<i>Granatiere</i>	1937	1,620	39
<i>Carabiniere</i>	1937	1,620	39
<i>Lanciere</i>	1937	1,620	39
All of the above destroyers were being equipped for minelaying.			
Twelve others of about 2,000 tons each had been provided for but few if any had been laid down.			
All additional 12 of 679 tons each laid down, all equipped for minelaying.			
Submarines:			
<i>Beilui</i>	1937	620	14
<i>Durbo</i>	1937	620	14
<i>Lafale</i>	1937	620	14
<i>Tembien</i>	1937	620	14
<i>Brin</i>	1937	896	17
<i>Galvani</i>	1937	896	17
<i>Guglielmotti</i>	1937	896	17
<i>Atropo</i> (minelayer)	1937	1,109	16
<i>Nami</i>	1937	940	17
<i>Barbarigo</i>	1937	940	17
<i>Veniero</i>	1937	940	17
<i>Provano</i>	1937	940	17
<i>Dandolo</i>	1937	940	17
<i>Morosini</i>	1937	940	17
<i>Emo</i>	1937	940	17
<i>Malaspina</i>		1,500	
<i>Giusiani</i>		1,500	
<i>Torelli</i>		1,500	
<i>Bagnolini</i>		1,500	

Twenty others, 4 of 1,000 tons and 16 of about 1,500 tons were being planned for or under construction.

While no cruisers are shown in the foregoing tabulation plans were being drawn to build 12 of 3,500 tons.

enced in developing officers to meet the growing demands.

Important vessels under construction or appropriated for are shown in the table on p. 500.

Japan. Not only did little official information as to her navy come out of Japan, but the unofficial reports were largely sensational and lacked confirmation. It was definitely established, however, that rumors of the instability because of over-gunning of cruisers of the *Mogami* type were well founded for at least the last two of the class had one turret removed leaving 12 6-inch guns instead of the original 15. It was also known that one of the destroyers launched was of about 2000 tons, considerably larger than had been expected. Work undoubtedly was done on small harbor-defense submarines. The *Sirakami*, a new minelayer of about 800 tons, was launched. Although importation of fuel oil and strategic war materials continued at a high rate, the navy was sufficiently well provided to operate for a considerable period without outside supply.

The 10,000-ton repair ship *Akasi* that was launched was the first large repair ship built for the navy; a fact indicative of the efforts that were being made to increase the mobility of the fleet by lessening reliance on the shore establishment for upkeep and repairs.

The carrier *Soryu*, completed in 1938, was four years in building, and the first to join the fleet since the small *Ryujo* in 1933. On a displacement of 10,000 tons she carried 12 5-inch guns, made 30 knots and had accommodations for 40 planes. The older carriers *Kaga* and *Akagi* were designed as a battleship and a battle cruiser respectively but, as a result of the 1922 Washington Limitation of Arms Treaty, were converted and completed as carriers in 1928. Despite their 27,000 tons they carried but 30 planes each.

The naval budget of 677 million yen was about one-fourth of the national budget, but supplement-

tary credits and special war expenditures tended to obscure the true figures of naval expenditures. A thoroughgoing change was made in the spring among the flag officers of the naval forces in China. No official explanation was forthcoming, although some of them had held their commands but a short time. Foreign observers in positions to judge of the proficiency of the light forces and naval aircraft in connection with the activities in China had generally been favorably impressed.

The table in the first column lists important vessels known to be under construction. As it is doubtless incomplete, the footnote which follows it should be read in conjunction therewith.

Netherlands. Contracts were awarded for two 36-knot destroyers to carry 5 5-inch guns and 8 torpedo tubes. The particularly unusual feature was to be provision for a Fokker seaplane. As that category had never before been so equipped, this requirement attracted widespread attention. The 7000-ton cruiser *Java* built in 1925 and completely refitted 10 years later was transferred to the Dutch East Indies, where a large part of the fleet was already concentrated. Formerly that colony paid all maintenance and half the construction costs for its own defensive fleet, but some years back that was changed to maintenance costs only. The 1938 collection costs for that purpose were five million guilders.

Orders were placed for an 8000-ton light cruiser of 32 knots to carry 10 6-inch guns, 12 A.A. guns, 6 torpedo tubes, and 2 airplanes for service in the colonies. In addition to this and the two destroyers previously mentioned, provision was made for additional submarines, escort ships, and a division of motor torpedo boats that had become so popular among European powers. Another interesting development was the budgeting of two million florin for armament of merchant ships for defensive purposes.

Norway. Plans accepted for the two new destroyers indicated a displacement of 1200 tons as compared with 600 tons for the *Gyller* recently launched and two others already building. It was not planned to have the larger ones ready for service before 1940 or 1941 at which time a submarine would be undertaken. Meantime, one or two smaller destroyers and a motor torpedo boat were to be built; and 2 350-ton minesweepers were ordered. In addition, six torpedo planes with a cruising radius of 1700 miles were ordered from a German firm.

Poland. The unusual practice of raising funds for naval construction by popular subscription met some success; the submarine *Orzet* and a coastal motor torpedo boat being the latest addition to the navy from such funds. The submarine *Scp* building in Holland was launched; two gunboats *Czapla* and *Zuraw* were launched at Gdynia. The minelayer *Gryf* built in France gave satisfactory results during its trials.

Portugal. The escort vessel *Joao de Lisboa* built at the naval arsenal Lisbon was completed and made 16 knots on trials. She had Diesel engines, steaming radius 8000 miles, carried 2 4.7-inch guns. Appropriation was made for a tanker; and two light cruisers and a seaplane tender were projected. An English engineer rear admiral became technical adviser at the new Alfeite arsenal.

Rumania. Work began on the long-planned new naval base at Tausal. It was to be considerably larger than the Canstantza base. Two 650-ton submarines of the *Delfinul* type were ordered in Italy. The *Transylvania*, a new 10,000-ton motor passen-

JAPAN: WARSHIPS BUILDING, 1938

[See note following this table]

Class and name	Laid down	Standard displacement	Speed
Capital Ships: *			
Two of 40,000 tons or more were building according to persistent and well-founded reports.			
Aircraft Carriers: *			
<i>Hiryu</i>	1936	10,050	30
<i>Chitose</i> (seaplane carrier)	1934	9,000	20
<i>Tiyoda</i> (seaplane carrier)	1936	9,000	
<i>Mizuko</i> (seaplane carrier)	1937	9,000	17
Light Cruisers: *			
<i>Tone</i>	1934	8,500	33
<i>Tikuma</i>	1935	8,500	33
Destroyers: *			
<i>Arasio</i>	1935	1,500	34
<i>Asagumo</i>	1936	1,600	34
<i>Yamagumo</i>	1936	1,500	34
<i>Minegumo</i>	1935	1,500	34
<i>Kasumi</i>	1936	1,500	34
<i>Arare</i>	1937	1,500	34
Submarines: *			
<i>I-8</i>	1934	1,950	17
<i>I-74</i>	1934	1,400	20
<i>I-75</i>	1934	1,400	20
These submarines may have been completed.			

* The foregoing tabulation contains no ships of the April, 1937, five-year replenishment program concerning which all official information has been withheld. Reports from well-informed sources indicated that program to be about as follows:

- 3—battleships 45,000 tons, 16-inch guns.
- 5—seaplane carriers (no flight deck).
- 8—cruisers, 6-inch guns (*Mogami* class?).
- 40—destroyers.
- 10—submarines.

ger ship had its decks strengthened and other provisions made for rapid conversion into an auxiliary cruiser.

Siam. The 2200-ton gunboats *Dhonburi* and *Ah-idea* and four submarines, all built in Kobe, were delivered. These completed the first construction program begun in 1935, which resulted in virtually tripling the size of the navy. Bids were asked for the construction of 2 5000-ton light cruisers. Work on the fortified naval base Satahib, 170 miles south of Bangkok, was being pushed.

Spain. The most important naval battle of the Civil War occurred on the coast between Alicante and Cartagena. The Nationalists apparently presumed too much on the passive attitude of their enemy and approached unduly close in the early morning with the cruisers *Baleares*, *Canarias*, and *Almirante Cervera*. Three destroyers attacked with torpedoes and made their escape. The *Baleares*, largest of the cruisers, was sunk. Two British men-of-war in the vicinity assisted in rescue of the crew. Shortly afterwards, as the survivors were being transferred to the other two cruisers, attacks by shore-based aircraft inflicted damage on those ships. During the year the Nationalists purchased four destroyers and two submarines, all obsolescent, from Italy.

Sweden. Progress on the new construction program forecasted the preceding year was evident. For construction already underway 7,600,000 crowns was allotted and 300,000 more was made available for modernization work on the old battleship *Oscar II*. The 1000-ton destroyer *Malmo* was launched in September, the sister-ship *Karlskrona* was somewhat less far advanced; and the 2 580-ton minelaying submarines *Sjohunden* and *Sjobjornen* were by no means ready for acceptance trials.

Turkey. Four 650-ton submarines, *Atilay*, *Bati-ray*, *Salidiray*, and *Yilderay*, were under construction, 2 in Germany and 2 at Ismit under German supervision. In addition, several motor torpedo boats were building. As a result of a British loan, £6,000,000 of which was allotted for defense, it was expected that contracts for some naval building would be made with British firms but no such orders were placed. An official bulletin from Ankara some time later announced that Germany would extend a \$70,000,000 credit which would be used in part for naval building, but no public developments followed the announcement.

Union of Soviet Socialist Republics (Russia). It was learned that Russian admirals and naval experts were executed to about the same extent as were officers of the Red Army. Nonetheless, progress had been made in building up the material of the navy. More reliable information in that regard had become available than for many years. Modernization of a 23,000-ton battleship was completed in the Black Sea. The aircraft carrier *Stalin* was commissioned; laid down in 1914 as a 9000-ton cruiser, construction was suspended for many years before she was redesigned and completed as a carrier. The cruiser *Kirov* of about the same size and carrying 6 7.1-inch guns and making 33 knots was another ship laid down in 1914, construction suspended, and completed in 1938. The *Vorishilov* and two other cruisers were laid down in 1936 or later, three additional ones were being planned for. The 2900-ton destroyers *Karkov*, *Minsk*, and *Leningrad*, all fitted for carrying mines, were completed. About 12 740-ton destroyers, at least two of which were in the Black Sea, had been completed during the preceding two years. Eight

of the large *Karkov* class were building; one, the *Tashkent*, being under construction in Italy. There were over a hundred submarines operating that had been completed within 10 years. About 40 per cent were of 200 tons and the others equally divided between 600 tons and 1000 tons. Approximately 20 more were building.

United States. Navy personnel, the President, and Congress continued vigorous action to insure that the naval defenses would be adequate to the occasion; for maintenance of peace, for protection of American interests, or for defeating an enemy navy at sea. Training of personnel and development of material proceeded at an intensified rate. New construction for orderly replacement of over-age vessels and aircraft, although still somewhat slow, was pushed forward at a more satisfactory rate than in preceding years. Congress authorized an ultimate increase of 20 per cent in under-age vessels over the strength provided in the 1934 Act; and authorized a naval aircraft strength of not less than 3000 useful aircraft. The appropriation bill had carried funds for commencement of replacements for 2 battleships, 2 cruisers, 8 destroyers, and 6 submarines; and after passage of the aforementioned act a deficiency bill carried further funds for 2 battleships, 2 cruisers, and 1 aircraft carrier. See UNITED STATES under Congress.

The status of auxiliaries upon which combatant ships are so dependent for operations and mobility was but slightly improved; but appropriations were made to commence 1 minelayer, 1 large and 2 small seaplane tenders, 1 destroyer tender, 1 submarine tender, 3 tankers, 2 minesweepers, and 3 tugs.

Actual naval expenditures for fiscal year 1938 were closely estimated as \$599,000,000, including some \$25,000,000 from certain emergency funds allotted to the navy. The estimated similar figures for fiscal year 1939 were \$668,000,000, including \$25,000,000 of emergency funds. One of the principal items was \$117,000,000 for hulls, equipment, and machinery of new vessels, and \$21,000,000 for their arms and armament.

The U.S. Fleet, which constitutes the great bulk of the mobile combatant vessels of the navy continued to remain concentrated on the Pacific Coast. In the spring it held an extensive fleet problem in the Hawaii-Pacific area as a part of its training for war. The Asiatic Fleet performed its normal functions and in addition was occupied on the coast and rivers of China in protecting American life and property during the Sino-Japanese conflict. The Commander-in-Chief, Adm. H. E. Yarnell, received general official and popular approbation for settling amicably and to the best interests of the United States many vexatious military-naval questions that arose as a result of the Far Eastern conflict. An Atlantic squadron consisting of three older battleships and various cruisers, destroyers, submarines, etc., was formally organized and operated in the Atlantic.

An important law enacted regulating promotion of officer personnel, was designed to reduce losses from the active officer list, but at the same time continuing selection of the best-fitted officers to fill vacancies in the successive grades. Many forward steps were taken in the training of the Naval Reserve, an essential component of the navy.

Among the important new ships completed were the carriers *Yorktown* and *Enterprise*; the 10,000-ton, 6-inch cruisers *Savannah*, *Nashville*, *Phoenix*, *Boise*, and *Honolulu*; the 1850-ton destroyer leaders *Sampson*, *Davis*, and *Jowett*; and various destroyers and submarines. Operations of the large

new cruisers with their 15 6-inch guns in 5 triple turrets attracted widespread attention among naval officers in America and abroad. The general consensus seemed to be that they were superior to any others of the type that any power had yet produced. The two new carriers were some 5000 tons heavier than the *Ranger* but carried about the same number of planes.

Important vessels under construction or appropriated for are shown in the accompanying table.

UNITED STATES: WARSHIPS BUILDING OR APPROPRIATED FOR, 1938

Class and name	Laid down	Standard displacement	Speed
Capital Ships:			
<i>North Carolina</i>	1937	35,000	
<i>Washington</i>	1938	35,000	
<i>Alabama</i>		35,000	
<i>Indiana</i>		35,000	
<i>Massachusetts</i>		35,000	
<i>South Dakota</i>		35,000	
Aircraft Carriers:			
<i>Wasp</i>	1936	14,700	
<i>Hornet</i>		20,000	
Heavy Cruisers:			
<i>Wichita</i>	1935	10,000	33
Light Cruisers:			
<i>St. Louis</i>	1936	10,000	32
<i>Helena</i>	1936	10,000	32
<i>Atlanta</i>		8,000	
<i>Juneau</i>		8,000	
<i>San Diego</i>		8,000	
<i>San Juan</i>		8,000	
<i>X</i>		6,000	
Destroyers:			
<i>Benham</i>	1936	1,500	36
<i>Ellet</i>	1936	1,500	36
<i>Lang</i>	1937	1,500	36
<i>Mayrant</i>	1937	1,500	36
<i>Trippe</i>	1937	1,500	36
<i>Rhind</i>	1937	1,500	36
<i>Rowan</i>	1937	1,500	36
<i>Stack</i>	1937	1,500	36
<i>Sterett</i>	1936	1,500	36
<i>Wilson</i>	1937	1,500	36
<i>Sims</i>	1937	1,500	36
<i>Hughes</i>	1937	1,500	36
<i>Anderson</i>	1937	1,500	36
<i>Hammann</i>	1938	1,500	
<i>Mustin</i>	1937	1,500	
<i>Russell</i>	1937	1,500	
<i>O'Brien</i>	1938	1,500	
<i>Walke</i>	1938	1,500	
<i>Morris</i>	1938	1,500	
<i>Roe</i>	1938	1,500	
<i>Wainwright</i>	1938	1,500	
<i>Buck</i>	1938	1,500	
<i>Benson</i>	1938	1,620	
<i>Mayo</i>	1938	1,620	
<i>Gleaves</i>	1938	1,620	
<i>Niblack</i>	1938	1,620	
<i>Madison</i>	1938	1,620	
<i>Lansdale</i>	1938	1,620	
<i>Hilary P. Jones</i>	1938	1,620	
<i>Charles F. Hughes</i>	1938	1,620	
Eight others of 1,500 tons.		1,620	
Submarines:			
<i>Sargo</i>	1937	1,450	
<i>Sawry</i>	1937	1,450	
<i>Spearfish</i>	1937	1,450	
<i>Sculpin</i>	1937	1,450	
<i>Squalus</i>	1937	1,450	
<i>Swordfish</i>	1937	1,450	
<i>Seadragon</i>	1938	1,500	
<i>Sealion</i>	1938	1,500	
<i>Searaven</i>	1938	1,500	
<i>Seawolf</i>	1938	1,500	
<i>Tambor</i>		1,450	
<i>Tawtog</i>		1,450	
<i>Thresher</i>		1,450	
<i>Triton</i>		1,450	
<i>Trout</i>		1,450	
<i>Tuna</i>		1,450	

Venezuela. Two 625-ton gunboats *Orinoco* and *Urdanito* built in Italy had 15 knots speed, carried 1 3-inch and 2 4-inch guns. The 2 Italian minelayers *Milazzo* and *Dardanelli*, 615 tons, 15 knots, were reported as purchased and renamed *General Urdaneta* and *General Soublotte*.

Yugoslavia. The construction program includ-

ed 1 flotilla leader, 3 to 5 destroyers, 2 minelaying submarines of 600 tons, 2 small submarines, and 8 motor torpedo boats. Three of the destroyers *Zagreb* (building in France), *Ljubljana*, and *Zagrer* were nearing completion. The flotilla leader, to be the largest ship in the navy, was laid down at Split.

NAVIGATION. See SHIPBUILDING; SHIPPING; NAVAL PROGRESS; MARINE DISASTERS.

NAZARENE, CHURCH OF THE. Near the close of the 19th century, there developed a movement for the spread and conservation of scriptural holiness in organized church form in various parts of the United States. See NEW INTERNATIONAL YEAR BOOK, p. 497.

In 1937 the Church of the Nazarene had attained a membership of 143,330, with 2428 organized churches. Of these 87 churches and 3039 members were in Canada and the British Isles. There were 2885 ordained and 1272 licensed ministers. The 2313 Sunday Bible schools had a total enrollment of 277,250. To the 1686 Young People's Societies belonged 56,316 members. The 802 Junior Societies had a membership of 17,071, and the 2164 Woman's Missionary Societies a membership of 45,938.

The general board has separate departments of foreign missions, home missions and evangelism, publication, ministerial relief, church schools, and education. Foreign missionary work is carried on in the Cape Verde Islands, South Africa, Palestine, Western India, China, Japan, Mexico, Central America, Peru, and Argentina. The department of education supervises its educational institutions: Eastern Nazarene College, Wollaston, Mass.; Olivet College, Olivet, Ill.; Treveca Nazarene College, Nashville, Tenn.; Bethany-Peniel College, Bethany, Okla.; Bresee College, Hutchinson, Kans.; Pasadena College, Pasadena, Calif.; Northwestern Nazarene College, Nampa, Idaho; and Northern Bible College, Red Deer, Alberta. The department of publication issues the official periodical, the *Herald of Holiness*.

The next meeting of the quadrennial general assembly will be held in June, 1940. There are 45 assembly districts. The general superintendents in 1938 were: The Rev. J. W. Goodwin, D.D.; the Rev. R. T. Williams, D.D.; the Rev. J. B. Chapman, D.D., and the Rev. J. G. Morrison, D.D. The Rev. E. J. Fleming was general church secretary, and Mervel S. Lunn, general treasurer. Headquarters of the church are at 2923 Troost Avenue, Kansas City, Mo.

NAZISM. See AUSTRIA, BELGIUM, BRAZIL, BULGARIA, CHILE, CZECHO-SLOVAKIA, DENMARK, FINLAND, GERMANY, HUNGARY, LITHUANIA, NETHERLANDS, THE; RUMANIA, SOUTH-WEST AFRICA, SWITZERLAND, and YUGOSLAVIA under *History*; FASCISM.

NEBRASKA. Area and Population. Area, 77,520 square miles; included (1930) water, 712 square miles. Population: Apr. 1, 1930 (census), 1,377,963; July 1, 1937 (Federal estimate), 1,364,000; 1920 (census), 1,296,372. Omaha had (1930) 214,006 inhabitants; Lincoln, the capital, 75,933.

Agriculture. Acreage, production, and value of the chief crops for Nebraska, for 1938 and 1937, appear in the table on p. 504.

Finance. Nebraska's State expenditures in the year ended June 30, 1937, as reported by the U.S. Bureau of the Census, were: For maintaining and operating governmental departments, \$21,730,647 (of which \$1,157,143 was for local education and \$4,766,147 for highways); for interest on debt, \$16,974; for capital outlay, \$10,357,181. Revenues were \$30,609,315. Of these, property taxes fur-

Crop	Year	Acreage	Prod. Bu.	Value
Corn	1938	7,430,000	107,735,000	\$47,403,000
	1937	7,904,000	82,992,000	42,326,000
Wheat	1938	4,691,000	55,714,000	29,528,000
	1937	3,601,000	47,184,000	46,240,000
Hay (tame) ..	1938	1,170,000	1,709,000 *	8,374,000
	1937	1,412,000	1,514,000 *	13,172,000
Oats	1938	1,867,000	55,076,000	9,363,000
	1937	1,697,000	35,637,000	11,404,000
Potatoes ...	1938	80,000	6,240,000	3,120,000
	1937	71,000	8,165,000	4,082,000
Sugar beets .	1938	77,000	1,081,000 *	.....
	1937	63,000	882,000 *	4,304,000
Barley	1938	916,000	21,526,000	5,812,000
	1937	645,000	10,642,000	5,427,000
Rye	1938	417,000	4,796,000	1,583,000
	1937	390,000	3,900,000	2,691,000

* Tons.

nished \$4,129,086; sales taxes, \$9,226,217 (including tax on gasoline, \$7,680,612); departmental earnings, \$2,045,452; sale of licenses, \$1,922,938; Federal or other grants-in-aid, \$11,320,741. Funded debt outstanding on June 30, 1937, totaled \$500,300. On an assessed valuation of \$2,174,013,251, the State levied for the year ad-valorem taxes of \$3,776,482.

Education. Inhabitants of school age (between 5 and 21 years) were reckoned, for the school year 1937-38, at 382,601. The enrollments in public schools totaled 289,916; they comprised 206,779 in the elementary group and 83,137 in high schools. Expenditures for public-school education totaled \$20,067,257. Teachers numbered 13,864. Their salaries, except for the rural group, averaged \$1110.81 a year for men and \$968.20 for women; the rural averages were \$513.61 for men and \$493.12 for women.

Political and Other Events. Governor R. L. Cochran (Dem.), who ran for a third term, was re-elected, defeating Charles J. Warner (Rep.) in a close count, while Charles W. Bryan (Independent) ran a poor third. Both Warner and Bryan proposed in their campaigns to have the minimum monthly rate of support to the elderly poor set at \$30 a month. Three Republicans and two Democrats were elected U.S. Representatives.

Among farmers in parts of the State there arose opposition to the State's projected hydroelectric works on the Platte River. Several of the officials of the Platte River Power and Irrigation District having resigned, allegedly because of "dictation from the Federal power bureau," one of their number, F. A. Buehler, headed a movement of protest to Washington. Farmers' grievance against the hydroelectric development of the Platte River was that, as they apprehended, water that they needed for irrigation would be withheld from their use. Plans were made by the State's power and irrigation districts, with the approval and expected financial aid of the PWA, to issue \$20,865,000 in bonds and buy out 10 of the State's 13 private purveyors of electricity with the proceeds.

The State Supreme Court ruled in February that the statutory moratorium on the foreclosure of mortgages, then more than five years old, was no longer valid; the emergency declared as the warrant for the moratorium, the Court held, had passed, and the act's infringement of constitutional rights had no longer the support of necessity. Inhabitants dissatisfied with the State's average payment of \$16 a month in old-age assistance to about 26,000 persons petitioned for a referendum on a proposal to legalize slot machines of a gambling character, taxed to add to income for such assistance.

Officers. The chief officers of Nebraska, serving

in 1938, were: Governor, R. L. Cochran (Dem.); Lieutenant-Governor, N. N. Parsons; Secretary of State, Harry R. Swanson; Auditor, William H. Price; Treasurer, Walter H. Jensen; Attorney-General, Richard C. Hunter; Superintendent of Public Instruction, Charles W. Taylor.

Judiciary. Supreme Court: Chief Justice, Charles A. Goss; Associate Justices, William B. Rose, Fred W. Messmore, George A. Eberly, L. B. Day, Bayard H. Payne, Edward F. Carter.

NEBRASKA, UNIVERSITY OF. A State institution of higher education in Lincoln, Neb., founded in 1869. The net enrollment for the autumn of 1938 was 6810. There were 2229 students enrolled in the summer session of 1938. The faculty numbered 375 full-time members. The permanent endowment fund amounted to \$961,580. The library contained 330,000 volumes. Chancellor, Chauncey Samuel Boucher, Ph.D.

NECROLOGY. The following list contains the names of notable persons who died in 1938. Articles will be found in this volume, in their alphabetical order, on those whose names are given below without text.

ABEL, JOHN JACOB, died May 26, 1938.

ABERCROMBIE, LASCALLE. British poet and critic; born in Ashton-upon-the-Mersey, Jan. 9, 1881; died in London, Oct. 27, 1938; professor of English Literature at London University (1929-35) and Oxford University (1935-38). His *Collected Poems* were published by the Oxford University Press in 1930, and he was the author of several plays and numerous critical works.

ADAMOWSKA, ANTOINETTE SZUMOWSKA. Polish pianist; born in Lublin, Poland, Feb. 22, 1868; died in Rumson, N. J., Aug. 18, 1938; pupil of Paderewski. She emigrated in 1894 to the United States, where she played with the Boston, Cincinnati, and New York Symphony Orchestras and other musical groups.

ADAMS, CHARLES DARWIN. American philologist and educator; born in Keene, N. H., Oct. 21, 1856; died in New Milford, Conn., May 28, 1938; professor of Greek at Dartmouth College, 1893-1927. He edited *The Classical Journal* (1908-13) and various Greek texts.

AHERN, MARY EILEEN. American librarian and editor (1896-1931) of *Public Libraries*; born near Indianapolis, Ind., about 1863; died near Atlanta, Ga., May 22, 1938. She conducted the distribution of books for the A.E.F. in France.

AIRD, SIR JOHN. Canadian banker; born in Longueuil, Que., Nov. 15, 1855; died in Toronto, Ont., Nov. 30, 1938; president (1924-37) of the Canadian Bank of Commerce, with which he was associated for sixty years; head of the Canadian Bankers' Association and the Canadian branch of the American Bankers Association. He was knighted in 1917 in recognition of his financial services during the World War.

ALAS, LEOPOLDO. Spanish politician and Rector (1933-36) of the University of Oviedo; shot by the Nationalists, 1938; former Deputy for Asturias and professor of law.

ALEXANDER, SAMUEL. English philosopher; born in Sydney, New South Wales, Jan. 6, 1859; died in Manchester, Sept. 13, 1938; professor of philosophy at the Victoria University of Manchester, 1893-1924. He wrote *Space, Time and Deity* (1920) and other philosophical works.

ALHUCEMAS, MARQUES DE, MANUEL GARCIA PRIETO. Spanish politician; born in Astorga, León, Dec. 15, 1860; died in San Sebastián, Sept. 15, 1938; premier of Spain, 1917-23. He organized the Democratic party and headed a liberal coalition until ousted by the Rivera coup in 1923.

ALLEN, FREDERICK INNES. American patent lawyer and mineralogist; born in Auburn, N. Y., June 19, 1859; died in New York, N. Y., May 17, 1938; U.S. Commissioner of Patents, 1901-07. He practised law in New York, 1907-28, and continued his study of mineralogy, announcing in 1914 that thaumasite is a decomposition product of anhydrite.

ALTAMIRANO, GEN. LUIS. Chilean politician; died in Santiago, July 25, 1938; cabinet minister, 1923-24, and head of a "governing junta" which ruled Chile from September, 1924, to January, 1925.

ALTHEIMER, BENJAMIN. American banker and philanthropist; born in Darmstadt, Ger., Mar. 6, 1850; died in New York, N. Y., Apr. 30, 1938; treasurer and a founder of the National Jewish Hospital in Denver; originator of Flag Day and Bundle Day.

ALVAREZ QUINTERO, SERAFIN. Spanish dramatist; born in Utrera, 1871; died in Madrid, Apr. 12, 1938. He collaborated with his brother, Joaquín, in writing more than 200 plays, sketches, and monologues, many of which were translated into other languages. They dealt almost exclusively with Andalusia and revived in drama the prose interludes of

the 16th century strolling player, Lope de Rueda. Among their principal works are *Las de Caín*; *Amores y amorios*; *Puebla las mujeres*; *El amor que pasa*; *Doña Clarines*; *El genio alegre*; *Mañana del sol*; *Pípiola*; *El centenario*; *El cuartito de hora*; *Las Flores*; and *Malvaloca*.

ANDERSON, ALBERT BARNES. American jurist; born near Zionsville, Ind., Aug. 10, 1857; died in Indianapolis, Ind., Apr. 27, 1938; Federal judge of the District of Indiana, 1902-25; judge of the U.S. Circuit Court of Appeals at Chicago, 1925-29. He was the presiding judge when Mayor Donn Roberts of Terre Haute and 100 politicians were convicted of election abuses and when Governor McCray of Indiana was convicted of using the mails to defraud. In 1919 he set an important precedent by granting an injunction against the United Mine Workers of America to avert a nationwide coal strike.

ANDERSON, GEORGE WESTON. American jurist; born in Acworth, N. H., Sept. 1, 1861; died in Deland, Fla., Feb. 14, 1938; judge of the U.S. Circuit Court of Appeals in Boston, 1918-32. His most famous opinion, given in 1920 in connection with the release of a group of Communists from deportation, stated that the Communist party was a lawful party and evidence that it advocated forcible overthrow of the government was insufficient.

ANDERSON, PAUL Y. American journalist; born in Knox County, Tenn., Aug. 29, 1893; died a suicide in Washington, D. C., Dec. 6, 1938; associated with the *St. Louis Post-Dispatch*, 1914-37. His articles on the Teapot Dome and Elk Hills oil leases resulted in the reopening of a Senate investigation and won him the 1928 Pulitzer Prize for reportorial work.

ANDREWS, LAUNCELOT WINCHESTER. American chemist; born in London, Ont., June 13, 1856; died in Boston, Mass., Apr. 14, 1938; professor of chemistry at the University of Iowa, 1885-1904. He formed the Andrews Chemical Works in Davenport to manufacture oxalic acid by a process he invented in 1909.

ANIDO, GEN. SEVERIANO MARTÍNEZ. Spanish soldier and politician; born May, 1862; died in Valladolid, Dec. 24, 1938; promoted to brigadier general in 1914 following his activities in Moroccan campaigns; military governor of San Sebastián and Barcelona, 1921-23; vice-premier and Minister of the Interior under Rivera. After Rivera's downfall he was exiled to France until the outbreak of the Civil War, when he returned to become Minister of Public Order under Franco.

ANNUNZIO, GABRIELE D., died Mar. 1, 1938.

ARMSTRONG, SIR HARRY GLOSTER. British diplomat; born in Belturbet, Ireland, Jan. 17, 1861; died in Port Washington, N. Y., Feb. 6, 1938; British Consul-General in New York, 1919-31; commercial adviser to the Manchester Ship Canal Co.

ASHE, CAPT. SAMUEL A' COURT. American soldier, editor, and public official; born in Wrightsville Sound, N. C., Sept. 13, 1840; died in Raleigh, N. C., Aug. 31, 1938; lawyer, and editor of the *Raleigh News and Observer* (1879-94). His publications include a *Biographical History of North Carolina* (8 vols., 1905-08) and a *History of North Carolina* (1907). He was the last surviving officer of the regular Confederate Army.

ASTON, MAJ.-GEN. SIR GEORGE (GREY). British soldier and writer; born Dec. 2, 1861; died in Salisbury, Eng., Dec. 2, 1938; retired, 1917. He wrote biographies of Nelson and Foch and a number of works on military subjects.

ASTRUC, GABRIEL. French writer and social leader; born in Bordeaux, Mar. 14, 1864; died in Paris, July 8, 1938; director of the French Radio-News Agency, 1914-38. He founded an art review, *L'Amateur*, built two theaters, and introduced a number of spectacles to Paris, including the *Ballets XLI*.

ATATURK, KEMAL, died Nov. 10, 1938.

ATHOLSTAN, FIRST BARON, OF HUNTINGDON AND EDINBURGH, HUGH GRAHAM. Canadian publisher and philanthropist; born in Atholstan, Que., July 18, 1848; died in Montreal, Jan. 28, 1938; founder and proprietor of the *Montreal Star*, 1869-1938. He contributed to hundreds of charitable organizations, especially in the field of medicine.

ATTERIDGE, HAROLD RICHARD. American librettist; born in Lake Forest, Ill., July 9, 1886; died in Lynbrook, N. Y., Jan. 14, 1938. He wrote more than 40 librettos for Shubert musical productions, including 10 yearly editions of *The Passing Show*.

AUSTEN, MAJ. ERNEST EDWARD. British naturalist; born in London, Oct. 19, 1867; died in London, Jan. 16, 1938; foremost authority on the tsetse fly. He joined the staff of the British Museum in 1889, being keeper of the Department of Entomology, 1927-32.

AVERESCU, MARSHAL ALEXANDRU. Rumanian soldier and politician; born in Bessarabia, 1859; died in Bucharest, Oct. 2, 1938; Minister of War, 1907; Chief of the Army General Staff in the war against Bulgaria, 1912-13, and in the World War; premier in 1918, 1920-21, and 1926-27; organizer and president of the People's Party. He was instrumental in the return of Carol to the throne in 1930 but later became a sharp critic of the king.

BACON, ROBERT LOW. American politician; born in Boston, Mass., July 23, 1884; died in Long Island, N. Y., Sept. 12, 1938; U.S. Congressman (Republican) from New York State, 1922-38. He advocated repeal of the 18th Amend-

ment, economy, adequate tariffs, and restricted immigration. A colonel in the army, he received the Distinguished Service Medal during the World War.

BAKLANOV, GEORGE. Russian baritone; born in St. Petersburg (now Leningrad), 1882; died in Basel, Switzerland, Dec. 6, 1938; studied in Rome. After making his debut with the Russian Imperial Opera in 1905, he sang throughout Europe and with the Boston and Chicago Opera Associations. He created the title roles in Mussorgsky's *Boris Godunov* and Rachmaninov's *Parsifal*; *Onegin* and was famous also as *Iago* in Verdi's *Otello*.

BALCOM, HOMER GAGE. American construction engineer; born in Kendall, N. Y., in 1870; died in New York, N. Y., July 3, 1938. He designed the steel construction of some 500 buildings both in the United States and abroad, including the Empire State Building, the Chrysler Building, and Rockefeller Center in New York and government buildings in Washington.

BARCELO, ANTONIO R. Puerto Rican politician; born in Fajardo about 1868; died in San Juan, Oct. 15, 1938; member of the Senate, 1917-38, and president of that body for 13 years. He was a merchant and municipal judge at the time of the American occupation in 1898, and always championed the cause of Puerto Rican independence.

BARCLAY, ARTHUR. President of Liberia, 1904-08; born in Barbados about 1854; died in Monrovia, July 11, 1938. As president, he attempted numerous reforms and advocated co-operation between the Republic and the native tribes. Subsequently, he became a follower of Marcus Garvey.

BARNARD, GEORGE GREY, died Apr. 24, 1938.

BARR, SIR JAMES. British physician; born Sept. 25, 1849; died in London, Nov. 16, 1938; consulting physician of the Liverpool Royal Infirmary. He was well-known as a eugenicist and a crusader for English prison reform.

BARRETT, JOHN, died Oct. 17, 1938.

BARSE, GEORGE RANDOLPH. American artist; born in Detroit, Mich., July 31, 1861; died a suicide in Katonah, N. Y., Feb. 25, 1938; National Academician (1899). His works, which hang in a number of collections, are largely allegorical in nature. He executed eight panels for the Library of Congress in 1896.

BAUER, OTTO. Austrian Socialist politician; born in Vienna, 1881; died in Paris, July 4, 1938; member of Parliament, 1920-34, where he was leader of the Socialist Deputies. As Secretary for Foreign Affairs in 1918, he vainly advocated the union of Austria and Germany. He clashed frequently with Chancellor Dollfuss, who exiled him in 1934.

BAYLY, ADMIRAL SIR LEWIS. British naval officer; born Sept. 28, 1857; died in London, May 16, 1938; Commander-in-Chief of the Western Approaches, 1915-19; retired in 1919 after 50 years of service. Considered an outstanding contributor to Anglo-American friendship, he was decorated by the United States as well as Great Britain, France, and Italy.

BEACH, JOHN KIMBERLY. American jurist; born in New Haven, Conn., Oct. 18, 1855; died in New Haven, July 6, 1938; professor of commercial law and admiralty at Yale, 1908-23; Associate Justice of the Connecticut Supreme Court of Errors, 1912-25. He was considered an authority on patent law.

BÉDIER, (CHARLES MARIE) JOSEPH, died Aug. 30, 1938.

BEER, EDWIN. American urologist; born in New York, N. Y., Mar. 28, 1876; died in New York, Aug. 13, 1938; chief of the urological service of the Mount Sinai Hospital, New York. His method of treating tumors of the bladder by high-frequency current was generally adopted. He received the first gold medal of the International Society of Urology, Brussels, in 1927, and other awards.

BENTLEY, HENRY. American civic leader; born in Ludlow, Ky., July 25, 1880; died in Cincinnati, O., Oct. 21, 1938; Cincinnati lawyer, 1903-38; head of the Cincinnati City Charter Committee (1924-35) and the Citizen party, which fought the spoils system in politics. Through the City Charter Committee, he originated the proportional representation system and other municipal reforms, which were widely adopted.

BERMAN, ROBERT. American economist; born in Quincy, Mass., June 9, 1897; died in Washington, D. C., May 31, 1938; professor of economics at the University of Illinois, 1921-33; economic analyst in the Bureau of Labor Statistics, 1934-36; senior labor economist in the Division of Social Research of the WPA, 1936-38. His writings were in the field of labor disputes and insurance, on which he was considered an authority.

BERTON, SAMUEL READING. American banker and economics expert; born in Port Gibson, Miss., Feb. 26, 1865; died in Oyster Bay, N. Y., June 30, 1938; established (1894) and headed the international banking firm of Bertron & Storrs, which was succeeded by Bertron, Griscom & Co., Inc. He was a leader in war relief work, served on diplomatic and economic missions, and headed several international development projects in Central Europe.

BEYERS, FREDRIK WILLIAM. South African politician; born in Paarl, Cape Province, Oct. 15, 1867; died in Cape Town, Sept. 15, 1938; member of the Transvaal Legislative Assembly, 1907-10; member of the Parliament of the Union of South Africa, 1918-29; Minister of Mines and Indus-

tries, 1924-29; Justice of Appeal of the Union Supreme Court, 1932-37. A Witwatersrand pioneer, he settled in Johannesburg in 1888, where he practised law. As a Cabinet Minister, he negotiated a trade treaty which gave German goods preferences equal to those of British goods.

BIGELOW, EDWARD FULLER. American naturalist and writer; born in Colchester, Conn., Jan. 14, 1860; died in Greenwich, Conn., July 13, 1938; founder and curator of the Bruce Museum in Greenwich, 1912-38; naturalist of the Boy Scouts and later of the Camp Fire Girls, and lecturer in various schools and institutions. He founded (1908) and edited *A Guide to Nature* and served in an editorial capacity with *St. Nicholas Magazine*, *Popular Science*, *Boys' Life*, etc. His publications include *Bigelow's Descriptive Plant Analysis*, *How Nature Should Be Taught*, and *The Spirit of Nature Study*. He conducted natural history excursions for more than 100,000 boys and girls.

BINDING, RUDOLF G. German writer; born in Basel, Switzerland, Aug. 13, 1867; died in Starnberg Lake, Bavaria, Aug. 4, 1938. Under the influence of d'Annunzio, he abandoned medicine for literature, producing novels, poems, essays, and a biography of the sculptor, Kolbe. His *Antwort eines Deutschen an die Welt* (1933) was a political essay which sought to justify Nazism.

BIRD, ROBERT MONTGOMERY. American chemist and educator; born in Petersburg, Va., June 13, 1867; died June 4, 1938; professor of chemistry at the University of Virginia, 1907-38. He wrote *Chemical Science Reader* (1911), *Typical Reactions of General Chemistry* (1912), *Notes on Organic Chemistry* (1923), etc.

BLACKWELL, ROBERT EMORY. American educator; born in Warrenton, Pa., Nov. 15, 1854; died in Atlanta, Ga., July 7, 1938; professor of languages (1876-1902) and president (1902-38) of Randolph-Macon College, Ashland, Va.

BLACKWOOD, REAR ADMIRAL NORMAN JEROME. American naval officer and surgeon; born in Philadelphia, Pa., Jan. 3, 1866; died in Santa Clara, Calif., Apr. 1, 1938. After the World War, during which he commanded the U.S.S. *Solace* and U.S.S. *Mercy*, he was in charge of naval hospitals at Boston (1918-23), New York (1923-27), and Puget Sound, Wash. Retiring from the Navy in 1930, he became medical director of Provident Hospital, Chicago.

BLEDSE, BENJAMIN FRANKLIN. American jurist; born in San Bernardino, Calif., Feb. 8, 1874; died near Crestline, Calif., Oct. 30, 1938; judge of the Superior Court of San Bernardino County, 1900-14; Federal judge for the Southern District of California, 1914-25. Among the trials at which he presided was the litigation between the U.S. government and the Southern Pacific Railway involving oil lands. He was also a railway executive, a Masonic leader, and an official in various civic organizations.

BLOOMFIELD, MEYER. American vocational expert; born in Bucharest, Rumania, Feb. 11, 1878; died in New York, N. Y., Mar. 12, 1938; founder and director (1901-09) of the Civic Service House, Boston; head of the Boston Vocational Bureau, 1909-17; founder and publisher of *Industrial Relations and Bloomfield's Labor Digest*, and author of works on vocational guidance; vocational adviser at the College of the City of New York (1929-35) and Hunter College (1935-38). As vocational expert, he served the government in Puerto Rico (1911), with the Bureau of Indian Affairs (1912), with the Shipping Board's Emergency Fleet Corporation (1918), and as observer in Soviet Russia (1922).

BOAS, ISMAR (ISIDOR). German physician; born in Exin, Posen, Mar. 28, 1858; died in Vienna, Mar. 27, 1938; founder in Berlin (1882) of the first clinic for treatment of diseases of the stomach and intestines; professor of gastroenterology at the University of Berlin after 1907. An authority on stomach ills, he conducted important researches in methodology, diagnosis, and therapeutics. His textbooks were translated into many languages.

BOGGS, THOMAS RICHMOND. American diagnostician and educator; born in Memphis, Tenn., Oct. 2, 1875; died in Fredericksburg, Va., Sept. 2, 1938; member of the staff of Johns Hopkins Hospital, 1901-38; associate professor at Johns Hopkins University, 1911-31; physician-in-chief of Baltimore City Hospital, 1911-38; president of the Association of American Physicians, 1937. During the World War he became a colonel in the Medical Reserve Corps, having served as chief medical officer of Base Hospital 18 in France and medical consultant of the A.E.F. Air Service.

BONE, WILLIAM ARTHUR. English chemist; born in Stockton-on-Tees, Mar. 19, 1871; died in London, June 12, 1938; professor of fuel industries at Leeds University (1905-12) and of chemical technology at London University (1912-36). In 1913 the Franklin Institute, Philadelphia, awarded him the Potts gold medal for his invention of the Bonecourt system of incandescent surface combustion and radiophragm heating, which he applied to industrial heating appliances. For his work in fuels he received medals from the Royal Society of Arts, the Institute of Fuel, the Society of Chemical Industry, and the Royal Society. He wrote extensively on fuel and combustion research and served on government committees for the study of fuel problems.

BORCHARDT, LUDWIG. German Egyptologist; born in Berlin, Oct. 5, 1863; died in Berlin, Sept. 7(?), 1938; founder

and for 23 years director of the German Institute for Egyptology in Cairo. He wrote widely on Egyptian architecture.

BOURDON, GEORGES (HENRI). French journalist and playwright; born in Vouziers, Jan. 5, 1868; died in Paris, Nov. 9, 1938; general secretary of the *Syndicat des Journalistes*.

BOWCHER, FRANK. British sculptor and engraver; born 1868(?); died in London, Dec. 6, 1938. His works included portraits in marble of the royal family and a large number of medals.

BOYLAN, JOHN JOSEPH. American politician; born in New York, N. Y., Sept. 20, 1878; died in New York, Oct. 5, 1938; member of Tammany Hall; Assemblyman (1910-12) and Senator (1913-22) in the New York State Legislature; U.S. Representative (Democrat) from New York State from 1923 until his death. He was interested in penal reform, tax legislation, and the repeal of the 18th Amendment, and was the author of New York's Habit-Forming Drug Law, the first State law of its kind.

BOYLE, JAMES ERNEST. American economist; born in Boyle, Kans., Nov. 22, 1873; died in Ithaca, N. Y., Sept. 18, 1938; professor of economics at the University of North Dakota, 1904-16; professor of rural economy at Cornell University, 1917-36. He believed in a slow and orderly approach to the solution of farm problems, a subject on which he wrote a number of books.

BRACE, CHARLES LORING. American philanthropist; died in Santa Barbara, Calif., May 24, 1938; retired, 1927. See Vol. III, p. 637.

BRADFORD, MARY CARROLL CRAIG (MRS. EDWARD TAYLOR BRADFORD). American educator; born in New York, N. Y., about 1860; died in Denver, Colo., Jan. 15, 1938; superintendent of schools in Denver, 1909-12; Colorado State superintendent of public instruction and librarian for six terms; executive committee member of the World Federation of Education Associations (1925); a life director and president (1917-18) of the National Education Association. She was the first woman to be elected to a State office in Colorado.

BRIDGES, CALVIN BLACKMAN. American geneticist; born in Schuyler Falls, N. Y., Jan. 11, 1889; died in Los Angeles, Calif., Dec. 27, 1938; staff member of the Carnegie Institution for 19 years and subsequently of the California Institute of Technology. Starting his research work as assistant to Thomas Hunt Morgan of Columbia, he became a specialist on the chromosome theory of heredity and sex determination, working mainly with the fruit-fly, *Drosophila*. He wrote *The Mechanism of Mendelian Heredity* (1915, 1923); *Contributions to the Genetics of Drosophila Melanogaster* (with Morgan, 1919, 1923); *Genetics of Drosophila* (1925), etc.

BRIGMAN, BENNETT MATTINGLY. American engineer and educator; born in Louisville, Ky., Feb. 25, 1881; died in Louisville, Feb. 8, 1938. He organized the School of Engineering (1923) and the Speed Scientific School (1924) at the University of Louisville, with which he was associated from 1916 until his death.

BROOKS, WILLIAM PENN. American agriculturist; born in South Scituate (Norwell), Mass., Nov. 19, 1851; died in Springfield, Mass., Mar. 8, 1938; professor at the Imperial College of Agriculture, Sapporo, Japan, 1877-88, and at Massachusetts State College, 1889-1927. He was decorated with the Japanese Order of the Rising Sun for his work in developing the Imperial College of Agriculture.

BROOMHALL, GEORGE JAMES SHORT. British wheat expert and grain broker; born in Madras, India, about 1856; died in Liverpool, June 23, 1938; founder of the daily *Corn Trade News* (1888) and *Milling* (1891). The statistics which he began to compile in 1888 established Liverpool futures as the world barometer of wheat values.

BROUSSEAU, KATE. American psychologist; born in Ypsilanti, Mich.; died July 9, 1938; professor of psychology at Mills College, 1907-28, and subsequently director of the psychological service of the Los Angeles Institute of Family Relations. During the World War, she served with the French Army as director of *foyers du soldat* on the Lorraine front and with the French Army of Occupation in Germany, being decorated by the French government. She wrote *L'Education des Nègres aux Etats-Unis* and *Mongolism*.

BROWN, CARROLL N. American classical scholar and archaeologist; born in Abington, Mass., about 1870; died in New York, N. Y., Dec. 15, 1938; professor of classical languages and literatures at the College of the City of New York (1905-38); author of a modern Greek-English dictionary (1924), a number of translations, and articles on archaeology; former president of the American Hellenic Society. He was decorated by Greece for his championship of the cause of modern Greek freedom.

BROWN, ERNEST WILLIAM, died July 22, 1938.

BROWNIE, JAMES THOMAS. British trade union leader; born in Port Glasgow, Scotland, June 23, 1865; died at sea, Oct. 13, 1938; president of the Amalgamated Engineering Union, 1913-30.

BRUNOT, FERDINAND. French philologist; born in Saint-Dié, Nov. 6, 1860; died in Paris, Jan. 30, 1938; professor at the University of Paris, 1900-36; member of the In-

stitute of France and the Amsterdam, Brussels, and Copenhagen Academies. He gave courses at the Sorbonne and founded and directed the vacation courses of the *Alliance Française* in Paris, doing much to reform French educational methods. Among his works are *Histoire de la langue française des origines à 1900* (15 vols., from 1902), *La Pensée et la langue* (1922), and *La Langue post-classique* (1932).

BRYANT, REAR ADM. SAMUEL WOOD. American naval officer; born in Washington, Pa., May 24, 1877; died in Asheville, N. C., Nov. 4, 1938; advanced to rear admiral in 1933 and retired four years later. During the World War he received the Navy Cross, having commanded a torpedo boat destroyer and served on the staff of the destroyer flotillas. He was commander of the battleship division of the U. S. Fleet, 1934-35.

BUKHARIN, NIKOLAI, died Mar. 14, 1938.

BULLEN, HENRY LEWIS. American printer; born in Ballarat, Victoria, about 1858; died in Elmhurst, N. Y., Apr. 27, 1938; manager of the advertising and engineering departments of the American Type Founders Co., which he joined in 1892; designer of much equipment now in general use. An international authority on printing, engraving, and binding, and a prolific writer, he revived and made popular old masterpieces of type design. He founded the Typographic Library and Museum, now part of the Columbia University library, which comprises 80,000 volumes and thousands of other items.

BURNET, SIR JOHN JAMES. British architect; born in Glasgow, 1857; died in Edinburgh, July 2, 1938; Royal Academician (1925); medalist of the Royal Institute of British Architecture and the Paris Salon. His many public, ecclesiastical, and domestic structures include the Royal Institute of Fine Arts and the Athenæum in Glasgow, the Institute of Chemistry, Second Church of Christ Scientist, Adelaide House, and Vigo House in London.

BURNHAM, CHARLES. American theatrical producer; born in New York, N. Y., about 1853; died in Winter Park, Fla., Jan. 19, 1938. Starting as an aide to Augustin Daly, he became a theater manager in 1873, managing the Star Theater (1886-95) and Wallack's (1896-1915) for Theodore Moss. After the death of Moss in 1901, he produced, at the Wallack, such successes as *The Squaw Man*, *The County Chairman*, *The Sultan of Sulu*, and *Alias Jimmy Valentine*. He brought the first New York production of *The Mikado* from Europe in 1885.

BURNS, CHARLES WESLEY. American Methodist Episcopal bishop in the Helena Area (1920-24), the San Francisco Area (1924-32), and the Boston Area (1932-38); born in Willow Grove, Pa., May 28, 1874; died in Portland, Me., Jan. 19, 1938.

BURR, GEORGE LINCOLN. American historian; born in Oramel, N. Y., Jan. 30, 1857; died in Ithaca, N. Y., June 27, 1938; member of the faculty of Cornell University (1888-1922), where he occupied the chair of medieval history after 1892; editor of the *American Historical Review* (1905-16) and the *Century Historical Series*; president of the American Historical Association, 1916-17. He was historical expert on the Venezuelan Boundary Commission (1896-97) and was considered an authority on witchcraft, publishing *The Literature of Witchcraft* (1890), *Narratives of the Witchcraft Cases, 1648-1706* (1913), etc.

BURRELL, MARTIN. Canadian politician; born in Farington, Berks, England, Oct. 15, 1858; died in Ottawa, Ont., Mar. 20, 1938; emigrated to Canada in 1883; Conservative member of the House of Commons for Yale-Cariboo after 1908; Minister of Agriculture, 1911-17; Secretary of State and Minister of Mines, 1917-19; Parliamentary Librarian, 1919-38.

BUTLER, MARION. American politician; died in Takoma Park, Md., June 3, 1938. See Vol. IV, p. 220.

BUTLER, SIR (SPENCER) HARCOURT. British administrator in India; born Aug. 1, 1869; died in London, Mar. 2, 1938; governor of the United Provinces (1921-23) and of Burma (1923-27); chairman of the Indian States Committee (1928-29). He spent 40 years in the Indian service and his reports were considered standard works on Indian life.

BYFORD, HENRY TURMAN. American gynecologist; born in Evansville, Ind., Nov. 12, 1853; died in Chicago, Ill., June 5, 1938; professor at the University of Illinois Medical School, 1892-1914; consulting gynecologist of St. Luke's and Chicago Lying-in Hospitals; honorary president of the International Congress of Gynecology, 1896. He conducted extensive research in the field of anemia in women, cancer, eczema, and sugar. He was the author of *Manual of Gynecology* and joint author of *Diseases of Women, American Text Book of Gynecology*, etc.

CABANA, OLIVER, JR. American industrialist; born in Island Pond, Vt., Feb. 9, 1865; died in Buffalo, N. Y., Jan. 21, 1938; organizer (1885) and president of the Buffalo Specialty Co., subsequently renamed the Liquid Veneer Corp.; chairman of the board of the Liberty Bank of Buffalo after 1915; political leader in upstate New York.

CABOT, ELIOT. American actor; born in Boston, Mass., June 22, 1899; died in New York, N. Y., June 17, 1938. He made his debut in *Six Characters in Search of an Author* in 1922, played leading roles for the theater group

between 1928 and 1934, and scored in *The Great Gatsby* (1926), *Coquette* (1927), etc.

CALLENDER, SIR THOMAS OCTAVIUS. British industrialist; born in Glasgow, Scot., Apr. 9, 1855; died in Bidborough Court, Kent, Eng., Dec. 2, 1938; founder and director for 50 years of Callender's Cable & Construction Co. He introduced electric street lights in London and wired the first important public building there.

CAMPBELL, WILLIAM WALLACE, died June 14, 1938.

CAPEK, KAREL, died Dec. 25, 1938.

CAPOTOSTI, LUIGI, CARDINAL. Italian Roman Catholic prelate; born in Montegiberto, Feb. 9(?), 1863; died in Vatican City, Feb. 16, 1938; created Cardinal-Priest of St. Pierre es Liens in 1926; chief of the Apostolic Datary after 1933.

CAPP, JOHN ALLEN. American engineer; born in Philadelphia, Pa., Jan. 14, 1870; died in Schenectady, N. Y., Jan. 6, 1938; organizer and director (1897-1927) of the testing laboratory and engineer of materials (1927-38) for the General Electric Co.; a founder of the American Standards Association.

CAR, STANISLAW. Polish politician and lawyer; born in Warsaw, 1882; died in Warsaw, June 17, 1938; Minister of Justice, 1926, 1929, and 1930; member after 1933 and president after 1935 of the Sejm (Diet); editor and publisher of the law review, *Paletta*, after 1923. Closely associated with Pilsudski, he drafted the 1935 constitution, which transformed Poland from a democracy to a quasi-dictatorship.

CARDOZO, BENJAMIN NATHAN, died July 9, 1938.

CAREW, JAMES. American actor; born in Goshen, Ind., Feb. 5, 1876; died in London, Eng., Apr. 4, 1938; star of a number of London successes, including *Madame X*, *Where the Rainbow Ends*, *The Jew*, *Savitr*, and *The Apple Cart*; film and radio actor. He married Ellen Terry in 1907, being separated from her in 1913.

CARRÉ, ALBERT. French theatrical producer and playwright; born in Strasbourg, June 22, 1852; died in Paris, Dec. 12, 1938; director of the Opéra Comique, 1898-1914; lieutenant-colonel during the World War; director of the Comédie Française, 1919-35. He was noted for his excellent staging.

CARRINGTON, EDWARD CODRINGTON. American business man and corporation lawyer; born in Washington, D. C., Apr. 10, 1872; died in Baltimore, Md., Dec. 30, 1938; president of the Hudson River Navigation Corp. and the Americana Corp. He was a political leader in Maryland until 1916, when he moved to New York City.

CARSE, DAVID BRADLEY. American consulting engineer; born in Jeffersonville, Ind., Dec. 1, 1862; died in West Cornwall, Conn., Oct. 30, 1938; head of D. B. Carse & Co., Inc., of New York, the American Reduction Co., and Superior Sign Co. Until his retirement in 1923 he examined for bankers many of the nation's outstanding industrial concerns and developed several New England water power companies.

CAULK, JOHN ROBERTS. American urologist; born in McDaniel, Md., Oct. 30, 1881; died in St. Louis, Mo., Oct. 13, 1938; connected with Washington University in St. Louis as chief of the clinic after 1915 and professor after 1923; president of the American Urological Association (1925) and the American Association of Genitourinary Surgeons (1933). His important innovations in surgical practice included ultra-violet-ray treatment of tuberculosis of the bladder, simplified kidney surgery, an operation for the relief of megaloureter, the cautery punch operation for prostatic growths, and the infiltration method of anesthetizing the neck of the bladder.

CAVENDISH, VICTOR CHRISTIAN WILLIAM. See DEVONSHIRE.

CELISO, COUNT AFFONSO. Brazilian writer and historian; born in Ouro-Preto, Mar. 31, 1860; died in Rio de Janeiro, July 12, 1938; a noted lecturer and author of *Vultos e fatos* (4th ed., 1896), *Porque me ufano do meu país* (5th ed., 1912), *I corsos* (1926), etc. He was for a time member of the Brazilian Chamber of Deputies and dean of the faculty of law of Rio de Janeiro.

CHADBOURNE, THOMAS L. (LINCOLN), died June 15, 1938.

CHALIAPIN, FEDOR IVANOVITCH, died Apr. 12, 1938.

CHALMERS, FIRST BARON OF NORTHAM, ROBERT. British civil servant and Orientalist; born Aug. 18, 1858; died in Oxford, Nov. 17, 1938; governor of Ceylon, 1913-16; joint secretary of the Treasury, 1916-19; president of the Royal Asiatic Society, 1922-25; an authority on the Pali language and a financial expert.

CHALMERS, WILLIAM JAMES. American manufacturer; born in Chicago, Ill., July 10, 1852; died in Chicago, Dec. 10, 1938; engaged in machinery manufacturing with Fraser and Chalmers, 1872-1901, Allis-Chalmers Co., 1901-06, and Chalmers and Williams after 1911. He was a noted philanthropist and was decorated by Belgium for raising relief funds during the World War.

CHERNOV, MIKHAIL A. Russian commissar of Agriculture (1934-38); born 1891; convicted of treason and executed in Moscow, Mar. 14(?), 1938.

CHILDS, WILLIAM. American restaurateur; born near Basking Ridge, N. J., about 1866; died in Bernardsville, N. J., May 22, 1938. With his brother he opened in New

York in 1889 the first of a chain of more than 100 restaurants in 30 cities, which reached a value of \$37,000,000. The Childs family lost control of the business in 1929.

CHKALOV, VALERI. Soviet Russian aviator; born about 1904; died in a plane crash near Moscow, Dec. 15, 1938; one of three aviators who made a non-stop flight of nearly 5300 miles across the North Pole from Moscow to Vancouver, Wash. (1937).

CHRYSOSTOMOS, ARCHBISHOP. Primate of the Greek Orthodox Church after 1911; born in Thrace, 1868; died in Athens, Oct. 22, 1938. He served also as Metropolitan of Corinth and professor of ecclesiastical history at the University of Athens.

CLAPLIN, JOHN. American merchant; born in Brooklyn, N. Y., July 24, 1850; died in Morristown, N. J., June 11, 1938. Upon his father's death in 1885, he acquired control of H. B. Claplin & Co., then one of New York's largest wholesale dry goods houses, and in 1900 he organized the Associated Merchants' Co. to control a number of retail stores as outlets. The Associated Merchants' Co. merged with affiliates to form under his presidency the United Dry Goods Co., which was one of the most important holding companies in the country until it went into bankruptcy in 1914.

CLAGHORN, KATE HOLLADAY. American sociologist and writer; born in Aurora, Ill.; died in Greenwich, Conn., Mar. 22, 1938; instructor at the New York School of Philanthropy, now the New York School of Social Work, 1912-32.

CLARK, JOHN BATES, died Mar. 21, 1938.

CLARKE, WILLIAM EAGLE. British ornithologist; born in Leeds, Eng., Mar. 16, 1853; died in Edinburgh, Scot., May 12, 1938; keeper of the natural history department of the Royal Scottish Museum, 1906-21; president of the British Ornithologists' Union, 1917-20; editor of *Annals of Scottish Natural History* and *Saunders' British Birds*; author of *Studies in Bird Migration* (1912), etc.

COAKER, SIR WILLIAM FORD. Newfoundland labor leader; born in St. John's, Newfoundland, Oct. 19, 1871; died in Boston, Mass., Oct. 29, 1938; organizer and president (1908-38) of the Fishermen's Protective Union; member of Parliament, 1913-24; Minister of Marine and Fisheries (1919-23) and without Portfolio (1928-32).

COCKE, MATTY L. American educator; born Oct. 5, 1855; died at Hollins College, Va., Aug. 15, 1938; president of Hollins College, 1901-33.

CODREANU, CORNELIU ZELEA. Rumanian Fascist leader; born about 1899; died near Bucharest, Nov. 30, 1938; organizer (1927) of the Fascist, anti-Semitic Legion of the Archangel Michael, later renamed the Iron Guard. He was accused but acquitted of the assassination of Premier Duca in 1933, and the Iron Guard was dissolved though it continued its activities as the All-for-the-Fatherland party. A bitter enemy of Mme. Lupescu, he exerted considerable influence on national policy until King Carol's assumption of dictatorial powers in 1938. Charged with a revolutionary plot, he was imprisoned in May and was shot on November 30 with 13 other political prisoners, allegedly while attempting to escape.

COFFMAN, LOTUS DELTA, died Sept. 22, 1938.

COLLINS, GUY N. American botanist; born in Mertensia, N. Y., Aug. 9, 1872; died in Lanham, Md., Aug. 14, 1938; associated with the Bureau of Plant Industry of the U.S. Department of Agriculture after 1900, becoming senior botanist in 1924. He introduced into the United States the avocado, Mexican acala cotton, and many successful types of hybrid corn.

COMPTON, GEORGE BROKAW. American lawyer; born in Ovid, N. Y., Dec. 21, 1883; died in New York, N. Y., Mar. 24, 1938; senior member of Compton, Dillon, & Clark; a major in the World War. Active in New York City Republican politics, he managed the campaign for adoption of the city charter in 1936.

CONNAUGHT, PRINCE ARTHUR OF. British soldier and diplomat, only son of the Duke of Connaught and grandson of Queen Victoria; born in Windsor, Eng., Jan. 13, 1883; died in London, Sept. 12, 1938; colonel-in-chief of the Royal Scots Greys (retired, 1920); High Commissioner for South Africa, 1920-23. He was mentioned in dispatches for his World War duties and served as an unofficial ambassador on diplomatic missions.

CONRAD, CON (CONRAD K. DOBER). American song writer; born in New York, N. Y., about 1893; died in Van Nuys, Calif., Sept. 28, 1938; wrote scores for musicals and motion-pictures. Among his compositions were "Margie," "Barney Google," and "The Continental," for which he received with Herb Magidson the Motion-Picture Academy Award for the best song of 1935.

COOK, PHILIP. American Protestant Episcopal bishop in Delaware after 1920; born in Kansas City, Mo., July 4, 1875; died in Baltimore, Md., Mar. 25, 1938; president of the National Council of the Church, 1934-37.

COOPER, DEXTER PARSHALL. American hydraulic engineer; born in Rushford, Minn., July 10, 1880; died in Boston, Mass., Feb. 2, 1938. With his brother he designed and constructed hydroelectric power projects valued at more than \$250,000,000, including the Wilson dam and power project at Muscle Shoals. He conceived the plan for the Passamaquoddy power dam in Maine.

COOTE, BERT. British comedian of stage and screen; born in London, 1868; died in London, Sept. 2, 1938. Beginning his career at the age of five, he starred in *The Windmill Man* (1921) and many other successes.

COOVER, JOHN EDGAR. American psychologist; born in Remington, Ind., Mar. 16, 1872; died in Palo Alto, Calif., Feb. 19, 1938; member of the faculty of Leland Stanford University after 1910. He wrote *Metapsychics and the Incredulity of Psychologists* (1927), etc.

COPELAND, ROYAL S (AMUEL), died June 17, 1938.

CORNISH, EDWARD JOEL. American industrialist; born in Sidney, Ia., Dec. 15, 1861; died in New York, N. Y., May 3, 1938; president of the National Lead Co., 1916-33; member of the National Industrial Conference Board.

COSTER, FRANK) DONALD. See MUSICA, PHILIP.

COVADONGA, DON ALFONSO, COUNT OF. Former Prince of the Asturias and heir to the Spanish throne; born in Madrid, May 10, 1907; died in Miami, Fla., Sept. 6, 1938. Although handicapped by poor health, he joined the King's Regiment and commanded a flying squadron during the Rif war in Morocco (1925). He renounced his right to the throne when he married a Cuban commoner in 1933. His death was caused by a hemorrhage after an automobile accident, having suffered from hemophilia.

CRAIG, JOE. American politician; born in Fairfield, Ia., Dec. 24, 1877; died in Los Angeles, Calif., Mar. 2, 1938; U.S. Representative (Republican) from California, 1927-33. He introduced a record total of 533 bills during the second session of the 72d Congress (1933).

CRICHTON-BROWN, SIR JAMES, died Jan. 31, 1938.

CROFT, MAJ. GEN. EDWARD. American soldier; born in Greenville, S. C., July 11, 1875; died in Greenville, Jan. 28, 1938; Chief of Infantry, 1933-37; retired 1937. During the World War he commanded the 2d Battalion, 26th Infantry, A.E.F., in France.

CYRIL, VLADIMIROVITCH, died Oct. 12, 1938.

DAGGETT, BRIG. GEN. AARON SIMON. American soldier; born in Greene Corner, Me., June 14, 1837; died in West Roxbury, Mass., May 14, 1938; retired 1905. He served throughout the Civil War in the 6th Corps, Army of the Potomac, in the Spanish-American War, the Philippines, and the Boxer Rebellion in China.

DALEY, GEORGE HERBERT. American journalist; born in New York, N. Y., Dec. 26, 1869; died in New York, Feb. 8, 1938; sports editor of the *New York Tribune* (1900-16), *World* (1916-31), and *Herald-Tribune* (1931-38). He introduced the All-Star football game to New York.

D'ANNUNZIO, GABRIELE. See ANNUNZIO, GABRIELE D'.

D'ARCY, CHARLES FREDERICK. Irish Protestant Primate; born in Dublin, Jan. 2, 1859; died in Armagh, Northern Ireland, Feb. 1, 1938; Archbishop of Dublin, 1919-20; Archbishop of Armagh and Primate of the Church of Ireland, 1920-38; noted lecturer and author on ethical subjects.

DARROW, CLARENCE, died Mar. 13, 1938.

DART, HARRY GRANT. American cartoonist; born in Williamsport, Pa., about 1869; died in Laconia, N. H., Nov. 15, 1938; on the staff of the *New York World, Herald, and Recorder* and the *Denver Times*. He originated "The Joy Family" in the *New York Tribune* and "Mr. Home, Sweet Home" in the *World*.

DAVIS, BRIG. GEN. MILTON FENNIMORE. American soldier and educator; born in Mantorville, Minn., Nov. 15, 1864; died in Cornwall-on-Hudson, N. Y., May 31, 1938; professor and commandant (1909-22), superintendent (1922-36), and president (1936-38) of the New York Military Academy. He retired from the army as a major in 1909, having served in the Spanish-American War and in the Philippines, but during the World War was colonel of the Signal Corps and chief of training in the Air Service. He won the Distinguished Service Medal and was commissioned brigadier general in the Air Corps Reserve. He was also a mountain climber and explorer of note.

DAWSON, SIR PHILIP. British electrical engineer; born January, 1867; died in Berlin, Ger., Sept. 24, 1938; Conservative member of Parliament after 1921; recipient of various engineering awards. He served the Belgian and Egyptian governments, as well as his own, in an advisory capacity. He wrote *Germany's Industrial Revival* (1926) and textbooks on power supply.

DAY, JOHN GODFREY FITZMAURICE. Irish Protestant Primate; born May 12, 1874; died in Dublin, Sept. 26, 1938; consecrated Primate of All Ireland in April, 1938.

DAY, WILLIAM BAKER. American scientist and educator; born in Peru, Ill., Feb. 15, 1871; died in Chicago, Ill., Dec. 10, 1938; professor after 1898 and dean after 1919 of the University of Illinois School of Pharmacy; author of *Introduction to Plant Histology* (1908).

DAYTON, REAR ADMIRAL JAMES HENRY. American naval officer; died in South Bend, Ind., Nov. 15, 1938. See Vol. VI, 548.

DAZEY, CHARLES TURNER. American playwright; born in Lima, O., Aug. 13, 1855; died in Quincy, Ill., Feb. 9, 1938. His best-known work was *In Old Kentucky*, a melodrama which played 26 consecutive seasons on the road and appeared in three cinema versions.

DEARBORN, GEORGE VAN NESS. American neuropsychiatrist, born in Nashua, N. H., Aug. 15, 1869; died in New

York, N. Y., Dec. 12, 1938; professor at Tufts College, 1904-16; founder of the psychological research laboratory of the U.S. Veterans' Bureau, with which he was associated from 1921 to 1937. He was one of the first to explore scientifically the relationship between emotion and blood pressure.

DE FOREST, HENRY WHEELER, died May 28, 1938.

DEGOUTTE, GEN. JEAN MARIE JOSEPH, died Oct. 31, 1938.

DE KAY, JOHN WESLEY, American promoter and author; born in New Hampton, Ia., July 20, 1872; died in Takoma Park, Md., Oct. 4, 1938. He started in the newspaper business at the age of 19, but in 1899 went to Mexico, where he organized and headed (1902-13) the Mexican Packing Co., valued at \$25,500,000. Indicted in 1913 in connection with the failure of the Atlantic National Bank of Providence, he was acquitted in 1925. Meanwhile, he took refuge in Europe, where he was accused of other fraudulent schemes, some involving millions of dollars. The charges were gradually withdrawn. He wrote some twenty books, including *Judas*, a play, in which Bernhardt appeared in London.

DENBY, CHARLES, American diplomat; born in Evansville, Ind., Nov. 14, 1861; died in Washington, D. C., Feb. 14, 1938; consul-general at Shanghai (1907-09) and Vienna (1909-15). He held various posts in China, 1893-1905, 1918, and 1922-23, heading the provisional government of the Tientsin district after the Boxer Rebellion.

DENHAM, SIR EDWARD BRANDIS, British colonial administrator; born in 1876; died in Kingston, Jamaica, June 2, 1938; colonial secretary of Mauritius (1920-23) and Kenya (1923-28), governor of Gambia (1928-30) and British Guiana (1930-34), and governor-in-chief of Jamaica (1934-38).

DENNIS, COL. JOHN STOUGHTON, Canadian engineer and soldier; born in Toronto, Ont., 1856; died in Victoria, B. C., Nov. 26, 1938; chief engineer of the Bassano Dam and irrigation project of the Canadian Pacific Railway (1902) and subsequently head of the Railway's department of colonization for the Calgary area, where he was known as "Calgary Jack." Up to 1917, he recruited 40,000 World War volunteers in New York and Chicago. He was decorated for his war work with the Canadian Brigade in Russia and received the Kennedy gold medal of the Engineering Institute of Canada.

DENT, STANLEY HUBERT, American lawyer and politician; born in Eufaula, Ala., Aug. 16, 1869; died in Montgomery, Ala., Oct. 6, 1938; U.S. Representative (Democrat) from Alabama, 1909-21; lawyer in Eufaula, until 1899, and Montgomery. He was the chairman of the House Committee on Military Affairs throughout the World War, led the anti-prohibition movement in Alabama, and re-codified the laws of his State.

DERRICK, CALVIN, American penologist; born in Buffalo, N. Y., May 16, 1870; died in Jamesburg, N. J., Nov. 13, 1938; superintendent of the New Jersey State Home for Boys, 1921-23 and 1927-38, and other institutions; past president of the American Prison Association; U.S. delegate to the International Prison Conference in London, 1925; originator of the centralized parole plan, the New Jersey credit-marking system, and the parole procedure of the New York City Department of Correction.

DE SCHWEINITZ, GEORGE EDMUND. See SCHWEINITZ, GEORGE EDMUND DE.

DEVONSHIRE, 9TH DUKE OF, VICTOR CHRISTIAN WILLIAM CAVENDISH, British statesman and head of one of England's greatest feudal families; born May 31, 1868; died at Chatsworth House, Derbyshire, May 6, 1938; Liberal Unionist member of Parliament from 1891 until 1908, when he entered the House of Lords; civil lord of the Admiralty, 1915-16; governor-general of Canada, 1916-21; secretary of state for the Colonies, 1922-24; member of the Privy Council after 1905. He was one of the wealthiest landowners in England.

DEWING, THOMAS WILMER, American figure and portrait painter; died in New York, N. Y., Nov. 5, 1938. See VOL. VI, p. 751.

DICKINSON, CLEMENT CARELL, American legislator; born in Prince Edward Court House, Va., Dec. 6, 1849; died in Clinton, Mo., Jan. 14, 1938; U.S. Representative (Democrat) from Missouri, 1910-21, 1923-29, and 1931-35; member, Ways and Means Committee.

DOBER, CONRAD K. See CONRAD.

DONALDSON, HENRY HERBERT, died Jan. 23, 1938.

DORE, JOHN FRANCIS, American lawyer and politician; born in Charlestown, Mass., Dec. 11, 1881; died in Seattle, Wash., Apr. 18, 1938; mayor of Seattle, 1932-34 and 1936-38; defeated for mayor in 1938 after campaigning against the C.I.O.; noted for a pro-labor attitude which he later modified. See YEAR BOOK, 1936, p. 783, and 1937, p. 773.

DOUGLAS, JOHN, American surgeon; born in New York, N. Y., Aug. 5, 1875; died in New York, Dec. 5, 1938; consulting surgeon at St. Luke's, Bellevue, Knickerbocker, and Harlem Eye and Ear hospitals in New York City; instructor (1904-12) and clinical professor of surgery (1912-38) at New York University and Bellevue Medical College. An authority on cancer, he disproved the theory that the disease is hereditary in nature.

DOWNES, SIR ARTHUR HENRY, English physician and public health official; born in Shropshire, Eng., Oct. 11, 1851; died in Haifa, Palestine, Mar. 11, 1938. He revealed the destructive action of light on organisms of putrefaction and disease.

DRURY, SAMUEL SMITH, American Protestant Episcopal clergyman and educator; born in Bristol, R. I., Oct. 19, 1878; died in Boston, Mass., Feb. 21, 1938; rector of St. Paul's School, Concord, N. H., 1911-38.

DUFFIELD, EDWARD DICKINSON, American insurance executive; born in Princeton, N. J., Mar. 3, 1871; died in South Orange, N. J., Sept. 17, 1938; associated with the Prudential Insurance Co. of America after 1906, becoming president in 1922; chairman of the board of trustees and acting president (1932-33) of Princeton University. He influenced the Prudential Co. to make large loans for housing, in which he was interested.

DUPUIS, CHARLES, French jurist and writer; born in 1867; died in Paris, Aug. 6, 1938; professor after 1899 at the École des Sciences Politiques; author of works on international law and economics.

DURVEA, CHARLES E., died Sept. 28, 1938.

EAST, EDWARD MURRAY, American biologist; born in Du Quoin, Ill., Oct. 4, 1879; died in Boston, Mass., Nov. 9, 1938; member of the Harvard University faculty after 1909, serving as professor of experimental plant morphology (1914-26) and of genetics (1926-38); president of the American Society of Naturalists (1918) and the Genetics Society of America (1937). He investigated self-sterility in plants, developed a scientific method of maize breeding, and formulated the multiple factor theory of inheritance of size characters. Interested in population and other human problems, he wrote *Mankind at the Crossroads* (1923) and *Heredity and Human Affairs* (1927), as well as works on plant breeding.

EDGERTON, JAMES ARTHUR, American prohibition leader and writer; born in Plantsville, O., Jan. 30, 1869; died in Alexandria, Va., Dec. 3, 1938; vice-presidential nominee of the Prohibition Party, 1928; president of the National (1909-14) and International (1914-24) New Thought Alliance.

EDGERTON, JOHN EMMETT, American manufacturer; born in Johnston Co., N. C., Oct. 2, 1879; died in Lebanon, Tenn., Aug. 4, 1938; a founder and coproprietor until 1912 of the Columbia (Tenn.) Military Academy; president of the Lebanon Woolen Mills, 1912-38; president of the National Association of Manufacturers, 1921-31. He was an advocate of prohibition and a bitter foe of the New Deal labor policies.

EDMONDSON, THOMAS WILLIAM, American mathematician; died at Mount Vernon, N. Y., Nov. 4, 1938. See VOL. VII, p. 474.

EDSTROM, DAVID, Swedish-American sculptor; born in Hvetlanda, Sweden, Mar. 27, 1873; died in Los Angeles, Calif., Aug. 12, 1938. After working as newsboy and factory hand in Iowa, 1880-94, he returned to Europe and studied with Björkstén, Injalbert, and Matisse. Later he lived in New York and Los Angeles. He executed famous psychological studies, "Fear," "Pride," "Envy," "Caliban," and "The Cry of Poverty," portraits of prominent people, and war memorials. A noted lecturer, he wrote *The Road to Parnassus* (1931) and *The Testament of Caliban* (1937) and many articles.

EDWARDS, HARRY STILLWELL, American author; born in Macon, Ga., Apr. 23, 1855; died in Macon, Oct. 22, 1938; editor of the Macon *Telegraph*, 1881-87; author of *Sons and Fathers* (Chicago *Record* prize, 1896), *The Answer* (second prize in *Life* short-story contest, 1916), *Aeneas Africanus* (1919), a short story which sold more than a million copies, and other dialect stories and studies of plantation life.

EDWARDS, S. ARLENT, American etcher; born in London, Eng., July 12, 1862; died in Westport, Conn., Nov. 4, 1938; studied at the South Kensington Museum; emigrated to the United States in 1890. He successfully revived the art of color-printing from a mezzotint plate.

EGAN, MARTIN, American journalist and publicist; born in Martinez, Calif., June 18, 1872; died in New York, N. Y., Dec. 7, 1938; member of the Associated Press Staff, covering the McKinley assassination, the Philippine Insurrection, the Boxer Rebellion, and the Russo-Japanese War; editor of the *Manila Times*, 1908-13; liaison officer with the press and Far Eastern adviser for J. P. Morgan and Co. after 1914; civilian aide to Gen. Pershing in 1918; president of the American Asiatic Association, 1929-38. His transmission of the story of the siege of Fort Arthur (1904) was an outstanding journalistic feat.

EINSTEIN, ISADORE, American prohibition agent (1920-28); born in Tarnow, Austria, Aug. 8, 1880; died in New York, N. Y., Feb. 17, 1938. Teamed with Moe Smith, he made nearly 5000 arrests. The two, known as "Izzy and Moe," were famous for their disguises and comic ruses.

ELDRIDGE, ROBERT, American construction engineer; born in Ottawa, Ill., about 1874; died in New York, N. Y., Oct. 12, 1938; supervising engineer for New York's first subways, the Grand Central Terminal, and the Lincoln Tunnel. He built dams for the Colorado Light

& Power Co., the Ebro Irrigation & Power Co. in Spain, and the Foundation Co. in South America.

ELLIS, ALVARADO LEROY. American electrical engineer; born in Lynn, Mass., Nov. 25, 1875; died in Swampscott, Mass., Apr. 29, 1938; on the staff of the General Electric Co. after 1898; noted for his improvement of electrical instruments (Pan-American Exposition medal) and marine appliances (Coffin award). He designed the submarine detector used by the Allies in the World War.

EMERSON, CHARLES PHILLIPS. American physician and educator; born in Methuen, Mass., Sept. 4, 1872; died in Indianapolis, Ind., Sept. 26, 1938; professor and dean (1911-32) of the Indiana University School of Medicine; president of the Association of American Medical Colleges, 1923; author of *Essentials of Medicine* (1908), *Emerson and Betts Physiology of Hygiene* (with Betts, 1920), *Physical Diagnosis* (1928), etc.

ENNIS, LAWRENCE. British construction engineer, with Dorman Long & Co. after 1903; born Aug. 31, 1871; died in London, May 6, 1938; built the Sydney Harbour Bridge in Australia. During the World War he established a government shell plant and, as president of the Iron and Steel Trades Association, participated in industrial negotiations.

FAIRCLOUGH, HENRY RUSHTON. American philologist; born near Barrie, Ont., July 15, 1862; died Feb. 12, 1938; professor of classics at Stanford University, 1897-1927; director of the English-Speaking Union; president of the American Philological Association, 1926; translator and editor of numerous Greek and Latin texts. A lieutenant-colonel in the American Red Cross, he directed Belgian and American Relief, 1918-19, and was commissioner to Montenegro, 1919-20.

FARZANDI-KHAS, H. H. See PATIALA.

FEQUANT, GEN. PHILIPPE. French aviator; born about 1883; died in Paris, Dec. 24, 1938; an air squadron commander during the World War and after 1918 chief of staff of the 1st Division; subsequently commander of the Military School of Aeronautics; chief of the Air Force General Staff after 1936; Grand Officer of the Legion of Honor. He won a speed record in 1911 and made the first exploration flights in Senegal in 1912.

FERNALD, CHESTER BAILEY. American author; drowned off Dover, Eng., Apr. 10, 1938. See VOL. VIII, p. 476.

FERRETTI, DOM PAOLO MARIA. Italian musician; born in Subiaco, Dec. 3, 1866; died in Bologna, May 5, 1938; abbot in Palma until summoned to the Vatican as consultor in the revision of the Antiphonary; president of the Pontifical Institute of Music after 1911; wrote on the Gregorian chants.

FAY, MAJ. R. EMIL, died Mar. 16, 1938.

FIFER, JOSEPH WILSON. American lawyer and politician; born in Staunton, Va., Oct. 28, 1840; died in Bloomington, Ill., Aug. 6, 1938; governor (Republican) of Illinois, 1889-93; member of the Interstate Commerce Commission, 1899-1906; known as "Private Joe" because of his Civil War service.

FILIPESCU, GRIGORE. Rumanian editor and Conservative leader; born in 1886; died in Geneva, Switzerland, Aug. 24, 1938; editor of the newspaper *Epoca* after 1918.

FILIPPI, FILIPPO DE. Italian explorer; died in Florence, Sept. 27, 1938. See VOL. VIII, p. 548.

FINKE, HEINRICH. German historian; born in Krechting, June 13, 1855; died in Freiburg, Dec. 21, 1938; member of the faculty of the University of Münster, 1887-1928. He was an authority on papal and Spanish history and received the Reich Eagle Shield in 1935.

FINLAY, KIRKMAN GEORGE. American Protestant Episcopal bishop, serving in Upper South Carolina (1922-38); born in Greenville, S. C., Oct. 1, 1877; died in Hendersonville, N. C., Aug. 27, 1938.

FIRESTONE, HARVEY S (AMUEL), died Feb. 7, 1938.

FISHER, FREDERICK BOHN. American Methodist Episcopal bishop of India (1920-30); born in Greencastle, Pa., Feb. 14, 1882; died in Detroit, Mich., Apr. 15, 1938; secretary of foreign missions, 1910-20. He retired from the bishopric in 1930 in order to return to the pulpit.

FLAHERTY, FREDERICK H. American surgeon; born in Chittenango, N. Y., Apr. 21, 1873; died in Syracuse, N. Y., Sept. 7, 1938; professor at the Syracuse University School of Medicine after 1908; wrote on hernia.

FLOANAGAN, JOHN J. Irish athlete; born about 1868; died in Ireland, June, 1938; winner of the Olympic hammer-throw title, 1900, 1904, 1908. He established a world's record of 180 ft. in 1909 (upset by Ryan in 1913) and introduced the double-turn technique.

FLANDRAU, CHARLES MACOMB. American author and critic; born in St. Paul, Minn., Dec. 9, 1871; died in St. Paul, Mar. 28, 1938; author of *The Diary of a Freshman* (1902), *Viva Mexico!* (1908), etc.

FLEURIAU, AIME JOSEPH DE. French diplomat; born in La Rochelle, Jan. 24, 1870; died in Ismailia, Egypt, Jan. 20, 1938; minister to China, 1921-24; ambassador to London, 1924-33.

FLICK, LAWRENCE F. American physician; born near Carrolltown, Pa., Aug. 10, 1856; died in Philadelphia, Pa., July 7, 1938. His fight against tuberculosis led to the founding of Benjamin Rush Hospital in Philadelphia,

the White Haven Sanitarium, of which he was president, 1901-35, and the Phipps Institute for the Study of Tuberculosis, where he was medical director. Early in life he cured himself of tuberculosis and later proved that the disease is not hereditary. His *Consumption, a Curable and Preventable Disease* (1903) became a standard textbook; Lactare Medal of the University of Notre Dame (1920).

FLOOD, NED ARDEN. American industrial banker; born in New Market, N. H., Sept. 12, 1870; died in New York, N. Y., Nov. 8, 1938; negotiator in the organization, transfer, or incorporation of many large concerns, including F. W. Woolworth Co., Goodrich Rubber Co., and Cluett, Peabody & Co.

FORBES, JAMES. American playwright; born in Salem, Ont., Sept. 2, 1871; died in Frankfort-on-the-Main, Ger., May 26, 1938; wrote *The Chorus Lady* (1906), *The Famous Mrs. Fair* (1919), *Young Blood* (1925), etc.

FRANCIS I DE PAULE (MARIA KARL AUGUST FRANZ VON PAULA). Prince of Liechtenstein; born in Liechtenstein, Aug. 28, 1853; died in Feldsberg, Czechoslovakia, July 25, 1938; ruler of Liechtenstein from 1929 until the spring of 1938, when he delegated his powers to his nephew. He spent much of his life in Austria, serving as Austrian ambassador to Russia (1894-98), and was a confidant of Emperor Francis Joseph. He owned one of the world's finest private art galleries and a personal fortune estimated at \$100,000,000. In 1921 he secretly married the former Baroness Guttman, daughter of a Jewish banker.

FRANCO, LIEUT.-COL. RAMON. Spanish aviator; born about 1896; died in an airplane crash near Palma, Majorca, Oct. 28, 1938; one of three aviators who made the first flight across the South Atlantic (Cadiz to Buenos Aires, 1926). He engaged in revolutionary activities until the republic was established in 1931, when he directed the aeronautics division of the Ministry of War for a time. When his brother, Gen. Francisco Franco, revolted in 1936, he became chief of the rebel air forces in the Balearic Islands.

FRASER, ALEXANDER (JOSEPH). American pathologist; born in West River, N. S., Can., Jan. 8, 1869; died in Beechurst, N. Y., Sept. 18, 1938; on the staff of the New York University College of Medicine, 1911-34. He lectured on social hygiene and biology and wrote on gonorrhea, tumors, etc.

FREDERICK, PAULINE. American actress; born in Boston, Mass., Aug. 12, 1885; died in Beverly Hills, Calif., Sept. 19, 1938; star of *When Knights Were Bold* (1907), *Samson* (1909), *Joseph and His Brethren* (1913), *Madame X*, and many other plays and motion pictures. She played both comic and tragic roles and was noted for her great beauty.

FRERE, WALTER HOWARD. Anglican bishop of Truro (1923-35); born in Cambridge, 1863; died in Mirfield, Eng., Apr. 2, 1938; superior (1902-13 and 1916-22) of a monastic order, the Community of the Resurrection, which he helped to found in 1892; liturgical scholar and historian.

FROMENIUS, LEO V. German explorer and morphologist; born in Berlin, June 29, 1873; died in Intra, Italy, Aug. 9, 1938; founder (1922) and president of the Institute for Cultural Morphology at Frankfurt; director of the Frankfurt Ethnographic Museum. An authority on prehistoric African art, he made 12 expeditions to Africa and wrote about 60 books, including *Atlantis* (12 vols. of African legends, 1921-30) and *Kulturgeschichte Afrikas* (1933).

FROST, WADE HAMPTON. American epidemiologist; born in Marshall, Va., Mar. 3, 1880; died in Baltimore, Md., Apr. 30, 1938; surgeon with the U.S. Public Health Service, 1905-29, studying epidemiology, poliomyelitis, stream pollution, and influenza; professor after 1921 and dean (1931-34) of the Johns Hopkins University School of Hygiene and Public Health.

FROST, WILLIAM GOODELL. American educator; died in Berea, Ky., Sept. 11, 1938; retired, 1920. See VOL. IX, p. 312.

FRY, C (CHARLES) LUTHER. American sociologist; born in Philadelphia, Pa., Mar. 16, 1894; died in Rochester, N. Y., Apr. 12, 1938; director of the Bureau of Standards of the Institute for Social and Religious Research in Rochester, 1922-33; professor of sociology at Rochester University, 1933-38. He directed surveys of migratory labor, race relations, religious changes (for President Hoover), etc.

FUGATE, JAMES R. American administrator; assassinated at Upi, Mindanao Island, the Philippines, Dec. 14, 1938; governor of Sulu Province, 1925-36, and subsequently adviser to Quezon on Moro affairs. He was of invaluable service in the pacification of the Moros in 38 years as teacher and official. In 1936 he was involved in a factional dispute among the claimants to the Sultanate.

FULTON, OTHO H. English inventor; born in Hull, Eng., about 1868; died in New York, N. Y., Mar. 1, 1938. In 1912 he transmitted what was thought to be the first picture sent by wireless.

FURUSETH, ANDREW. American labor leader; born in Hedemarken, Norway, Mar. 12, 1854; died in Washington, D. C., Jan. 22, 1938; entered the United States in 1880; president of the International Seamen's Union of America from its foundation in 1908; member of the first legislative committee of the A.F.L. He united the various

seamen's unions in 1892 and fought in Washington for many marine laws, notably the La Follette Seamen's Act (adopted 1915), which he helped to draft and advocated for 21 years.

FUTCHER, THOMAS BARNES. American diagnostician; born in St. Thomas, Ont., Can., Jan. 1, 1871; died in Baltimore, Md., Feb. 25, 1938; on the staff of Johns Hopkins Hospital (after 1894) and University (after 1896); president of the Association of American Physicians, 1932. During the World War he was a lieutenant-colonel in the Canadian Medical Corps.

GALE, ZONA (MRS. WILLIAM LLEWELLYN BREESE), died Dec. 27, 1938.

GALLOWAY, BEVERLY THOMAS. American botanist; died in Washington, D. C., June 13, 1938. See VOL. IX, p. 426.

GAMBRILL, STEPHEN WARFIELD. U.S. Representative (Democrat) from Maryland, 1924-38; born near Savage, Md., Oct. 2, 1873; died in Washington, D. C., Dec. 19, 1938; an influential member of the Naval Affairs Committee.

GANN, THOMAS (WILLIAM FRANCIS). British explorer, archaeologist, and authority on tropical medicine; born about 1868; died in London, Feb. 24, 1938; chief medical officer of British Honduras; discoverer of the Maya cities of Coba, Tzibanche, Ichpaatum, and Xumucha. He directed British Museum expeditions to the interior of British Honduras (1928) and to Minanha (1929) and wrote widely on Maya culture.

GARNER, JAMES WILFORD, died Dec. 9, 1938.

GASQUE, ALLARD HENRY. U.S. Representative (Democrat) from South Carolina after 1923; born in Marion (now Florence) County, S. C., Mar. 8, 1873; died in Washington, D. C., June 17, 1938; advocate of veterans' benefits.

GASTON, MRS. WILLIAM. See PINCHOT, ROSAMOND.

GAVIN, FRANK STANFON BURNS. American Protestant Episcopal clergyman and scholar; born in Cincinnati, O., Oct. 31, 1890; died in Brooklyn, N. Y., Mar. 20, 1938; professor of ecclesiastical history at General Theological Seminary, New York, 1923-38. Influential in various interdenominational organizations, he campaigned for a united Christendom and fought anti-Semitism.

GELINEAU, VICTOR. American erosion engineer; born in Lowell, Mass., Jan. 21, 1886; died in New York, N. Y., Jan. 21, 1938; director of the N. J. State Board of Commerce and Navigation after 1919; writer of authoritative works on beach erosion and riparian law. He supervised erosion prevention projects on Long Island, N. Y., and the New Jersey coast, and at Miami, Fla.

GETZ, GEORGE FULMER. American coal merchant; born in Mechanicsburg, Pa., Dec. 26, 1865; died in Miami Beach, Fla., Feb. 11, 1938; organizer (1919) of the \$25,000,000 U.S. Distributing Co., the largest corporation of its kind in the country; treasurer of the Republican National Committee, 1933-35; associate director of the American Red Cross in France during the World War; co-promoter of the Dempsey-Tunney fight (1927) and a sports enthusiast.

GIBSON, HENRY RICHARD. American lawyer and U.S. Representative (Republican) from Tennessee, 1895-1904; born on Kent Island, Md., Dec. 24, 1837; died in Washington, D. C., May 25, 1938; associate reviser of the Code of Tennessee (1918).

GILBERT, S (EYMOUR) PARKER, died Feb. 23, 1938.

GILLET, ARTHUR LINCOLN. American theologian; born in Westfield, Mass., Jan. 5, 1859; died in Ogunquit, Me., Sept. 9, 1938; member of the Hartford Theological Seminary faculty, 1888-1928.

GLACKENS, WILLIAM J. American portrait, landscape, and figure painter; born in Philadelphia, Pa., Mar. 13, 1870; died in Westport, Conn., May 22, 1938; studied at the Pennsylvania Academy and in Paris; National Academician (1933). He began his career as a newspaper and magazine illustrator and, by his masterly drawing and fine sense of character, attained a ranking position in that field. As a painter, he first exhibited at the New Arts Club, being a member of "The Eight" with Henri, Sloan, Prendergast, Shinn, Davies, Luks, and Lawson. His early work showed a subordination of color to form, but later, influenced by Renoir, he became one of the greatest American impressionists. He won medals at the Buffalo Exposition (1900), the St. Louis Exposition (1904), the Panama-Pacific Exposition (1915), the Temple gold medal (1924), second prize at the Carnegie International Exhibition (1929), Beck gold medal (1933), and the Sesnan medal (1936) and the Scheidt memorial prize (1938) of the Pennsylvania Academy. His work is represented in the principal galleries of the nation.

GLUCK, ALMA (MRS. EFREM ZIMBALIST), died Oct. 27, 1938.

GODOWSKY, LEOPOLD, died Nov. 21, 1938.

GOGA, OCTAVIAN, died May 7, 1938.

GOLDBERG, ISAAC. American author and critic; born in Boston, Mass., Nov. 1, 1887; died in Brookline, Mass., July 14, 1938; literary editor of *The American Freeman*, 1923-32; music critic of *The American Mercury*, 1930-32; founder of a monthly news survey, *Panorama*; biographer of Gershwin, Mencken, Havelock Ellis, and W. S. Gilbert. He wrote works on Spanish-American literature, on which

he was an authority, on theatrical and music appreciation, and also *The Fine Art of Living* (1929) and *Dictatorship over the Intellect* (1935).

GOLDSMID-MONTEFIORE. See MONTEFIORE.

GONZALEZ, RUF. American typographical expert; born in Oriente Province, Cuba, about 1892; died in New York, N. Y., June 6, 1938; designer of the "Ruf Bold" type for display cards and various prize-winning types; on the staff of the New York *Herald-Tribune* after 1924.

GOULD, HOWARD. American actor; born in St. Anthony, Minn., Mar. 19, 1863; died in Winthrop, Mass., Feb. 3, 1938; starred in *The Prisoner of Zenda* for four years, *The Witching Hour* (1908-10), *Madame X* (1910-11), *The Garden of Allah* (1915-18), *Three Wise Fools* (1919-21), etc.

GOW, GEORGE COLEMAN. American music professor at Vassar College (1895-1932); born in Ayer, Mass., Nov. 27, 1860; died in Poughkeepsie, N. Y., Jan. 12, 1938; composer of songs; author of *Structure of Music* (1895), etc.; president of the Music Teachers' National Association, 1912-13.

GRAHAM, SIR HUGH. See ATHOLSTAN.

GRANVILLE-SMITH, WALTER. American painter and illustrator; born in South Granville, N. Y., Jan. 28, 1870; died in Jackson Heights, N. Y., Dec. 7, 1938; National Academician (1915). Noted for his Long Island landscapes, he won several Academy prizes.

GRAYSON, REAR ADMIRAL CARY T (RAVERS), U.S.N., RET., died Feb. 15, 1938.

GREENOUGH, CHESTER NOYES. American educator; born in Wakefield, Mass., June 29, 1874; died in Belmont, Mass., Feb. 27, 1938; member of the Harvard University faculty (1899-1907 and 1910-37) and dean (1921-27); author of authoritative texts on English literature of the 17th and 18th centuries.

GREGG, WILLIS RAY. American meteorologist; born in Phoenix, N. Y., Jan. 4, 1880; died in Chicago, Ill., Sept. 14, 1938; associated with the U.S. Weather Bureau after 1904, becoming Chief in 1934; special adviser on airplane flights and author of *Aeronautical Meteorology* (1930), etc.

GREIG, JOHN HAROLD. Anglican bishop of Gibraltar (1921-27) and Guildford (1927-34); born Feb. 13, 1865; died in London, Mar. 28, 1938. He attracted much attention by preaching on the Epsom Downs track on Sundays before the races.

GRIESHABER, HUGO E. American inventor; born in New York, N. Y., 1880; died in New London, Conn., May 22, 1938. With the Electric Boat Co. of Groton, Conn., after 1897, he designed submarines built for the United States and other governments, and developed new submarine devices, notably a system of rescue tanks.

GRIFFITH, SIR JOHN PURSER. Irish civil engineer and senator of the Irish Free State (1922-36); born in Holyhead, Wales, Oct. 5, 1848; died in Dublin, Oct. 21, 1938; president of the Irish Institute of Civil Engineers, 1919-20.

GIGGS, FREDERICK LANDSEER MAUR. British etcher and landscape painter; born 1876; died in Chipping Campden, Eng., June 7, 1938; Royal Academician (1931).

GRINKO, GRIGORIY FEDOROVICH. Russian commissar of Finance (1930-38) and Ukrainian official; born 1890; convicted of treason and executed in Moscow, Mar. 14(?), 1938.

GRINNELL, GEORGE BIRD, died Apr. 11, 1938.

GRUELLE, JOHN. American cartoonist and writer; born in Arcola, Ill., Dec. 25, 1880; died in Miami Springs, Fla., Jan. 9, 1938; originator of the comic-strip "Brutus," which won the New York *Herald* competition in 1910, and other serials. He wrote more than 1000 stories for the United Press and United Features, contributed regularly to *Judge*, *Life*, *The Delinquent*, etc., and wrote 14 juvenile books, including *Raggedy Ann* (more than 3,000,000 copies).

GUILLAUME, CHARLES ÉDOUARD, died June 13, 1938.

GUIMARAES, REAR ADMIRAL PROTOGENUS. Brazilian naval officer; born about 1877; died in Rio de Janeiro, Jan. 6, 1938; Minister of Marine under Vargas, 1931-35; governor of the State of Rio de Janeiro, 1935-37. His naval blockade helped to quell the São Paulo revolt in 1932.

HADLEY, WILLIAM BURGESS. American publishing official; born in Brooklyn, N. Y., 1867; died in Roselle, N. J., Oct. 13, 1938; manager of the Book Department of the Funk and Wagnalls Co., of New York, 1913-38.

HAERTL, PAUL. German balneologist; born about 1879; died in Würzburg, Feb. 22, 1938; director of the Bavarian hot springs research laboratory at Bad Kissingen; adviser in the development of Saratoga Springs, N. Y.; member of the Georgia Warm Springs Foundation.

HALE, GEORGE ELLERY, died Feb. 21, 1938.

HALL, BOLTON. American lawyer, writer, and single-tax crusader; born in Armagh, Ireland, Aug. 5, 1854; died in Thomasville, Ga., Dec. 10, 1938; immigrated to the United States about 1867; originator of the back-to-the-land movement for the poor. He practised law in New York, where he fought Tammany Hall and advocated slum clearance. He founded the Free Acres settlement near Scotch Plains, N. J., to demonstrate the ideal community advocated by single-tax theorists.

HALL, EDWIN HERBERT. American physicist; died in

Cambridge, Mass., Nov. 20, 1938; retired, 1921. See Vol. X, p. 595.

HAMILTON, ALBERT HINE. American criminal investigator; born in Weedsport, N. Y., Dec. 10, 1859; died in Auburn, N. Y., July 1, 1938; expert on microchemistry, handwriting, and ballistics. He testified at about 300 trials, including the Sacco-Vanzetti trial (1921).

HAMLIN, CHARLES SUMNER. died Apr. 24, 1938.

HAMMOND, WILLIAM ALEXANDER. American educator; born in New Athens, O., May 20, 1861; died in Washington, D. C., May 7, 1938; professor of philosophy at Cornell University, 1891-1930, and dean, 1920-30; consultant to the Library of Congress, 1930-38; formerly co-editor of *The Philosophical Review*.

HAN FU-CHU, GEN. Chinese soldier and official; born in Pashien, Hopei Province, 1890; executed at Hankow, Jan. 24, 1938, found guilty of yielding to the Japanese and abusing his powers as governor (1930-38) of Shantung Province. Originally an aide of Feng Yu-siang, he sided with the government in Feng's 1929 revolt. He was appointed governor of Honan in 1928 and commander of the First Army in 1930.

HANAUER, JEROME J. American financier; born in New York, N. Y., July 30, 1875; died in Murray Bay, Que., Can., Sept. 3, 1938. As a partner of Kuhn, Loeb & Co., he helped reorganize large industrial firms and railroads.

HANNA, DAVID BLYTHE. Canadian industrialist; born in Thornliebank, Scot., Dec. 20, 1858; died in Toronto, Ont., Dec. 1, 1938; president of the Canadian National Railways, 1918-22; director of various concerns.

HARDY, JOHN CRUMPTON. American educator; born in Newton County, Miss., Dec. 24, 1864; died in Belton, Tex., Oct. 30, 1938; president of Mississippi Agricultural and Mechanical College, 1900-12, and of Mary Hardin-Baylor College in Belton, 1912-37.

HARRAP, GEORGE GODFREY. British publisher; born Jan. 18, 1867; died in London, Oct. 29, 1938; founder (1901) of the publishing firm of George G. Harrap & Co., which published *Harrap's Standard French Dictionary* (1934) and textbooks.

HARRISON, FAIRFAX. American railway executive; born in New York, N. Y., Mar. 13, 1869; died in Baltimore, Md., Feb. 2, 1938; president of the Chicago, Indianapolis, and Louisville Railway Co., 1910-13, and of the Southern Railway Co. and its affiliates, 1913-37.

HARRISS, JOHN A. American realtor and traffic expert; born in New York, N. Y., about 1875; died in New York, Oct. 11, 1938; a director of the Fifth Avenue Association and president after 1929 of the Broadway Association. As adviser to the New York City Police Commission after 1910, he originated New York's signal light system and one-way street plan, and advocated express elevated highways and roads along the riverfronts.

HARSHE, ROBERT BARTHOLOW. American museum director and painter; born in Salisbury, Mo., May 26, 1879; died in Chicago, Ill., Jan. 11, 1938; director of the Art Institute of Chicago, 1921-38. He was foreign representative for the San Francisco Exposition (1915) and the Carnegie International Exhibition (1919), and director of the exhibition at the Century of Progress Exposition (1933-34).

HART, FRANCIS RUSSELL. American financier; born in New Bedford, Mass., Jan. 16, 1868; died in Boston, Mass., Jan. 18, 1938; head of the United Fruit Co., 1933-38. He lived in Colombia, South America, from 1891 until 1919, becoming president of the Cartagena-Magdalena Railway and later consul.

HASTINGS, WILLIAM WIRT. American legislator; born of Cherokee parentage in Delaware Co., Okla., Dec. 31, 1866; died in Muskogee, Okla., Apr. 8, 1938; U.S. Congressman (Democrat) from Oklahoma, 1915-21 and 1923-35. He was national attorney for the Cherokee Tribe (1907-14) and represented his people in Washington for more than 45 years.

HAWKS, FRANK MONROE. died Aug. 23, 1938.

HAWLEY, ALAN RAMSAY. American aeronaut; born in Perth Amboy, N. J., July 29, 1869; died in New York, N. Y., Feb. 16, 1938. In the James Gordon Bennett international balloon race (1910) he and Maj. Augustus Post in the *American II* set a long-distance record (unbroken) of 1172 miles for free balloons. He won the national race from Indianapolis (1910) and the Lahm Balloon Cup, and helped to found the Aerial Reserves of New York, the Lafayette Escadrille in France during the World War, and the Automobile Club and the Aero Club of America.

HAYES, PATRICK, CARDINAL. died Sept. 4, 1938.

HEATH, THOMAS K. American vaudeville actor, teamed with James McIntyre after 1874; born in Philadelphia, Aug. 11, 1853; died in East Setauket, N. Y., Aug. 18, 1938. After appearing at circuses, fairs, and small vaudeville houses, McIntyre and Heath acted at Tony Pastor's Theater in New York, earning the record salary of \$2000 a week. Subsequently they were featured in vaudeville houses all over the country and in several musical comedies. Their most famous acts were "The Ham Tree" and "The Georgia Minstrels," which was presented more than 12,000 times.

HEISLER, JOHN CLEMENT. American anatomist and edu-

cator; born in Jersey Shore, Pa., Feb. 27, 1862; died in West Philadelphia, Pa., Sept. 9, 1938; professor of anatomy at the University of Pennsylvania, 1916-30; author of *Embryology for Medical Students* (1907) and *Practical Anatomy* (1912).

HEITFELD, HENRY. U.S. Senator (Populist) from Idaho (1897-1903); born in St. Louis, Mo., Jan. 12, 1859; died in Spokane, Wash., Oct. 21, 1938.

HELD, HEINRICH. German statesman; born in Erbach, June 6, 1868; died in Regensburg, Aug. 4, 1938; member of the Bavarian Diet after 1907; organizer and chairman of the Bavarian People's Party after the World War; premier of Bavaria, 1924-33. He advocated a larger measure of State sovereignty for Bavaria and restoration of the monarchy by constitutional methods, and bitterly denounced Nazi activities. In 1934 he resumed publication of a Catholic paper he had founded in 1906, the *Regensburg Anzeiger*, which was banned several times for criticism of the Nazi regime.

HERGESELL, HUGO. German meteorologist; born in Bromberg, May 29, 1859; died in Berlin, June 5, 1938; founder of the Aerological Institute of the University of Strassburg; president of the International Commission for Scientific Aeronautics, 1896-1914; Reich Commissar for Aeronautics, 1908-14; director of the Prussian Aeronautical Observatory at Lindenberg, 1914-33. An associate of Count Zeppelin, he played an important part in dirigible development and did stratospheric research in the Arctic.

HERING, DANIEL WEBSTER. American physicist and educator; born in Smithsburg, Md., Mar. 23, 1850; died in New York, N. Y., Mar. 24, 1938; professor of physics at New York University (1885-1916) and curator of the clock collection (1926-38). He was especially interested in acoustics, X-rays, and rain control, and wrote *Essentials of Physics for the College Student* (1912), etc.

HERRESHOFF, NATHANIEL GREENE. died June 2, 1938.

HERRICK, ROBERT. died Dec. 23, 1938.

HERTY, CHARLES HOLMES. died July 27, 1938.

HEWITT, JOSEPH WILLIAM. American educator; born in Leeds, Eng., Aug. 23, 1875; died in Middletown, Conn., July 8, 1938; professor of classics at Wesleyan University after 1913.

HEWSON, ADDINELL. American anatomist and surgeon; born in Philadelphia, Pa., Sept. 2, 1855; died in Bryn Mawr, Pa., Oct. 27, 1938; professor at the University of Pennsylvania, 1897-1928.

HILL, JOSEPH ADNA. American statistician; born in Stewartstown, N. H., May 5, 1860; died in Washington, D. C., Dec. 12, 1938; director of the 1920 and 1930 censuses and Chief Statistician of the Census Bureau, 1933-38; president of the American Statistical Association, 1919.

HILL, LOUIS CLARENCE. American civil engineer; born in Ann Arbor, Mich., Feb. 22, 1865; died in Los Angeles, Calif., Nov. 5, 1938; supervising (1905-14) and consulting (1914-38) engineer for the U.S. Reclamation Service; president of the American Society of Civil Engineers, 1937-38. He helped build the major southwestern dams.

HIRSCH, ALCAN. American chemical engineer; born in Corpus Christi, Tex., Feb. 1, 1885; died in New Rochelle, N. Y., Nov. 24, 1938; organizer of the Rector Chemical Co. (1917); president of the Hirsch Laboratories; chemical adviser to Japan, the U.S.S.R., and various American industrial concerns. He received the Carnegie award of the British Iron & Steel Institute (1913) and introduced the pyrophoric alloy industry in the United States (1915).

HLINKA, ANDREAS. died Aug. 16, 1938.

HOEING, CHARLES A. American educator; born in Lexington, Ky., May 27, 1871; died in Rochester, N. Y., Mar. 9, 1938; member of the University of Rochester faculty after 1898, being professor of Latin (1914-33) and dean of the graduate school (1928-33).

HOGGATT, WILFORD RACON. U.S. governor (1906-09) and prominent mine owner in Alaska; born in Paoli, Ind., Sept. 11, 1865; died in New York, N. Y., Feb. 26, 1938.

HOOKE, ELON HUNTINGTON. American industrialist; born in Rochester, N. Y., Nov. 23, 1869; died in Pasadena, Calif., May 10, 1938; organizer (1903) and president of the Hooker Electrochemical Co., one of the world's largest electrolytic producers of chemicals, with plants at Niagara Falls and Tacoma, Wash.; adviser to Theodore Roosevelt, and a leader in the Progressive Party; president of the Manufacturing Chemists' Association, 1923-25, chairman of the National Industrial Conference Board, 1938, and of the Research Corporation. He was an outspoken critic of the New Deal's power-utility program and the St. Lawrence waterway treaty.

HOUSE, EDWARD MANDELL. died Mar. 28, 1938.

HOWARD, CHARLES P. American labor leader; born in Harvel, Ill., Sept. 14, 1879; died in Colorado Springs, Colo., July 21, 1938; president of the International Typographical Union, 1926-38. Although his union was an A.F.L. affiliate, he was an original backer of the C.I.O.

HOWLAND, SILAS WILDER. American corporation lawyer; born in Marion, Mass., May 15, 1879; died in Rye, N. Y., Sept. 1, 1938; partner with Guggenheim Bros., mining industrialists, after 1930, and president of the Yukon-

Pacific Mining Co. and Pacific Tin Corp. He was an amateur chess expert of note.

HUBBARD, LEROY. American orthopedic surgeon; born in Malone, N. Y., Jan. 22, 1857; died in Clifton Springs, N. Y., Aug. 31, 1938; surgeon-in-chief (1926-31) and director of extension work (1931-38) of the Warm Springs (Ga.) Foundation.

HUBERT, LUCIEN. French Left-Radical politician and author; born in Chesne-Populeux, Aug. 27, 1868; died in Charleville, May 17, 1938; member of parliament after 1897; delegate to the League of Nations, 1927; Minister of Justice, 1929-30; advocate of a federation of European States.

HUEPPE, FERDINAND. German bacteriologist; born in Heddesdorf, Aug. 24, 1852; died in Dresden, Sept. 15, 1938; professor at the German University in Prague, 1890-1912; general in the army medical corps; decorated by Hitler for his services in physical training. He proved that subterranean water is free from germs, simplified disinfection, and promoted inoculation with benign bacteria.

HULL, HARRY EDWARD. American legislator; born in Belvidere, N. Y., Mar. 12, 1864; died in Washington, D. C., Jan. 16, 1938; U.S. Representative (Republican) from Iowa, 1915-25, active in the Military Affairs Committee; Commissioner General of Immigration, 1925-33. He voted against entrance into the World War and advocated elasticity of immigration laws and a quota system for immigrants from the Americas.

HULSE, HIRAM RICHARD. American Protestant Episcopal bishop, serving in Cuba after 1915; born in Middletown, N. Y., Sept. 15, 1868; died in Havana, Cuba, Apr. 10, 1938.

HUNTINGTON, DWIGHT WILLIAMS. American conservationist and author of books on wild life; born in Cincinnati, O., Oct. 9, 1851; died in Oceanside, N. Y., Nov. 26, 1938; founder (1912) and president of the Game Conservation Society; author of the New York game breeding law (1912), the first of its kind, which was copied in many States.

HUSSERL, EDMUND. German philosopher; born in Prossnitz, Austria, Apr. 8, 1859; died in Freiburg, Apr. 26, 1938; professor at the University of Gottingen (1901-16) and the University of Halle (1916-29); founder of the phenomenological school of philosophy.

HUSTON, COL. TILLINGHAST L'HOMMEDIEU. American engineer and sportsman; born in Cincinnati, O., about 1867; died in Brunswick, Ga., Mar. 29, 1938; co-owner with Jacob Ruppert of the New York Yankees baseball club, 1915-23; captain of engineers in the Spanish-American War and supervisor of road and railway construction in France during the World War; national commander of the Veterans of Foreign Wars, 1929.

HUTCHINSON, EMILIE J. American social scientist; born in Yarmouth, N. S., Can., Oct. 3, 1877; died in New York, N. Y., Jan. 12, 1938; head of the department of economics at Barnard College; author of *Women's Wages* (1929) and *Women and the Ph.D.* (1929).

INGRAM, EDWARD LOVERING. American engineer and educator; born in Philadelphia, Pa., Sept. 9, 1862; died in Grand View, N. Y., July 25, 1938; member of the University of Pennsylvania faculty, 1906-32; author of *Geodetic Surveying* (1911).

INSULL, SAMUEL, died July 16, 1938.

IRWIN, MAY, died Oct. 22, 1938.

JACKSON, MAJ. FREDERICK GEORGE. British Arctic explorer; died in London, Mar. 13, 1938. See VOL. XII, p. 514.

JACOBS, CHARLES MICHAEL. American Lutheran clergyman and educator; born in Gettysburg, Pa., Dec. 5, 1875; died in Philadelphia, Pa., Mar. 30, 1938; professor of church history (1913-27) and president (1927-38) of the Lutheran Theological Seminary.

JAMMES, FRANCIS. French poet, novelist, and playwright; born in Tournay, 1868; died in Bayonne, Nov. 1, 1938; winner of the National Prize for Literature and other awards. Among his poetic works are *Géorgiques chrétiennes* (1911-12), *Œuvres de Francis Jammes* (1913), and *Le triomphe de la vie*.

JENNINGS, ELZY DEE. American educator; born in McMinnville, Tenn., Mar. 11, 1880; died in Dallas, Tex., Apr. 28, 1938; dean of Texas Woman's College (1915-22) and Southern Methodist University (1922-38).

JEPSON, EDGAR. English author of some 75 novels, mystery stories, and juveniles; born in Kenilworth, Nov. 28, 1863; died in London, Apr. 11, 1938; best-known for the autobiographical *Memoirs of a Victorian* (1933) and *Memoirs of an Edwardian*.

JOHNSON, CHARLES NELSON. American dental surgeon; born in Brock Township, Ont., Can., Mar. 16, 1860; died in Chicago, Ill., July 17, 1938; professor at the Chicago College of Dental Surgery after 1891; editor of the *Dental Review* (1902-19) and the *Journal of the American Dental Association* (1925-38); author of poems and novels as well as works on dentistry.

JOHNSON, JAMES WELDON, died June 26, 1938.

JOHNSTON, SIR REGINALD FLEMING. British Orientalist and civil servant in China (1898-1931); born in Scotland, 1874; died in Edinburgh, Scot., Mar. 6, 1938; tutor (1919-

25) to Henry Pu-yi, who, as Kangteh, became emperor of Manchoukuo; professor of Chinese at the University of London, 1931-37; author of works on China and Chinese literature.

JOHNSTONE, SIR ROBERT J. British gynecologist; born in Greenisland, County Antrim, Ireland, 1872; died in Newcastle, Northern Ireland, Oct. 26, 1938; professor at Queen's College in Belfast, 1920-38, and member of Parliament from the College, 1921-38; president of the British Medical Association, 1937-38.

JONES, CAPT. ADRIAN. British soldier and sculptor; born in Ludlow, Eng., Feb. 9, 1845; died in London, Jan. 24, 1938; designer of well-known equestrian statues, including the Peace Quadriga and Cavalry War Memorial in Hyde Park and the Royal Marine Monument in St. James's Park. He was decorated for his services in the Abyssinian War of 1868, the Boer War, and the Nile Expedition.

JONES, ADMIRAL HILARY POLLARD, U.S.N., RET., died Jan. 1, 1938.

JONES, ROBINSON GODFREY. American educator; born in Kansas City, Mo., Dec. 14, 1871; died in Cleveland, O., Aug. 18, 1938; superintendent of Cleveland (O.) schools, 1919-33; author of elementary textbooks and editor of *The Crippled Child*. Credited with modernizing the Cleveland schools, he received Columbia University's Butler medal for public school administration in 1933.

JUDAH, NOBLE BRANDON. U.S. ambassador to Cuba (1927-29) and lawyer in Chicago; born in Chicago, Ill., Apr. 23, 1884; died in Chicago, Feb. 26, 1938. He served as lieutenant-colonel in France during the World War, receiving the Distinguished Service Medal and the French Croix de Guerre with Palm.

JUDGE, JACK. British vaudeville performer and composer of the famous wartime song, "It's a Long, Long Way to Tipperary" (1912); born about 1878; died in Birmingham, Eng., July 28, 1938.

KAKOWSKI, ALEXANDER, CARDINAL. Polish Roman Catholic primate after 1919; born in Dembiny, Feb. 5, 1862; died in Warsaw, Dec. 30, 1938; archbishop of Warsaw after 1913; one of three regents who headed the provisional government in Warsaw, 1915-18.

KAUTSKY, KARL, died Oct. 17, 1938.

KELLER, EMIL ERNEST. American engineer and industrialist; born in New York, N. Y., Oct. 16, 1863; died in Detroit, Mich., Jan. 7, 1938; electrical engineer for the Chicago World's Fair, 1892-94; associated with the Westinghouse Co., 1894-1908; president of the Standard Screw Products Co. of Detroit after 1914 and other concerns.

KELLOGG, JAMES LAWRENCE. American biologist; born in Kewanee, Ill., Sept. 15, 1866; died in Williamstown, Mass., July 8, 1938; professor of biology at Williams College, 1903-34; an authority on lamellibranchs.

KELLY, DENNIS FRANCIS. American merchant; born in Chicago, Ill., Aug. 23, 1868; died in Bergen, Norway, July 23, 1938; general manager of Mandel Bros. department store (1901-23) and president of The Fair, one of Chicago's largest stores (1925-28); president of the National Retail Dry Goods Association, 1931; a leader in civic matters and head of the Chicago Catholic Charities after 1918.

KEMPER, WILLIAM THORNTON. American financier; born in Davies County, Mo., Nov. 3, 1866; died in Kansas City, Mo., Jan. 19, 1938; organizer and chairman (1906-38) of the Commerce Trust Co. in Kansas City; receiver (1917-25) and president (1925-32) of the Kansas City, Mexico, & Orient Railroad; director of various railroads and investment houses; member of the Industrial Advisory Board of the NRA (1933).

KENDALL, (WILLIAM) SERGEANT. American artist; died in Hot Springs, Va., Feb. 16, 1938; dean of the Yale School of Fine Arts, 1913-22. See VOL. XIII, p. 165.

KENNEDY, ARCHIBALD ROBERT STIRLING. Scottish Hebrew scholar; born in Whitehills, Banffshire, Dec. 21, 1859; died in Edinburgh, Oct. 25, 1938; professor of Semitic languages at Edinburgh University, 1895-1937.

KENNEDY, DAVID SCOTT. American Presbyterian clergyman; born in Philadelphia, Pa., July 16, 1856; died in Wayne, Pa., Aug. 27, 1938; editor of *The Presbyterian*, 1911-27; a leader of the fundamentalist wing of the Church.

KERR, ABRAHAM TUCKER. American anatomist; born in Buffalo, N. Y., Jan. 7, 1873; died in Ithaca, N. Y., Aug. 15, 1938; professor of anatomy (1904-38) and director of hygiene (1935-37) at the Cornell University Medical School.

KEYES, HENRY WILDER. U.S. Senator (Republican) from New Hampshire (1919-37) and governor of New Hampshire (1917-19); born in Newbury, Vt., May 23, 1862; died in North Haverhill, N. H., June 19, 1938. A stock breeder on his family estates, he was particularly interested in farm and forestry legislation.

KHODZHYAEV, FAISULLA. Russian premier of Uzbek S.S.R.; born 1896; convicted of treason and executed in Moscow, Mar. 14(?), 1938.

KILLITS, JOHN MILTON. U.S. judge for the Northern District of Ohio (1910-28); born in Lithopolis, O., Oct. 7, 1858; died in Toledo, O., Sept. 13, 1938. He issued an injunction preventing pickets from interfering with em-

ployes during a Toledo automobile strike in 1919, and in 1925 sentenced Frederick A. Cook, Arctic explorer, convicted of fraudulent stock sales.

KING, SIR (FREDERIC) TRUBY. New Zealand health authority; born in 1858; died in Wellington, Feb. 9, 1938; founder (1907) of a society for the health of women and children, later known as the Plunket Society; author of widely translated volumes on maternal and child care.

KINNEY, TROY. American etcher, illustrator, and student of the dance; born in Kansas City, Mo., Dec. 1, 1871; died in Canaan, Conn., Jan. 29, 1938; author (with his wife) of *The Dance, Its Place in Art and Life* (1914).

KIRDORF, (CARL WILHELM) EMIL. German industrialist; born in Mettmann, Apr. 8, 1847; died near Mülheim, July 13, 1938; president of the Rhine-Westphalian Coal Syndicate, 1893-1925; organizer with Stinnes and Thyssen of the Vereinigte Stahlwerke, Europe's largest steel and coal firm. He frequently clashed with the Kaiser over government regimentation of business. An ardent nationalist, he advocated a strong foreign policy and supported Hitler.

KISTENAECKERS, HENRY (HUBERT ALEXANDRE). French author of more than 50 novels and plays; born in Florefe, Belgium, Oct. 13, 1872; died in Paris, Jan. 21, 1938; president of the *Société des Auteurs Dramatiques*, 1932-38.

KLAUDER, CHARLES ZELLER. American architect; born in Philadelphia, Pa., Feb. 9, 1872; died in Philadelphia, Oct. 30, 1938. A specialist in collegiate architecture, he designed buildings for Yale, Princeton, Pittsburgh, Southwestern, Brown, Cornell, Pennsylvania, Drew, Wellesley, and other leading universities and colleges. He was chairman of the consulting architects of the U.S. Treasury Department, 1935-37, and winner of the grand prize of the Pan-American Congress of Architects (1927) and other awards.

KNAPP, BRADFORD. American educator; born in Vinton, Iowa, Dec. 24, 1870; died in Lubbock, Texas, June 11, 1938; president of Oklahoma Agricultural and Mechanical College (1923-28), Alabama Polytechnic Institute (1928-32), and Texas Technological College (1932-38); associated with the U.S. Department of Agriculture after 1909, being Chief of Extension work in the South, 1911-20; author of *Safe Farming*, etc.

KOEHL, HERMANN. German aviator; born in Ulm, Apr. 16, 1888; died in Munich, Oct. 7, 1938; pilot of the airplane *Bremen* on the first westward Atlantic crossing, 1928; pilot and specialist in night flying for the Lufthansa air lines. He commanded a bombing squadron during the World War, being shot down twice in 1917 and escaping from a French prison in 1918. He received the Iron Cross and the U.S. Distinguished Flying Cross (1928).

KOHLER, ELMER P.(ETER). American educator and chemist; born in Egypt, Pa., Nov. 6, 1865; died in Boston, May 24, 1938; member of the Bryn Mawr College faculty, 1892-1912; professor of organic chemistry at Harvard University, 1912-38.

KOHLSCHÜTTER, VOLKMAR. German chemist; born in Forchheim, Sept. 29, 1874; died Sept. 10, 1938; professor of organic chemistry at Berne University, 1909-38, and Director of the Chemical Institute.

KONTI, ISIDORE. American sculptor; died in Yonkers, N. Y., Jan. 11, 1938. See Vol. XIII, p. 336. Among his later works were "Genius of Immortality" for the Metropolitan Museum and the Founder's Tomb for St. John's Cathedral, New York.

KRESTINSKY, NIKOLAI NIKOLAAEVICH. Russian politician; born in 1883; convicted of treason and executed in Moscow, Mar. 14(?), 1938; People's commissar of Finance, 1918-22; ambassador to Germany, 1921-30; assistant commissar of Foreign Affairs, 1930-38.

KUNZ, JAKOB. American physicist; born in Brittnau, Switzerland, Nov. 3, 1874; died in Urbana, Ill., July 18, 1938; member of the faculty of the University of Illinois, 1908-38; noted for his development of the photoelectric cell.

KUPRIN, ALEXANDRE IVANOVICH. Russian novelist of the realistic school; born in 1870; died in Leningrad, Aug. 25, 1938. He was an officer in the army (1890-94) and his most famous novel, *The Duel* (1905), was a story of barracks life. Opposed to Bolshevism, he lived in Paris after the Revolution until a short time before his death.

LA FARGE, BANCEL. American artist; born in Newport, R. I., Sept. 23, 1865; died in Mount Carmel, Conn., Aug. 14, 1938. He designed stained glass windows and mosaics, notably for the apse of Trinity College Chapel, Washington, D. C., and was known for his altar pieces and murals of religious subjects.

LA FARGE, CHRISTOPHER GRANT, died Oct. 11, 1938.

LAFFITE, PIERRE. French editor; died in Paris, Dec. 13, 1938; founder of *Femina*, *Excelsior*, *Je Sais Tout*, and other reviews.

LAMSON-SCHRIENER, FRANK. American agrostologist; died in Washington, D. C., Feb. 22, 1938. See Vol. XX, p. 625.

LANE, CHARLES STODDARD. American Presbyterian clergyman; born in Boston, Mass., Jan. 15, 1860; died in Sarasota, Fla., Feb. 2, 1938; professor at Hartford Seminary, 1910-28.

LANG, ARTON. German potter and actor; born in Oberammergau, 1875; died in Munich, May 18, 1938. He por-

trayed Christ in the Oberammergau passion plays of 1900, 1910, and 1922.

LANGE, CHRISTIAN LOUS, died Dec. 11, 1938.

LARSON, LAURENCE MARCELLUS. American historian and educator; born in Bergen, Norway, Sept. 23, 1868; died in Urbana, Ill., Mar. 9, 1938; member of the faculty of the University of Illinois, 1907-37; president of the American Historical Association, 1938.

LATCHFORD, FRANCIS ROBERT. Canadian jurist; born in Ottawa Co., Que., Apr. 30, 1854; died in Toronto, Aug. 13, 1938; Chief Justice for Ontario, 1923-38.

LATHROP, WILLIAM LANGSON. American landscape and marine painter; drowned in a hurricane off Montauk, L. I., Sept. 21, 1938. See Vol. XIII, p. 593.

LAUNAY, LOUIS DE. French geologist and writer; born in Paris, July 19, 1860; died in Paris, July 1, 1938; professor at the Ecole supérieure des Mines (1889-1932) and the Ecole des Sciences politiques (1918-38); inspector general of mines; member of the French Institute.

LAURENTI, CAMILLO, CARDINAL. Italian Roman Catholic prelate; born in Monteporzio-Catone, 1862; died in Rome, Sept. 6, 1938; created cardinal-deacon in 1921 and cardinal-priest in 1935; prefect of the Congregation of Rites.

LAWRENCE, GEORGE. American inventor and photographer; died in Chicago, Ill., Dec. 15, 1938. He made the first flashlight photographs in 1893 and the first aerial photographs in 1901, using balloons and later kites. After 1909 he patented a number of airplane inventions.

LEATHES, SIR STANLEY. British historian; born in London, May 7, 1861; died in London, July 25, 1938; one of the three original editors of the *Cambridge Modern History*; Civil Service Commissioner after 1907.

LEDERER, GEORGE W., died Oct. 8, 1938.

LEHMANN-HAUPT, CARL FRIEDRICH, died July 24, 1938.

LEHMER, DERRICK NORMAN. American mathematician and poet; born in Somerset, Ind., July 27, 1867; died in Berkeley, Calif., Sept. 8, 1938; inventor of a machine for determining the factors of very large numbers; expert on Indian lore and tribal music, on which he based compositions of his own.

LEITCH, MAJ. GEN. JOSEPH DUGALD. American army officer; born in Montague, Mich., Mar. 5, 1864; died in San Francisco, Calif., Oct. 26, 1938; served in the Spanish-American War and the Philippines (1900-02, 1907-10, and 1916-17); commander of the Fifteenth Brigade at Camp Fremont (1918) and the Thirteenth Division at Camp Lewis (1918-19), receiving the Distinguished Service Medal; retired 1928.

LENGLEN, SUZANNE, died July 4, 1938.

LE ROY, ALEXANDRE. French ecclesiastic; born in Saint-Sénier-de-Beuvron, Jan. 18, 1854; died in Paris, Apr. 22, 1938; superior general of the Congregation of Saint Esprit, 1896-1926; titular archbishop of Caria; missionary in Zanzibar, West Africa, and Pondicherry.

LE TROCQUER, YVES. French senator (1929-38) and Minister of Public Works (1920-24); born in Pontreux, Côtes-du-Nord, Oct. 5, 1877; died in Paris, Feb. 21, 1938; leader of the Union Démocratique et Radicale. He directed the French occupation of the Ruhr.

LEVY, JOHN. American psychiatrist; born in London, Eng., Apr. 15, 1897; died in Boston, Mass., July 11, 1938; chief of the Child Guidance Clinic of the Columbia-Presbyterian Medical Center, New York City, 1930-38; author of *The Happy Family*, etc.

LEWISOHN, ADOLPH, died Aug. 17, 1938.

LIMA, GEN. WALDOMIRO DE CASTILHO. Brazilian soldier; born in São Borgia, Rio Grande do Sul, 1873; died in Petropolis, Feb. 12, 1938; a leader in the Vargas government. He fought in the revolutions of 1924 and 1930, and led the government forces in the São Paulo revolt in 1932.

LINDEMANN, PAUL G. American Lutheran clergyman; born in Pittsburgh, Pa., Dec. 28, 1881; died in St. Paul, Minn., Dec. 12, 1938; founder and editor (1917-38) of *The American Lutheran Magazine*; pastor in St. Paul, Minn., 1920-38.

LINDSLEY, HENRY DICKINSON. American soldier and business man; born in Nashville, Tenn., Feb. 29, 1872; died in Dallas, Tex., Nov. 18, 1938; chairman of the first American Legion convention (1919). A colonel during the World War, he received the Distinguished Service Medal and other awards.

LIU, HERMAN CHANEN. Chinese educator; born in Hang-yang, Hupeh Province, 1896; assassinated in Shanghai, Apr. 7, 1938; Y.M.C.A. secretary in Shanghai, 1924-27; president of Shanghai University, 1928-38. His patriotic activities in the war against Japan led to his assassination by pro-Japanese elements.

LIU HSIANG, GEN. Chinese war lord and governor of Szechwan Province (1933-38); born in Szechwan Province, 1891; died Jan. 20, 1938(?). Previously independent, he became a supporter of Chiang Kai-shek's regime in 1937.

LOGAN, LLOYD. American chemical engineer; born in Wallace, N. S., June 16, 1890; died in Syracuse, N. Y., Dec. 29, 1938; taught at Johns Hopkins University (1926-37) and Syracuse University (1937-38). He developed chemical control devices by light-sensitive means, improvements in gas purification, etc.

LONG, ROBERT EDWARD CROZIER. British journalist;

born in Cashel, Co. Tipperary, Ire., Oct. 29, 1872; died in Berlin, Ger., Oct. 18, 1938; financial correspondent from Berlin for *The Economist* and the *New York Times* (1923-38). He reported the Russian revolution of 1906-07 and the Balkan Wars.

LONGUET, JEAN, French Deputy (elected 1914 and 1932) and journalist; born in London, Eng., 1876; died in Aix-les-Bains, Sept. 11, 1938; grandson of Karl Marx and a leader of the Socialist party. An ardent pacifist, he fought the militarism of Clemenceau and the harsh terms of the Versailles treaty.

LOSSOW, LIEUT. GEN. OTTO VON, German commander-in-chief of the Bavarian Reichswehr (retired 1924); died in Munich, Nov. 29, 1938; leader in the suppression of Hitler's Munich "beer hall putsch" of 1923.

LUCAS, EDWARD VERRALL, English author; died in London, June 26, 1938. See VOL. XIV, p. 439. His later volumes, largely essays and criticism, brought the total of his works to more than one hundred. Later travel books included *A Wanderer in Rome* (1926) and volumes on France and England. He edited the complete *Letters of Charles and Mary Lamb* (1935), published *Postbag Diversions* (1933), letters of famous people to himself, and the autobiographical *Reading, Writing, and Remembering* (1932). His writings in the field of art included *A Wanderer among Pictures* (1924) and biographies of Constable and Vermeer of Delft. He was chairman of Methuen & Co., publishers, after 1924.

LUFF, JOHN NICHOLAS, American philatelist; born in South Haven, Long Island, 1861; died in New York, N. Y., Aug. 23, 1938; editor of the *Scott Postage Stamp Catalogue*; leading authority on U.S. issues.

LUGONES ARGUELLO, LEOPOLDO, Argentine poet and journalist; born in Rio Seco, Cordoba, June 13, 1874; committed suicide on an island near Buenos Aires, Feb. 19, 1938; author of *El libro de los paisajes* (1917), *Las horas doradas* (1922), *Romancero* (1924), works on Hellenic culture, etc.

LYON, ERNEST, U.S. Minister to Liberia (1903-11) and Negro clergyman; born in Belize, Brit. Hond., 1870; died in Baltimore, Md., July 17, 1938; Liberian consul-general at Washington, 1911-13; subsequently a pastor in Baltimore.

LYON, THOMAS LYTTLETON, American agronomist; born in Pittsburgh, Pa., Feb. 17, 1869; died in Ithaca, N. Y., Oct. 7, 1938; professor at Cornell University, 1906-37; author of *Soils and Fertilizers*, etc. He received the Potts Medal of the Franklin Institute (1911), and the award of the American Society of Agronomy (1928) for his studies of Chilean nitrate soda.

LYONS, ESTHER (MRS. EUGENE ROBINSON, *nee* ESTHER LYONS GOLDSTEIN), American actress; born in New York, N. Y., 1864; died in Elizabeth, N. J., Oct. 26, 1938; played with leading actors of the 1880's. She lectured widely on Northern Alaska, which she visited with a party of exploration in 1894.

MACAULAY, GENEVIEVE GARVAN BRADY (MRS. WILLIAM J. BABINGTON MACAULAY), died Nov. 24, 1938.

MACBRIEN, MAJ. GEN. SIR JAMES HOWDEN, Canadian soldier; born in Myrtle, Ont., June 30, 1878; died in Toronto, Mar. 5, 1938; a volunteer in the South African War, 1900-02; commander of the Twelfth Infantry Brigade, C.E.F., during the World War, being twice wounded and receiving the Distinguished Service Order with Bar and other awards; chief of the Canadian General Staff Overseas, 1919-20, and of the Department of National Defense, 1923-28; commissioner and reorganizer of the Canadian Mounted Police, 1931-38. Entering commercial aviation about 1928, he became general manager of Canadian Airways and president of the Aviation League of Canada.

MCCARTER, MARGARET HILL (MRS. WILLIAM ARTHUR MCCARTER), American author of frontier novels; born near Charlottesville, Ind., May 2, 1860; died in Topeka, Kan., Aug. 31, 1938. A suffrage leader, she was the first woman to address a Republican National Convention (1920).

MCCLEATHY, VALENTINE STUART, American publisher and owner with his brother of the Sacramento *Bee* (1884-1923); born in Sacramento, Calif., Aug. 29, 1857; died in San Francisco, Calif., May 15, 1938; noted for his campaign to exclude Japanese immigrants.

MCCLEINTIC, HOWARD HALE, American engineer; died in Pittsburgh, Pa., Aug. 5, 1938; founder of McCleintic-Marshall Construction Co., which built the locks for the Panama Canal. The company was valued at \$64,000,000 in 1931, when it was merged with Bethlehem Steel.

MCCRAY, WARREN T., American grain dealer and Republican governor of Indiana (1920-24); born near Kentland, Ind., Feb. 4, 1865; died near Kentland, Dec. 19, 1938; an organizer and president of the National Grain Dealers Assn. He was convicted in 1924 of using the mails to defraud and served three years in the Atlanta Penitentiary.

MACDONALD, WILLIAM, American historian and editor; born in Providence, R. I., July 31, 1863; died in New York, N. Y., Dec. 15, 1938; professor of history at Brown University, 1901-17; correspondent and editorial writer for *The Nation* (1918-31) and *The Commercial and Financial Chronicle* (1924-38); book reviewer and editor of numer-

ous American historical documents; author of *Jacksonian Democracy* (1905); *From Jefferson to Lincoln* (1913); *A New Constitution for a New America* (1921); *Three Centuries of American Democracy* (1923); *The Menace of Recovery* (1934), etc.

MCDUGALL, WILLIAM, died Nov. 28, 1938.

MCDOWELL, WILLIAM GEORGE, American Protestant Episcopal bishop of Alabama (1922-38); born in Lexington, Va., Aug. 2, 1882; died in Mobile, Ala., Mar. 20, 1938.

MACE, WILLIAM HARRISON, American educator; born near Lexington, Ind., Nov. 27, 1852; died in Gananoque, Ont., Aug. 10, 1938; professor of history at Syracuse University, 1891-1916; author of many textbooks.

MCINTYRE, OSCAR ODD (O.O.), died Feb. 14, 1938.

MACKAY, CLARENCE HUNGERFORD, died Nov. 12, 1938.

MCKEEVER, STEPHEN W., American baseball official; born in Brooklyn, N. Y., 1853; died in Brooklyn, Mar. 7, 1938; part-owner after 1912 and president after 1932 of the Brooklyn National League Baseball Club.

MACKENZIE, ARTHUR STANLEY, Canadian educator; born in Pictou, N. S., Sept. 20, 1865; died in Halifax, N. S., Oct. 2, 1938; president of Dalhousie University (1911-31) and responsible for its expansion.

MACKENZIE, THE HON. LORD, CHARLES KINCAID MACKENZIE, Scottish jurist; born in Edinburgh, Mar. 9, 1857; died in Edinburgh, Apr. 2, 1938; a Lord of Session, 1905-22.

MCKENZIE, ROBERT TAIT, American sculptor and physical director; died in Philadelphia, Pa., Apr. 28, 1938. See VOL. XIV, p. 587. He served as major in the Royal Army medical corps during the World War and subsequently designed well-known war memorials, including those in Edinburgh, Scot., Cambridge, Eng., and in the Parliament Building in Ottawa, Can.

MACKAY, HARRY A(RISTA), American politician; born in Susquehanna, Pa., June 26, 1873; died in Philadelphia, Oct. 17, 1938; mayor (Republican) of Philadelphia, 1928-31.

MCKINLEY, EARL BALDWIN, American bacteriologist; born in Emporia, Kans., Sept. 28, 1894; lost when the *Hawaii Clipper* disappeared on a Guam-Manila flight, July 29, 1938; professor at Baylor University (1923-24) and Columbia University (1928-31); dean of the medical school of George Washington University, 1931-38. An expert in tropical diseases and immunology, he was adviser to the Philippine governor-general, 1927-28, and director of the Columbia School of Tropical Medicine in Puerto Rico, 1928-31.

MACKINTOSH, THE ALFRED DONALD MACKINTOSH OF, Scottish chief of Clan Chattan (after 1876); born June 24, 1851; died in Moyhall, Inverness, Nov. 14, 1938.

MACLEAN, GEORGE EDWIN, American educator; born in Rockville, Conn., Aug. 31, 1850; died in Washington, D. C., May 3, 1938. See VOL. XIV, p. 595. He made studies of higher education in the British Isles, 1914-16.

MCLEAN, MAJ. GEN. HUGH HAYLOCK, Canadian army officer; born in Fredericton, N. B., Mar. 22, 1854; died in St. John, N. B., Nov. 22, 1938; commander of the 7th Infantry Brigade, C.E.F., during the World War; officer in the Militia for 59 years; member of the House of Commons, 1908-21.

MCMICHAEL, THOMAS HANNA, American educator and Presbyterian clergyman; born in Bellbrook, O., July 7, 1863; died in Monmouth, Ill., June 23, 1938; president of Monmouth College, Ill., 1903-36.

MACMILLAN, KERR DUNCAN, American educator; born in Mount Forest, Ont., Can., Mar. 17, 1871; died in Clifton Springs, N. Y., Mar. 13, 1938; president of Wells College, Aurora, N. Y., 1913-36.

MCCNEIL, JAMES, Irish Free State high commissioner (1923-28) and governor-general (1928-32); born in Glenarm, Co. Antrim, Mar. 27, 1869; died in London, Dec. 12, 1938.

MACPAIL, SIR ANDREW, Canadian pathologist; born in Orwell, Prince Edward Island, Nov. 24, 1864; died in Montreal, Sept. 23, 1938; professor at McGill University, 1906-37; essayist, and formerly editor of the *Canadian Medical Journal*. He served as major with the Sixth Field Ambulance throughout the World War and wrote the official history of the Canadian medical forces (1925).

MAGRATH, GEORGE BURGESS, American criminologist; born in Jackson, Mich., Oct. 2, 1870; died in Boston, Mass., Dec. 11, 1938; instructor (1907-31) and professor (1931-37) of legal medicine at the Harvard Medical School; medical examiner of Suffolk Co. (Boston), Mass., 1907-35. He participated in more than 20,000 criminal cases as expert or examiner.

MAGRUDER, REAR ADM. THOMAS PICKETT, American naval officer; born in Yazoo Co., Miss., Nov. 29, 1867; died in Jamestown, R. I., May 26, 1938; head of the Division of Naval Affairs, Navy Department, 1916-17; commander of Squadron Four of the Atlantic Patrol Force, 1917; commandant of the 8th Naval District (1921-24) and the 4th Naval District (1926-27); commander of the Pacific Base Force, 1929-31; retired 1931. In 1927-28 he was kept on the "waiting orders" list because he had published magazine articles attacking extravagance and inefficient administration in the Navy. He was cited for gallantry in the

Spanish-American War and received the Distinguished Service Medal and other awards.

MALINOFF, ALEXANDRE. Bulgarian premier (1908-11, 1918, and 1931); born in Pandakly, Bessarabia, 1867; died in Sofia, Mar. 20, 1938; leader of the Democratic Party, 1900-32. He signed the armistice in 1918 and offered the crown to Boris III.

MARPHIS, CHARLES GILMORE. American educator; born near Edinburgh, Va., Feb. 12, 1865; died in Charlottesville, Va., May 14, 1938; professor of secondary education (1911-19) and director of extension (1920-25) of the University of Virginia; organizer (1927) and director of the Institute of Public Affairs at the University of Virginia.

MARIE, died July 18, 1938.

MARKS, OF WOOLWICH, 1ST BARON, GEORGE CROYDON MARKS. British engineer; born in Eltham, Kent, June 9, 1858; died in Bournemouth, Sept. 24, 1938; author of works on hydraulics and patents; Liberal member of Parliament, 1906-24.

MARTIN, LOUIS ADOLPHE. American educator; born in Hoboken, N. J., Nov. 5, 1880; died in Newton, N. J., Aug. 16, 1938; professor of mechanics after 1908 and dean (1910-28) of the Stevens Institute of Technology; author of a six-volume *Text-Book of Mechanics* (1906-16), widely used in colleges.

MASUDA, BARON TAKASHI. Japanese industrialist; born in Tokyo, November, 1847; died in Tokyo, Dec. 28, 1938; managing director of the Mitsui Bussan Kaisha, holding company of the vast Mitsui commercial interests, which he helped to organize. Born a Samurai, he gave up a military career for commerce at the beginning of Japan's expansion, and became one of the wealthiest men of his country.

MAUD CHARLOTTE MARY VICTORIA, died Nov. 20, 1938.

MAUDE, AYLMER. English author; died near Chelmsford, Aug. 25, 1938. See Vol. XV, p. 257.

MAURY, CARLOTTA JOAQUINA. American paleontologist; born in Hastings, N. Y., Jan. 6, 1874; died in Yonkers, N. Y., Jan. 3, 1938; consulting paleontologist to the Royal Dutch Shell Petroleum Co. and the Brazilian government. She organized the Maury expedition to the Dominican Republic in 1916 and was an expert on the stratigraphy and fossil faunas of Venezuela and Brazil.

MAXWELL, WILLIAM BABINGTON. English author of about 40 novels and several plays; born in 1876(?); died in London, Aug. 4, 1938; formerly chairman of the Society of Authors and the National Book Council. His novels, written for the most part on pathological and somewhat sensational subjects, were well-constructed and very popular. They included *The Ragged Messenger* (1904), *The Guarded Flame* (1906), *The Devil's Garden* (1914), and an autobiography, *Time Gathered* (1938).

MEANS, GASTON BULLOCK. American investigator; born near Concord, N. C., 1879; died in Springfield, Mo., Dec. 12, 1938; author of *The Strange Death of President Harding* (1930), an alleged expose (later repudiated) of the Harding administration, based on his activities as agent of the Bureau of Investigation, 1921-23. He confessed to acting as an espionage agent for Germany during the World War and was a prominent witness at the investigation of Attorney General Daugherty for bribery. Acquitted on a charge of murder in 1917, he served two years for bribery (1926-28). When he died, he was serving a fifteen-year term for obtaining from Mrs. Evelyn Walsh McLean of Washington the sum of \$100,000, with which he promised to ransom the kidnapped Lindbergh child.

MEIER, FRED CAMPBELL. American plant pathologist, with the U.S. Department of Agriculture after 1915; born in Riggston, Ill., Apr. 5, 1893; lost at sea when the *Hawaii Clipper* disappeared on a Guam-Manila flight, July 30, 1938; principal pathologist of the Bureau of Plant Industry, 1930-34; noted for his research on aerial dissemination of micro-organisms.

MICHALAKOPOULOS, ANDREW. Greek premier (1924) and leader of the Conservative-Republican Party; born in 1875; died in Athens, Mar. 27, 1938; Minister of National Economy (1917) and Foreign Affairs (1926, 1932, and 1933).

MICHEL, VIRGIL GEORGE, O.S.B. American Roman Catholic clergyman, dean of St. John's University, Collegeville, Minn., from 1933; born in St. Paul, Minn., June 26, 1899; died in Collegeville, Minn., Nov. 26, 1938; entered the Benedictine Order in 1910 and ordained in 1916; founder-editor of *Orate Fratres* (1926-30) and an active leader in the liturgical movement.

MILFORD HAVEN, 2d MARQUESS OF, GEORGE LOUIS VICTOR HENRY SERGIUS MOUNTBATTEN. British peer, great-grandson of Queen Victoria, and commander in the Navy; born Nov. 6, 1892; died in London, Apr. 8, 1938.

MILLER, FRANK JUSTUS. American educator; born in Clinton, Tenn., Nov. 26, 1858; died in Westport, Conn., Apr. 23, 1938; instructor after 1892 and professor (1909-25) of Latin at the University of Chicago; editor of *The Classical Journal*, 1908-28.

MINNS, SUSAN. American collector; born in Lincoln, Mass., 1840(?); died in Boston, Mass., Aug. 2, 1938. She donated her valuable collection of macabre items to the University of Louvain, Belgium, and made extensive gifts to Harvard, Wellesley, and to the Massachusetts Institute of Technology, where she had studied.

MITCHELL-THOMSON, SIR WILLIAM. See SELSDON.

MOFFET, HAROLD. American actor; born in Chicago, Ill., Aug. 9, 1892; died in New York, N. Y., Nov. 7, 1938. He appeared in many supporting roles between 1925 and 1938, creating that of Gilhooley in *Of Thee I Sing* and *Let 'Em Eat Cake*.

MOLITOR, COL. FREDERIC ALBERT. American engineer; born in Detroit, Mich., Apr. 21, 1868; died in Stamford, Conn., Mar. 12, 1938; consultant and builder of important railroads in the United States, Philippines, and Brazil; commander of the 22d Regiment of Engineers in France during the World War (cited for distinguished service).

MOND, SIR ROBERT LUDWIG. English leader in the nickel industry; born in Farnworth, Lancs., Sept. 9, 1867; died in Paris, France, Oct. 22, 1938; president of the Egypt Exploration Society and the French Institute of Chemical Industry; ex-president of the Faraday Society; founder of the Infants' Hospital in London; medallist of the Society of Chemical Industry (1936). He assisted his father in the discovery of new carbonyles and carried on research in electrochemistry, color photography, etc. He financed the Mond archaeological expedition in Egypt, as well as exploration in Thebes, Palestine, and Brittany.

MONTEFIORE, CLAUDE JOSEPH GOLDSMID. British Jewish leader and author; born in London, 1858; died in London, July 9, 1938; president of the Anglo-Jewish Association (1896-1921), the Liberal Jewish Synagogue, and the University College of Southampton (1915-34).

MONTFORD, PAUL RAPHAEL. Australian sculptor; born in London, Nov. 1, 1868; died in Melbourne, Jan. 15, 1938; member of the Royal Society of British Sculptors. Among his works are the war memorials at Croydon and Camperdown, Victoria.

MOODY, WALTER SHERMAN. American electrical engineer, with the General Electric Co. (1892-1932); born in Chelsea, Mass., Sept. 20, 1864; died in Pittsfield, Mass., Nov. 7, 1938; designer of transformers.

MOORMAN, CHARLES HARWOOD. U.S. judge of the 6th Circuit Court of Appeals (1925-38); born in Big Spring, Ky., Apr. 24, 1876; died in Louisville, Ky., Jan. 26, 1938. He participated in a decision favorable to the TVA in 1937, and in 1928 ruled that \$44,000,000 in excessive Federal taxes on the sale of Ford Motor Company stocks must be refunded.

MORAWETZ, VICTOR. American lawyer and economist; died in Charleston, S. C., May 18, 1938. See Vol. XVI, p. 240. He helped to organize the American Law Institute and added to his writings *Elements of the Law of Contracts* (1927).

MORET, ALEXANDRE. French Egyptologist; born in 1868; died in Paris, Feb. 2, 1938; keeper of Guimet Museum, 1906-23; professor at the Collège de France, 1923-38; member of the Académie des Inscriptions et Belles-Lettres after 1926.

MORICE, ADRIAN GABRIEL. Canadian Roman Catholic missionary and historian of western Canada; born in Mayenne, France, Aug. 27, 1859; died in St. Boniface, Man., Apr. 21, 1938. An expert on Indian languages, he compiled a dictionary of the Dene or Carrier language.

MORRIS, EDWARD PARMELEE. American Latinist; died in New York, Nov. 16, 1938; retired 1919. See Vol. XVI, p. 285.

MORRIS, ROBERT CLARK. American lawyer; born in Bridgeport, Conn., Nov. 19, 1869; died in New York, N. Y., Oct. 13, 1938; Republican leader in New York State. An expert on Federal law, he represented the U.S. government before the Venezuelan Claims Commission and the German Mixed Claims Commission.

MORRISON, (HOWARD) PRIESTLY. American actor and director; born in Baltimore, Md., July 5, 1871; died in Kew Gardens, N. Y., Jan. 26, 1938; producer of *Smilin' Through* (1919), *Mama's Affair* (1920), *Alias the Deacon* (1925), *The Barker* (1927), and other Broadway successes.

MOTT, SIR BASIL. English engineer; born Sept. 16, 1859; died in London, Sept. 7, 1938; chief engineer of the Mersey Tunnel; builder of subways.

MOUNTBATTEN, SIR GEORGE. See MILFORD HAVEN.

MULDENER, LOUISE. American actress; born in Brooklyn, N. Y., Feb. 23, 1854; died New York, N. Y., May 10, 1938; leading lady for Joseph Jefferson, Edwin Booth, Salvini, and Rossi, and for several years with the Boston Theater Company; noted for Shakespearean roles and, in later years, appeared in *The Melting Pot*.

MUMFORD, HERBERT WINDSOR. American educator and expert on cattle breeding; born in Moscow, Mich., Feb. 26, 1871; died in Champaign, Ill., May 31, 1938; chief in animal husbandry after 1901 and dean of the College of Agriculture after 1922 at the University of Illinois.

MUNROE, CHARLES EDWARD, died Dec. 7, 1938.

MURAT, PRINCE JOACHIM. French leader of the Bonapartist cause and representative of Prince Louis Napoleon in France; born in Paris, Aug. 6, 1885; died in Paris, May 12, 1938; great-grandson of Gen. Murat, who married Napoleon's sister and became King of Naples.

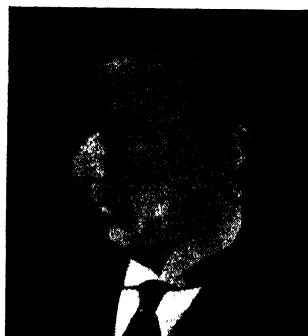
MURCHISON, KENNETH MACKENZIE. American architect and banker; born in New York, N. Y., Sept. 29, 1872; died in New York, N. Y., Dec. 15, 1938; designer of the U.S. Marine Hospital, Staten Island, the Beaux-Arts Apartments in New York City, terminals in Hoboken, Buffalo, Baltimore, and Havana, etc.



Photo by Blank-Stoller
FRANK H. VIZFELYI
American lexicographer



Wide World
DOWAGER QUEEN MARIE
of Rumania



Acme
KEMAL ATATURK
President of Turkey



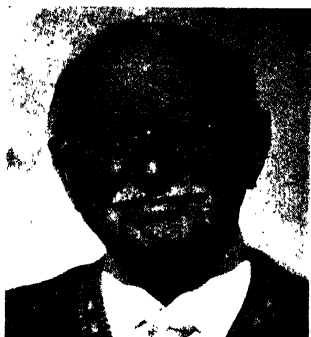
Wide World
GEORGE ELLERY HALE
American astronomer



Wide World
JOHN J. ABLI
American pharmacologist



Wide World
CHARLES H. HERTY
American chemist



Acme
ADOLF LEWISOHN
American philanthropist



International
HARVEY FIRESTONE
American manufacturer



Wide World
CLARENCE H. MACKAY
American industrialist



International
GABRIEL D'ANNUNZIO
Italian aviator



International
FEDOR CHALIAPIN
Russian opera singer



International
BENJAMIN N. CARDOZO
American jurist



Wide World

CARL VON OSSIETZKY
German pacifist and Nobel prize
winner



Wide World

ALMA GLUCK
American singer



Wide World

OSCAR WESTOVER
American Army officer



International

PAIRICK, CARDINAL HAYES
American prelate



Wide World

GEORGE GRAY BARNARD
American sculptor



Wide World

CLARENCE DARROW
American lawyer



Wide World

KAREL CAPEK
Czech playwright



Acme

ZONA GALE
American novelist



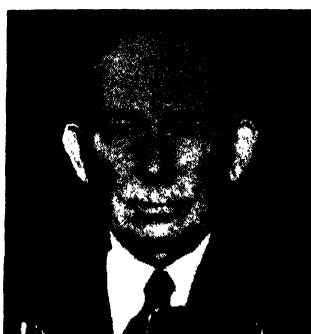
Wide World

OWEN WISTER
American writer



Wide World

KARL KAUTSKY
Austrian socialist



International

EDWARD M. HOUSE



Acme

NIKOLAI BUKHARIN

MUSICA, PHILIP (F. DONALD COSTER), died Dec. 16, 1938.

MUSICK, CAPT. EDWIN C., died Jan. 11, 1938.

MUTRIZ, JAMES. American baseball manager; born in Chelsea, Mass., June 13, 1851; died in New York, N. Y., Jan. 24, 1938; organizer and first president (1883-90) of the New York Giants.

NEIL, EDWARD J. American journalist; born in Methuen, Mass., Jan. 17, 1900; died in Saragossa, Spain, Jan. 2, 1938, from shell wounds received on the Teruel war front. As Associated Press correspondent, he covered the Italo-Ethiopian War, the coronation of George VI, and the Spanish Civil War.

NEUSTÄDTER-STÜRMER, BARON ODO. Austrian cabinet minister under Dollfuss and Schuschnigg (1933-34, 1934-35, and 1936-37); died a suicide near Vienna, Mar. 18, 1938, following the Nazi occupation of Austria; minister to Hungary, 1936.

NEWBOLT, SIR HENRY JOHN. English poet and naval historian; born in Bilston, Staffordshire, June 6, 1862; died in London, Apr. 20, 1938. His works, which glorified English traditions, included *Admirals All* (1897), *The Year of Trafalgar* (1905), and *A Naval History of the War* (1920).

NICOLAIDES, KIMON. American artist; born in Washington, D. C., June 10, 1892; died in New York, N. Y., July 18, 1938; instructor at the Art Students League of New York, 1923-38, noted for his original and highly successful methods of instruction; represented by murals at the Irving Trust Co. in New York and in many collections.

NICOLAS, PRINCE OF GREECE. Third son of George I and uncle of George II of Greece; born in Athens, Jan. 9, 1872; died in Athens, Feb. 8, 1938. When the royal family was exiled from Greece (1917-20 and 1924-35), he became a painter and exhibited at the Paris salon. His third daughter married the Duke of Kent of England.

NOBLE, WILLIAM CLARK. American sculptor and painter; born in Gardiner, Me., Feb. 10, 1858; died in Washington, D. C., May 10, 1938. He executed a number of public statues and designed coins.

NOMA, SEIJI. Japanese publisher; died in Tokyo, Oct. 17, 1938; managing director of the newspaper *Hochi* after 1930. He introduced popular magazines in Japan, founding nine publications with a circulation of ten millions which were an important influence in the changing language and customs of Japan. His son, TSUNE NOMA, died Nov. 8, shortly after succeeding him as head of the Noma Company.

NORTHAM, FIRST BARON OF. See CHALMERS, FIRST BARON OF NORTHAM, ROBERT.

NOURSE, ELIZABETH. American artist residing in Paris; born in Cincinnati, O., in 1860; died in Paris, France, Oct. 8, 1938; sociétaire of the Beaux Arts Institute; represented in the Art Institute of Chicago and other museums.

NOVELLO, ARMANDO ("TOTO"). American clown, popular in circus and vaudeville; born in Geneva, Switzerland, Oct. 27, 1888; died in New York, N. Y., Dec. 15, 1938.

O'HARA, FRANK. American economist; born in Lanesboro, Minn., Mar. 24, 1876; died in Washington, July 30, 1938; professor at Catholic University, 1909-38, and founder (1919) of Columbus University.

OLAND, (JOHAN) WARNER. American motion-picture actor; born in Umea, Sweden, Oct. 3, 1880; died in Stockholm, Sweden, Aug. 6, 1938; famous for Oriental roles, notably Fu Manchu and Charlie Chan. He played the villain in *The Perils of Pauline* and other early serials, having previously been known in Ibsen and Shakespearean roles on the stage.

O'LEARY, HENRY JOSEPH. Canadian Roman Catholic leader; born in Richibucto, N. B., Mar. 13, 1879; died in Victoria, B. C., Mar. 5, 1938; bishop of Charlottetown (1913-20), where he expanded St. Dunstan's College; archbishop of Edmonton, 1920-38.

ORBISON, THOMAS JAMES. American psychiatrist; born in India, Nov. 13, 1866; died in Sawtelle, Calif., Mar. 26, 1938; practised in Philadelphia prior to 1907 and subsequently in Los Angeles; captain in the Medical Corps of the A. E. F. He testified in a number of sensational murder trials, including those of Thomas Massie in Honolulu and William Edward Hickman.

O'REILLY, THOMAS CHARLES. American Roman Catholic bishop; born in Cleveland, O., Feb. 22, 1873; died in Miami Beach, Fla., Mar. 25, 1938; pastor of the Cathedral of St. John the Evangelist in Cleveland, 1911-28; bishop of Scranton, Pa., 1928-38.

ORLOV, VLADIMIR R. Soviet Russian commissar for Naval Forces; executed for treason in 1938.

OSSIETZKY, CARL VON, died May 4, 1938.

OSTRANDER, JOHN EDWIN. American mathematician; born in Slingerlands, N. Y., Mar. 20, 1865; died in Amherst, Mass., Oct. 19, 1938; professor at Massachusetts State College, 1897-1935; known for studies of the magnetic needle.

OSWALD, JOHN CLYDE. American publisher; born in Ft. Recovery, O., July 11, 1872; died in Pelham Manor, N. Y., June 22, 1938; editor and publisher of *The American Printer*, 1897-1925; ex-president of the National Editorial Association and the Federation of Trade Press Associa-

tions; founder of the Benjamin Franklin Society and a collector of Franklin items.

PACE, EDWARD ALOYSIUS. American Roman Catholic clergyman and educator; born in Starke, Fla., July 3, 1861; died in Washington, D. C., Apr. 26, 1938; professor of philosophy at the Catholic University of America, 1891-1935; president of the American Council of Education, 1926.

PAGET, LADY MURIEL. British welfare leader; born in 1877; died in London, June 16, 1938; director of the Anglo-Russian Hospital at Petrograd during the World War. She organized relief work for British subjects in Russia after the revolution and child welfare work in several European countries.

PALACIO VALDES, ARMANDO, died Feb. 2, 1938.

PALMER, PAULINE LENNARDS (MRS. ALBERT PALMER). American portrait, still life, and landscape painter; born in McHenry, Ill.; died in Trondheim, Norway, Aug. 15, 1938. She worked in Chicago, where she received many awards from the Art Institute and other groups.

PAPE, ERIC. American painter; died in New York, N. Y., Nov. 7, 1938. See VOL. XVIII, p. 18.

PARKS, LEIGHTON. American Protestant Episcopal clergyman; born in New York, N. Y., Feb. 10, 1852; died in London, Eng., Mar. 21, 1938; rector of St. Bartholomew's in New York, 1904-25; noted for his attacks on fundamentalism and the conservative elements in the Church.

PARRISH, STEPHEN. American etcher; died in Plainfield, N. H., May 15, 1938. See VOL. XVIII, p. 112.

PATIALA, LIEUT.-GEN. H. H. FARZAND-I-KHAS, MAHARAJA OF. Indian prince; born October, 1891; died in Lahore, Mar. 23, 1938; chancellor of the Chamber of Indian Princes, 1926-30, 1933-35, and 1937-38; delegate to the Indian Round Table Conference (1930), the Imperial War Conference (1918) and the League of Nations Assembly (1925); served during the World War and the Afghan War; known for his progressive policies and friendship with Great Britain. As absolute ruler of the greatest Punjab State, he was enormously wealthy; his extravagance and generosity were widely publicized.

PATTERSON, SHIRLEY GALE. American educator; born in New York, N. Y., July 24, 1884; died in Hanover, N. H., May 28, 1938. He taught Romance Languages at Dartmouth College, 1915-38.

PEABODY, GEORGE FOSTER, died Mar. 4, 1938.

PEARCE, CAPT. S. BARTLEY. American speedboat designer and racer; born in 1864; died in Brielle, N. J., Jan. 29, 1938; winner of the Harmsworth International trophy with the *Dixie* in 1907 and 1908.

PEARSON, PAUL MARTIN. American administrator and lecturer; born near Litchfield, Ill., Oct. 22, 1871; died in San Francisco, Calif., Mar. 26, 1938; professor at Swarthmore (Pa.) College, 1902-19, and founder of Swarthmore Chautauqua Association; governor of the Virgin Islands, 1931-35. His administration of the Virgin Islands resulted in personal differences both with native leaders and with officials in Washington. An investigation, begun in the Senate and then dropped, was followed by Pearson's resignation.

PEASE, FRANCIS GLADHEIM. American astronomer; born in Cambridge, Mass., Jan. 14, 1881; died in Pasadena, Calif., Feb. 7, 1938; instrument designer (1904-07 and 1908-13) and astronomer (1911-38) at the Mount Wilson Observatory in Pasadena; noted for photographs of the moon, spectograms of nebulae and star clusters, and the first measurements of the diameters of stars, accomplished by an interferometer; associated with A. A. Michelson in measuring the speed of light. He designed most of the instruments used at the Mount Wilson Observatory, including its 100-inch telescope, and developed the method by which the 200-inch mirror of the California Institute of Technology was ground.

PENNYBACKER, MRS. PERCY V. (ANNA J. HARDWICKE). American clubwoman; born in Petersburg, Va., May 7, 1861; died in Austin, Tex., Feb. 4, 1938; president of the General Federation of Women's Clubs, 1912-16; author of a *History of Texas* (1888). Active in a number of organizations, she lectured widely on suffrage, education, and world peace.

PERLEY, SIR GEORGE HALSEY, died Jan. 4, 1938.

PERRY, EDWARD DELAVAN. American Greek scholar; died in New York, N. Y., Mar. 28, 1938; retired, 1931. See VOL. XVIII, p. 366.

PERRY, SIR (EDWIN) COOPER. British physician; born Sept. 10, 1856; died in Worthing, Eng., Dec. 17, 1938; chairman of the London School of Hygiene and Tropical Medicine; chairman of Worthing Hospital; senior consulting physician of Guy's Hospital; Principal Officer of the University of London, 1920-26.

PETERS, ANDREW JAMES. U.S. Representative (Democrat), 1907-14, and mayor of Boston, 1918-22; born in Jamaica Plain, Mass., Apr. 3, 1938; died in Boston, June 26, 1938. He had charge of customs in the Treasury Department (1914-17) and was a member of the U.S. Section of the International High Commission in 1917.

PETERSON, FREDERICK. American neurologist; died in New York, N. Y., July 9, 1938; president of the American Neurological Association, 1924-25. See VOL. XVIII, p. 427.

- PETTEE, CHARLES H. American educator; born in Manchester, N. H., Feb. 2, 1853; died in Durham, N. H., Mar. 23, 1938; professor of mathematics after 1877 and dean (1888-1937) at the University of New Hampshire.
- PHELPS, FRANCIS ROBINSON. British Archbishop of Cape Town after 1931; born Sept. 19, 1863; died in Cowley, Eng., June 27, 1938; Bishop of Grahamstown, 1915-31.
- PHELPS, REAR ADMIRAL WILLIAM WOODWARD. American naval officer; born in Baltimore, Md., Nov. 26, 1869; died in New York, N. Y., May 11, 1938; commander of the transports *Great Northern* and *Leviathan* during the World War; commander of the Yangtze Patrol in China (1922-23) and the Fleet Base Force (1926-28); commandant of the Navy Yard at Portsmouth (1928-31) and Brooklyn (1931-33).
- PHILLIPS, JOHN WYNFORD. See ST. DAVIDS.
- PHILLIPS, JOHN CHARLES. American naturalist and writer on wild-life subjects; born in Boston, Mass., Nov. 5, 1876; died in Dover, N. H., Nov. 14, 1938; active in wild-life conservation work; major in the Medical Corps of the A.E.F. during the World War.
- PICKERING, WILLIAM HENRY, died Jan. 16, 1938.
- PIERPOINT, JAMES. American mathematician; died in San Mateo, Calif., Dec. 9, 1938; retired, 1934. See Vol. XVIII, p. 613.
- PIERSON, DAVID LAWRENCE. American historian of the New Jersey section; born in Orange, N. J., Feb. 3, 1865; died in East Orange, N. J., July 11, 1938; originator of Constitution Day.
- PINCHOT, ROSAMOND (MRS. WILLIAM GASTON). American actress; born in New York, N. Y., Oct. 6, 1904; died in Old Brookville, Long Island, N. Y., Jan. 24, 1938. Her first and best-known role was that of the Nun in Max Reinhardt's production of *The Miracle*, in which she played for four years.
- POST, JAMES HOWELL. American industrialist and philanthropist; born in New Rochelle, N. Y., Oct. 13, 1859; died in Brooklyn, N. Y., Mar. 5, 1938; president of the National Sugar Refining Co. of New Jersey after 1900 and director of many firms.
- POTEAU, WILLIAM LOUIS. American educator and Baptist leader; born in Caswell Co., N. C., Oct. 20, 1856; died in Wake Forest, N. C., Mar. 12, 1938; professor of biology for 54 years and president (1905-27) of Wake Forest College; a leader in the prohibition movement.
- POWELL, FREDERICK EUGENE. American magician; born in Philadelphia, Pa., Mar. 1, 1856; died in New Haven, Conn., Feb. 27, 1938; dean of the Society of American Magicians. His most famous acts were "She," based on the novel by Henry Rider Haggard, and "Noah's Ark."
- PRENTISS, JOHN WING. American broker; born in Bangor, Me., Aug. 15, 1875; died in New York, N. Y., Mar. 18, 1938; senior partner of Hornblower & Weeks; ex-president of the Investment Bankers Association and the Exchange Partners Association; lieutenant-colonel in the purchase department of the General Staff during the World War. An active sportsman, he was national squash champion in 1913.
- PRESS, MICHAEL. Russian violinist and conductor; born in Vilna, 1871; died in Lansing, Mich., Dec. 22, 1938. Known as a boy prodigy, he became conductor of the Imperial Opera and Ballet at the age of 16, and subsequently head of the violin department at the Moscow Imperial Conservatory. Forced by the revolution to flee from Russia, he conducted in various European countries and formed with his wife and brother the successful Russian Trio. In 1922 he entered the United States, appearing as soloist and guest conductor with the Philadelphia, Boston, and other orchestras and teaching at the Curtis Institute (1924-28) and the Michigan State College School of Music (1928-38).
- PRESTON, JAMES HARRY. American lawyer; born in Hartford Co., Md., March, 1860; died in Baltimore, Md., July 14, 1938; member (Democrat) of Baltimore, 1911-19; president of the Sons of the American Revolution.
- PRIETO, MANUEL GARCIA. See ALHUCEMAS.
- PROKOSCH, EDUARD. Austro-American educator and author of German textbooks; born in Eger, Austria, May 15, 1876; died in New Haven, Conn., Aug. 11, 1938. He entered the United States in 1898 and taught at Bryn Mawr College (1919-28) and Yale University, where he was professor of Germanics after 1929; president of the Linguistic Society of America, 1930.
- QUINN, WILLIAM. American Roman Catholic director of the Society for the Propagation of the Faith (1924-36); born in Sedalia, Mo., 1886; died in White Plains, N. Y., Apr. 23, 1938; editor of *Catholic Missions*; appointed Prototatory Apostolic in 1932.
- QUINTERO, SERAFIN ALVAREZ. See ALVAREZ QUINTERO.
- RADER, PAUL. American evangelist, known as the "cow-boy evangelist"; born in Denver, Colo., Aug. 24, 1879; died in Hollywood, Calif., July 19, 1938; pastor of the Moody Memorial Church (1914-21) and founder of the Gospel Tabernacle in Chicago.
- RAMIZ GALVÃO, BARON BENJAMIN FRANKLIN. Brazilian historian; born in Rio Pardo, June 16, 1846; died in Rio de Janeiro, Mar. 9, 1938; director of the *Revista* of the Brazilian Historical and Geographical Society after 1912; rector of the University of Rio de Janeiro, 1920-25; president of the Academy of Letters.
- RAUSCH, EMIL HENRY. American Lutheran clergyman; born in Cleveland, O., Nov. 19, 1874; died in Des Moines, Iowa, Aug. 19, 1938; editor of the *Lutheran Herald*, 1910-26; president of the Wartburg Theological Seminary in Dubuque after 1932.
- RAYNALDY, EUGENE. French Minister of Commerce (1924-25) and Justice (1933-34); born in Rodez, Dec. 23, 1869; died in Rodez, June 15, 1938; Left-Radical deputy (1919-28) and senator (1928-38). He was accused of corruption in connection with the Sacazan holding company, but was acquitted in 1935.
- REDE, WYLLYS. American Protestant Episcopal clergyman and educator; born in Monmouth, Ill., Aug. 7, 1859; died in Durham, N. C., Sept. 24, 1938; founder and president (1913-25) of Mount Vernon College in Baltimore.
- REEVES-SMITH, H(ARRY). English actor; born in Scarborough, 1862; died in Ewell, Surrey, Jan. 29, 1938. In his long list of successes, both English and American, were *East Lynne*, *Charley's Aunt*, *Captain Jinks of the Horse Marines*, *Mid-Channel*, and *Peg o' My Heart*.
- REISCH, RICHARD. Austrian Minister of Finance (1919-20) and first president of the Austrian National Bank (1923-32); born in Vienna, Apr. 7, 1866; died in Vienna, Dec. 14, 1938. He was largely responsible for the financial reforms in Austria following the World War.
- RENDLE, ALFRED BARTON. British botanist; born in London, Jan. 19, 1865; died in Leatherhead, Surrey, Jan. 12, 1938; keeper of the botanical department of the British Museum, 1906-30; editor of the *Journal of Botany*; author of *Classification of Flowering Plants*, etc.
- RENSHAW, KAEMER REX. American chemist; born in Sierraville, Calif., Aug. 31, 1880; died with his wife, in New York, N. Y., Sept. 23, 1938; professor at New York University, 1924-38. In 1937 he described acetylcholine, a drug of which a minute quantity lowers blood pressure tremendously.
- RICHARDSON, MAJ. GEN. SIR GEORGE SPAFFORD. British administrator of Western Samoa (1923-28) under a League of Nations mandate to New Zealand; born in England, Nov. 14, 1868; died in Auckland, New Zealand, June 12, 1938; New Zealand representative in the British War Office during the World War and delegate to the League of Nations Assembly (1928).
- RICKERT, (MARTHA) EDITH. American educator; born in Dover, O., July 11, 1871; died in Chicago, Ill., May 23, 1938; associate professor (1924-30) and professor (after 1930) at the University of Chicago; author of textbooks on English literature and works of fiction; collaborator with John M. Manly in Chaucerian research.
- RIDGWAY, ROBERT, died Dec. 19, 1938.
- RIPPLE, MICHAEL JOSEPH. American Roman Catholic priest of the Dominican order; born in Baltimore, Md., Oct. 25, 1875; died in Baltimore, Nov. 29, 1938; co-organizer (1909), director (1920-32), and editor of the *Journal of the Holy Name Society*.
- RIXFORD, EMMET. American surgeon; born in Bedford, Que., Can., Feb. 14, 1865; died in Boston, Mass., Jan. 2, 1938; professor at Cooper Medical College (1898-1938) and Leland Stanford University (1909-30); president of the American Surgical Association, 1928; visiting surgeon to San Francisco hospitals.
- ROBERTSON, JAMES BROOKS AYERS. Governor (Democrat) of Oklahoma (1919-23); born in Keokuk Co., Iowa, Mar. 15, 1871; died Oklahoma City, Okla., Mar. 7, 1938. He was threatened with impeachment in connection with an Okmulgee bank failure, but the charges were dropped.
- ROBINSON, ESTHER LYONS (MRS. EUGENE ROBINSON). See LYONS.
- ROBISON, CAPT. JOHN KEELER. American naval officer; born in Ann Arbor, Mich., Nov. 30, 1870; died in New York, N. Y., July 15, 1938; captain of the *Huntington*, which transported troops during the World War; head of the Navy Bureau of Engineering, 1921-25; retired, 1926. Having recommended the leasing of the oil lands involved in the Teapot Dome scandal, he was a prominent witness at the trials and was passed over for promotion to rear admiral although he had been exonerated of dishonest motives.
- ROCHEGROSSE, ANTOINE. French painter and illustrator; born in Versailles, Aug. 2, 1859; died in Algiers, Algeria, July 13, 1938; medallist of the Paris salon.
- ROGERS, ALLEN. American chemical engineer; born in Hampden, Me., May 22, 1876; died in Hampden, Nov. 4, 1938; member of the staff of the Pratt Institute in Brooklyn after 1905; major in the chemical warfare service, 1917-18; author of *Manual of Industrial Chemistry* (1912), *Elements of Industrial Chemistry* (1916), *Practical Tanning* (1922), etc. He won the Grasselli medal (1920) for his use of fish skins in making leather.
- ROGERS, ALLEN HASTINGS. American mining engineer; born in Marshfield, Mass., Feb. 19, 1871; died in New York, N. Y., Feb. 14, 1938; director or consultant of various copper mining concerns; ex-president of the Mining and Metallurgical Society of America.
- ROGERS, WARREN LINCOLN. American Protestant Episcopal bishop of Ohio after 1930; born in Allentown, N. J.,

Nov. 14, 1877; died in Mount Vernon, O., Nov. 6, 1938. ROMAGNOLI, ETTORE. Italian Hellenic scholar and philologist; born in 1871; died in Rome, May 1, 1938; author of *Studies in Classical Philology*, etc.

RONALD, SIR LONDON. British conductor, composer, and musical critic; born in London, June 7, 1873; died in London, Aug. 14, 1938; conductor of the Royal Albert Hall Orchestra after 1908 and guest conductor of the leading orchestras of the world; principal of the Guildhall School of Music, 1910-37; composer of about 300 songs, "Coronation Ballet," music for "The Garden of Allah," etc. He conducted the Covent Garden Opera at the age of 18 and was accompanist to Madame Melba in 1894. His autobiography, *Variations on a Personal Theme*, appeared in 1922.

ROOTHAM, CYRIL BRADLEY. British organist, composer, and conductor; born in Bristol, Eng., Oct. 6, 1875; died in Cambridge, Eng., Mar. 18, 1938; organist and lecturer in music at St. John's College, Cambridge University.

RORKE, MARY. British actress; born in London, Feb. 14, 1858; died in London, Oct. 12, 1938. She acted almost continuously for 66 years, appearing in more than 100 plays and in motion pictures after 1913. In later life she was known as the "grand old lady of the British stage."

ROSEMEYER, BERND. German automobile racer; born about 1912; killed in a race on the Frankfurt-Darmstadt road in Germany, Jan. 28, 1938; winner of the Czechoslovakian Masaryk prize, 1935; winner of the Grand Prix of Italy, Switzerland, and Germany, as well as the German Eiffel, the Italian Coppa Acerba, and the Freiburg Mountain race, 1936; winner of the U.S. Vanderbilt Cup and the Coppa Acerba, Eifel, and Donington races, 1937.

ROSS, PERLEY ASON. American physicist; born in Panama, Mo., Apr. 6, 1883; died in Palo Alto, Calif., Mar. 20, 1938; member of the faculty of Leland Stanford University, 1910-38; noted for research with X-rays.

RUGG, ARTHUR PRENTICE. Massachusetts chief justice (1911-38); born in Sterling, Mass., Aug. 20, 1862; died in Sterling, June 12, 1938; president of the American Antiquarian Society. Among his notable decisions was that upholding the State Unemployment Compensation Act in 1936.

RUGH, CHARLES EDWARD. American educator; born in Lamartine, Pa., Jan. 27, 1867; died in San Francisco, Calif., Sept. 29, 1938; professor of education at the University of California after 1907. He assailed the "meaningless knowledge" taught in schools.

RUSSELL, RICHARD BREVARD. Georgia chief justice (1922-38) and judge of the State Court of Appeals (1906-16); born in Cobb Co., Ga., Apr. 27, 1861; died in Russell, Ga., Dec. 3, 1938; noted as an orator and Democratic leader.

RYDER, ARTHUR WILLIAM. American Sanskrit scholar; born in Oberlin, O., Mar. 8, 1877; died in Berkeley, Calif., Mar. 21, 1938; member of the University of California faculty, 1906-38; translator of *The Panchatantra* (1925), etc.

RYKOV, ALEXEY IVANOVITCH, died Mar. 14, 1938.

ST. DAVIDS, 1ST VISCOUNT, JOHN WYNFORD PHILLIPS. British industrialist and member of Parliament (1888-94 and 1898-1908); born May 30, 1860; died in London, Mar. 28, 1938; noted for his development of Argentine railroads.

SANER, ROBERT E(DWARD) LEE. Texas lawyer and publicist; born near Washington, Ark., Aug. 9, 1871; died in Dallas, Tex., Oct. 31, 1938; president of the American Bar Association, 1923-24.

SCHOMBURG, ARTHUR ALONZO. American Negro scholar; born in San Juan, Puerto Rico, 1874; died in Brooklyn, N. Y., June 10, 1938. He assembled the world's rarest collection of Negro literature, which was bought by the Carnegie Foundation in 1926 and presented to the New York Public Library.

SCHOTT, WALTER. German sculptor; born in Ilsenburg, Nov. 18, 1861; died in Berlin, Sept. 3, 1938; noted for statues of the Kaiser and historical and mythological works.

SCHWALBE, CARL GUSTAV. German chemist; born in Zurich, Oct. 25, 1871; died in Homberg, Ger., 1938; professor at the School of Forestry in Eberswalde; noted for his studies of cellulose, wood chemistry, etc.

SCHWARTZBAUD, SAMUEL. Ukrainian Jewish poet; born in Bessarabia, in 1887; died in Capetown, So. Africa, Mar. 3, 1938. Outraged by the Ukrainian pogroms which took place under the rule of Gen. Simon Petlura in 1919, he shot Petlura to death on a Paris street, May 25, 1926. He was acquitted in a sensational trial in Paris the following year. A Socialist leader, he fled from Russia in 1906 and spent much of his life as a watchmaker in Paris, serving with the French Foreign Legion during the World War and winning the Croix de Guerre.

SCHWEINITZ, GEORGE EDMUND DE, died Aug. 22, 1938.

SCOTT, CHARLES FREDERICK. U.S. Representative (Republican) from Kansas (1901-11) and publisher of the *Iola (Kans.) Register* (1887-1938); born in Allen Co., Kans., Sept. 7, 1860; died in Iola, Sept. 18, 1938; publicity director for the Republican national campaigns in 1912 and 1932. He was chairman of the House Committee on Agri-

culture and originated the county field agent plan now used in all States.

SCOTT, WALTER. Canadian politician; died in Guelph, Ont., Mar. 23, 1938; retired, 1916. See Vol. XX, p. 615. SCRIBNER, FRANK LAMSON. American agrostologist; died in Washington, D. C., Feb. 22, 1938. See Vol. XX, p. 625.

SCRIPPS, ROBERT PAINE. American newspaper publisher; born in San Diego, Calif., Oct. 27, 1895; died on his yacht off the coast of southern California, Mar. 3, 1938. In 1917 he became editorial director of the Scripps-McRae newspapers under his father, from whom he subsequently inherited the ownership. In 1922 he united with Roy Howard to form the Scripps-Howard chain of 24 newspapers, of which he was the controlling stockholder.

SEAL, SIR BRAJENDRANATH. Indian philosopher; born in Calcutta, Sept. 3, 1864; died in Bombay, Dec. 3, 1938; connected with Calcutta University (1914-20) and Mysore University (1920-30).

SEALY, FRANK LINWOOD. American organist with the New York Symphony Society after 1885 and the New York Oratorio Society (1885-1921); born in Newark, N. J., Sept. 13, 1858; died in New York, N. Y., Dec. 13, 1938.

SEDOFF, LEON. Russian revolutionary, second son of Leon Trotsky; born in Russia, in 1906; died in Paris, France, Feb. 16, 1938. After his deportation from Russia in 1929, he edited a Russian-language Trotskyist newspaper in Paris.

SEGAR, ELZIE CRISLER. American cartoonist; born in Chester, Ill., Dec. 8, 1894; died in Santa Monica, Calif., Oct. 13, 1938; originator (1919) of the Thimble Theater for the Kings Features Syndicate. This comic strip, which by 1935 appeared in more than 500 newspapers, contained some of the most popular cartoon characters of all time, including Popeye the Sailor, J. Wellington Wimpy, Alice the Goon, Eugene the Jeep, Olive Oyl, and Castor Oyl.

SEIGLE, WILLIAM R. American industrialist; born in Finesville, N. J., in 1879; died in Rochester, Minn., Dec. 26, 1938; chairman of the board and research director for the Johns-Manville Corporation.

SELSDON, 1ST BARON, WILLIAM MITCHELL-THOMSON. British politician; born in Edinburgh, Apr., 1877; died in London, Dec. 24, 1938; Conservative Member of Parliament, 1906-32; Postmaster-General and Chief Civil Commissioner, 1924-29. In the latter capacity he handled the British general strike of 1926.

SENIOR, HAROLD DICKINSON. American anatomist; born in Croydon, Eng., Oct. 30, 1870; died in New York, N. Y., Aug. 6, 1938; professor at New York University, 1910-36; metallist of Durham (Eng.) University, 1918.

SERAFINI, GIULIO, CARDINAL. Italian Roman Catholic prelate, named cardinal-priest and Prefect of the Congregation of the Council in 1930; born in Bolsena, Oct. 18, 1867; died in Vatican City, July 16, 1938. Noted as a scholar, he was active in the field of education.

SEXTON, SIR JAMES. British trade union official; born in Newcastle, of Irish parentage, 1856; died in Liverpool, Dec. 27, 1938; general secretary of the National Union of Dock Workers, 1890-1938; president (1905) and member of the General Council (1923-38) of the Trades Union Congress. Labor Member of Parliament, 1918-31.

SHACKLETON, SIR DAVID (JAMES). British labor leader; born in 1863; died in Saint Annes, Lancs., Aug. 1, 1938; president of the Amalgamated Weavers (1906) and the Trade Union Congress (1908 and 1910); Labor Member of Parliament, 1902-10; chairman of the National Labor Party, 1905; frequent adviser to the government on labor problems.

SHALLENBERGER, ASHTON C. U.S. Representative (1901-03, 1915-19, and 1923-35) and Democratic governor of Nebraska (1909-11); born in Toulon, Ill., 1862; died in Franklin, Neb., Feb. 22, 1938. He was a farmer and cattle-raiser and sponsored farm legislation in the House.

SHEFFIELD, JAMES ROCKWELL. U.S. ambassador to Mexico (1924-27) and New York attorney, active in Republican politics; born in Dubuque, Ia., Aug. 13, 1864; died in Saranac Lake, N. Y., Sept. 2, 1938. He upheld foreign ownership of Mexican lands, advocating a strong U.S. policy.

SHELLING, DAVID HENRY. American pediatrician; born in Poland, in 1898; died in Brooklyn, N. Y., May 17, 1938; on the staff of Johns Hopkins Hospital (1928-36) and the Jewish Hospital in Brooklyn (1936-38). He developed medication for softening and reshaping the bones without operation in cases of rickets, and studied other bone diseases, lead poisoning, the parathyroid, etc.

SHEPARD, HELEN MILLER GOULD (MRS. FINLEY J. SHEPARD), died Dec. 21, 1938.

SHERLOCK, CHESLA C. American editor and author of books and articles on gardening, and on topics related thereto; born in Keswick, Ia., May 24, 1895; found shot to death with his wife, Cortland, N. Y., June 30, 1938; editor of *Better Homes and Gardens* (1922-27), *The Ladies' Home Journal* (1929-33), and *St. Nicholas Magazine* (1935-37).

SHIMER, PORTER WILLIAM. American chemist and metallurgist; born in Shimerville, Pa., Mar. 13, 1857; died in Easton, Pa., Dec. 7, 1938; discoverer of titanium carbide;

inventor of new processes for hardening and treating steel; recipient of the John Scott medal of the Franklin Institute (1901) for a combustion crucible. He maintained his own laboratory in Easton after 1885, being president of the Shimer Chemical Co., 1924-38.

SHINJO, SHINZO. Japanese educator; born in 1872; died in Shanghai, China, Aug. 1, 1938; director of the Shanghai Science Institute and formerly chancellor of Kyoto Imperial University.

SHORMAKER, REAR ADM. WILLIAM RAWLE. American naval officer; born in Staten Island, N. Y., Feb. 10, 1863; died in Vallejo, Calif., May 30, 1938; commander of the battleship force of the Pacific fleet after 1921 and chief of the Bureau of Navigation, 1924-27; retired, 1927. He commanded the *Talbot* during the Spanish-American War and the *Arayat* in the Philippine Insurrection and directed the troop ship convoys during the World War, winning the Navy Cross and the Distinguished Service Medal.

SIBOUR, VISCOUNT JULES HENRI DE. French-American architect; born in Carpentras, France, 1873; died in Washington, D. C., Nov. 4, 1938; designer of Bancroft Hall at Annapolis and various Washington buildings, including the French Embassy and the Canadian Legation.

SIMONDS, MAJ. GEN. GEORGE SHERWIN. American army officer; born in Cresco, Ia., Mar. 12, 1874; died in San Francisco, Calif., Nov. 1, 1938; served in the Philippine Insurrection, the Boxer Rebellion, in Alaska (1908-10), and on the Mexican border (1910-15); chief of staff of the 2d Army Corps and commander of the American Embarkation Center at Le Mans during the World War, participating in the Somme and Ypres-Lys offensives; commandant of the Army War College, 1932-35; deputy chief of staff of the War Department, 1935-38; decorated by the United States, Britain, Italy, and France for his war services.

SIMPSON, HOWARD EDWIN. American geologist; born in Clarence, Ia., July 9, 1874; died in Grand Forks, N. D., Jan. 31, 1938; professor at the University of North Dakota and State geologist; first to state that deforestation causes drought.

SINGLETON, COL. WILLIAM HENRY. American Negro Civil War officer; born in Newbern, N. C., Aug. 10, 1835; died in Des Moines, Ia., Sept. 7, 1938. Escaping from the Confederate Army, he raised the first Negro regiment to fight for the Union Army.

SKREBSKY-HRISTE, LEON DE. CARDINAL. Austrian Roman Catholic prelate; born in Hansdorf, Aust.-Hung. (now Czechoslovakia), 1863; died in Niederlangendorf, Moravia, Dec. 24, 1938; archbishop of Prague after 1899 and privy councillor to the Emperor Franz Josef. He became a cardinal in 1901 but lived in seclusion after an automobile accident in 1920.

SLATER, GILBERT. British expert on rural economics and author; born in Plymouth, Aug. 27, 1864; died in Oxford, Mar. 9, 1938.

SMALL, JOHN KUNKEL. American botanist; born in Harrisburg, Pa., Jan. 31, 1869; died in New York, N. Y., Jan. 20, 1938; head curator of the New York Botanical Garden after 1906; author of more than 450 books and papers; an authority on plants of the southeastern United States.

SMITH, C(HARLES) MORTON. American dermatologist with the Harvard Medical School (1916-26) and the Massachusetts General Hospital (1913-26); born in Dublin, N. H., Oct. 26, 1867; died in Boston, Mass., Jan. 8, 1938; noted for syphilis research.

SMITH, EDGAR MCPHAIL. American librettist of more than 150 productions; born in Brooklyn, N. Y., Dec. 9, 1857; died in Bayside, N. Y., Mar. 8, 1938. His works were mainly burlesques and slapstick comedies, featuring Weber and Fields, Marie Dressler, McIntyre and Heath, Al Jolson, and other comedians.

SMITH, SIR EDMUND WYLDRORE. British financier; born Jan. 15, 1877; died in Stoke D'Abernon, Surrey, Oct. 18, 1938; chairman of Thomas Cook & Son; director of the Suez Canal Co. and other important British companies.

SMITH, WALTER GRANVILLE. See GRANVILLE-SMITH.

SMITH, WILLIAM ROY. American educator; born in Bluff Springs, Tex., Nov. 16, 1876; died in Bryn Mawr, Pa., Feb. 13, 1938; professor of history at Bryn Mawr College, 1914-38.

SOREL, ALBERT-ÉMILE. French author; born in Versailles, July 15, 1876; died in Paris, Nov. 26, 1938; wrote *Charlot de Corday* and other novels and histories.

SORZANO, JOSÉ LUIS TEJADA. President of Bolivia (1934-36); born in La Paz, 1881; died Arica, Chile, Oct. 3, 1938. Previously a cabinet minister and vice-president, he became president when Salamanca was overthrown because of defeats in the Chaco War. He brought the war to a conclusion and signed the peace treaty with Paraguay, June 12, 1935, but was ousted by an army coup precipitated by labor unrest.

STANISLAVSKY, KONSTANTIN SERGEYEVICH. Russian producer and actor; born in Moscow, 1863; died Moscow, Aug. 7, 1938; co-founder and director (1898-1938) of the Moscow Art Theater; decorated with the Red Banner of Labor, the Order of Lenin, and the title of People's Artist. His productions, boldly conceived, sincere, and true to life, won worldwide fame for the Moscow Art Theater. He was

also an actor of note and author of *My Life in Art and An Actor Prepares*.

STANLEY, LORD (EDWARD MONTAGU CAVENDISH STANLEY). British Secretary for the Dominions (appointed 1938) and heir to the 17th Earl of Derby; born July 9, 1894; died in London, Oct. 16, 1938; Member of Parliament, 1922-38.

STANLEY, LIEUT. COL. SIR GEORGE FREDERICK. British governor of Madras (1929-34) and brother of the 17th Earl of Derby; born Oct. 14, 1872; died in London, July 1, 1938; Member of Parliament, 1910-22 and 1924-29.

STANTON, SIR (AMERBROSE) THOMAS. British scientist; born in Kendal, Ont., Can., Nov. 14, 1875; died in London, Jan. 25, 1938; government adviser on tropical medicine and head of the Institute of Medical Research of the Federated Malay States. His researches with H. Fraser showed the cause of beriberi.

STARKEY, JAMES LESLIE. British archaeologist; murdered by Arab terrorists near Beit-Jibrin, Palestine, Jan. 10, 1938; head of the Wellcome-Marston Expedition to Palestine, which located the Biblical city of Lachish and excavated writings of the pre-Solomon era.

STEDMAN, THOMAS LATHROP. American editor; born in Cincinnati, O., Oct. 11, 1853; died in New York, N. Y., May 26, 1938; author of *A Practical Medical Dictionary* (13th ed., 1935); editor of *The Medical Record* (1897-1922), *The Twentieth Century Practice of Medicine* (21 vols., 1903), etc.

STEPHENS, KATE. American author and editor; born in Moravia, N. Y., Feb. 27, 1853; died in Concordia, Kans., May 10, 1938; editor of English classics. She became one of the first women university professors when she succeeded her fiancé, Byron Caldwell Smith, as professor of Greek at the University of Kansas (1879-85). She published the love letters written by Prof. Smith and herself, and other works.

STERBA-BÖHM, JEAN STANISLAS. Czechoslovakian chemist; born in Sezemice, 1874; died in Prague, Jan. 1, 1938; professor at the University of Prague; author of works on radioactive elements.

STERN, LOUIS WILLIAM. German psychologist; born in Berlin, Apr. 29, 1871; died in Durham, N. C., Mar. 27, 1938; director of the Psychological Institute at Hamburg until the advent of the Nazi regime (1916-34); professor at Duke University, 1934-38; author of *Psychology of Individual Differences* (1900), *The Methodological Bases of Differential Psychology* (1911), *Psychology of Early Childhood* (1930), *General Psychology* (1937), etc. He was a pioneer in the field of mental testing and developed the personalistic approach to psychology.

STEWART, MAJ. GEN. JOHN WILLIAM. Canadian railway construction engineer; born in Sutherlandshire, Scot., 1862; died in Vancouver, B. C., Sept. 24, 1938. He helped to build the great western railways of Canada and commanded the Canadian Railway Troops during the World War.

STOTESBURY, EDWARD TOWNSEND, died May 16, 1938. STRATHMORE, COUNTESS OF, and KINGHORNE (CECILIA NINA CAVENDISH-BENTINCK BOWES-LYON). British noblewoman; born Sept. 11, 1862; died in London, June 23, 1938; great-granddaughter of the 3d Duke of Portland and mother of Queen Elizabeth; mistress of Glamis Castle, her husband's Scottish seat.

STRAUSS, JOSEPH BAERMANN, died May 16, 1938.

STROUD, WILLIAM. British inventor (with Archibald Barr) of range-finders now widely used; born in Bristol, Feb. 2, 1860; died in Torquay, Devonshire, May 27, 1938.

STUTZ, ULRICH. German theologian and author; born in Zurich, Switzerland, May 5, 1868; died in Berlin, July 7, 1938; professor at the University of Berlin after 1916.

SUDHOFF, KARL. German physician; died in Salzwedel, Ger., Oct. 14, 1938; retired, 1925. See Vol. XXI, p. 632.

SULLIVAN, JOHN G. Canadian civil engineer; born in Bushnell's Basin, N. Y., Jan. 11, 1863; died in Winnipeg, Man., Aug. 7, 1938; constructor of the Connaught Tunnel of the Canadian Pacific Railway, etc.

SUMMERS, WALTER G. American Roman Catholic priest and psychologist; born in New York, N. Y., Mar. 27, 1889; died in New York, Sept. 24, 1938; entered the Society of Jesus and ordained priest; professor of psychology at Fordham University, 1931-38; inventor of the electric lie detector, accepted as legal evidence in a Queens County (N. Y.) court in 1938.

SWIFT, MAJ. GEN. EBEN. American army officer; born in Ft. Chadbourne, Tex., May 11, 1854; died in Washington, D. C., Apr. 25, 1938; served in the Indian Wars, Cuba, and the Philippines; commander of Camp Gordon in Atlanta (1917) and of the 82d Division during the World War; retired 1918.

SZÉCHÉNYI, COUNT IÁZLÓ. Hungarian minister to the United States (1922-33) and Great Britain (1933-35); born in Egervár, 1879; died in Budapest, July 5, 1938. He married Gladys Moore Vanderbilt in 1908.

SZUMOWSKA, ANTOINETTE. See ADAMOWSKA.

TAGGART, WALTER THOMAS. American chemist; born in Philadelphia, Apr. 15, 1872; died in Philadelphia, Apr. 9, 1938; instructor after 1896 and professor (1913-38) at the

University of Pennsylvania; known for his work in electrochemistry.

TAPLIN, FRANK E. American financier; born in Cleveland, O., Oct. 28, 1875; died in Cleveland, June 7, 1938; founder (1926) and chairman of the North American Coal Corporation; president of the Pittsburgh and West Virginia Railroad, which he sold to the Pennroad Corporation in 1929.

TARBELL, EDMUND C. American painter; died in New Castle, N. H., Aug. 1, 1938. See VOL. XXI, p. 842. In later years he was principal of the Corcoran Art School in Washington (1918-26) and painted portraits of Woodrow Wilson, Coolidge, Hoover, and other famous persons.

TAYLOR, GRAHAM. American social worker; died in Ravinia, Ill., Sept. 26, 1938. See VOL. XXII, p. 23.

TEARLE, CONWAY (FREDERICK C. TEARLE). American actor; born in New York, May 17, 1878; died in Hollywood, Calif., Oct. 1, 1938; star of many silent motion pictures. On the stage he appeared in *The Vikings* with Ellen Terry (1903), *Abigail*, *Mid-Channel*, *Dinner at Eight*, etc.

TEN EYCK, JAMES A. American oarsman and rowing coach at Syracuse University (1903-38); born in Peckskill, N. Y., Oct. 16, 1851; died in Miami, Fla., Feb. 11, 1938; trainer of many champion scullers.

TERRY, SIR RICHARD KUNCIMAN. English organist at Westminster Cathedral (1901-24); born in Ellington, Northumberland, 1865; died in London, Apr. 18, 1938; editor of the *Catholic Hymnal*.

TEWFIK NESSIM PASHA. Egyptian premier (1920, 1922-24, and 1934-36); born in 1874; died in Cairo, Mar. 7, 1938; instrumental in the restoration of the constitution.

THIESSEN, REINHARDT. American chemist; born in New Holstein, Wis., May 1, 1867; died Jan. 30, 1938. As research chemist with the U.S. Bureau of Mines, 1907-38, he made important studies of coal.

THOMAS, CARL CLAPP. American marine engineer; born in Detroit, Mich., July 14, 1872; died in Pasadena, Calif., June 5, 1938; inventor of the gas meter and gas calorimeter now generally used.

THOMAS, HUGH LLOYD. British minister to France (1935-38); born in Abergavenny, Wales, Apr. 28, 1888; died in a fall from a horse, Derby, Eng., Feb. 22, 1938; an amateur jockey of note and close friend of the Duke of Windsor.

THORNTON, JAMES. American vaudeville actor and composer of popular songs; born in Liverpool, Eng., 1862; died in Astoria, L. I., N. Y., July 27, 1938. He wrote the first "moon" song, "She May Have Seen Better Days," "The Streets of Cairo," etc.

THURBER, CHARLES HERBERT. American editor; born in Oswego, N. Y., Mar. 24, 1864; died in Boston, Mass., Dec. 8, 1938; editor-in-chief of Ginn and Co. until his retirement in 1932.

TILNEY, FREDERICK. died Aug. 7, 1938.

TITTMANN, OTTO HILGARD. American geodesist; born in Belleville, Ill., Aug. 20, 1850; died in Leesburg, Va., Aug. 21, 1938; served with the U.S. Coast and Geodetic Survey (1867-1915), being superintendent (1909-15); U.S. commissioner of the Alaskan boundary (1904) and the northern boundaries (1908-15); president of the National Geographic Society, 1915-19.

TODD, T(HOMAS) WINGATE. American anatomist; born in Sheffield, Eng., Jan. 15, 1885; died in Cleveland, O., Dec. 28, 1938; professor at Western Reserve University, 1912-38; director of the Brush Foundation; noted for his studies of the growth of the skeleton, the size of the brain, the action of the stomach, etc.

TORPILITZ, GIUSEPPE. Italian banker; born in Russian Poland, 1866; died in Milan, Jan. 28, 1938; a founder and managing director (1904-33) of the Banca Commerciale Italiana, the leading financial organization in Italy prior to 1931.

TOMPKINS, ARTHUR SIDNEY. U.S. Representative (Republican) from New York (1899-1903) and justice of the New York Supreme Court (1906-35); born in Middleburg, N. Y., Aug. 26, 1860; died in Nyack, N. Y., Jan. 20, 1938.

TREE, VIOLA. British actress; born in London, July 17, 1884; died in London, Nov. 15, 1938; known in Shakespearean roles and modern comedies.

TOTO. See NOVELLO.

TROUBETZKOY, PRINCE PAUL. Russian sculptor; died in Sina, Italy, Feb. 12, 1938. See VOL. XXII, p. 497. In later years he worked in the United States.

TRUMBIĆ, ANTE. Yugoslav Minister of Foreign Affairs (1918-20) and delegate to the Versailles Peace Conference; born in Split, May 17, 1864; died in Zagreb, Nov. 18, 1938; leader of the Croat Nationalist Party and later of the Croat Peasant Party.

TSAO KUN. Chinese president (1923-24); born in Tientsin, 1865; died in Tientsin, May 19, 1938. Originally a street peddler, he joined the army, attended military school, and participated in the overthrow of the Manchu dynasty, becoming subsequently commander of the northern Chinese armies. After eleven months as president, he was deposed by Marshal Tuan and remained out of office until he entered the Japanese puppet government in North China in 1937.

TUCK, EDWARD. American philanthropist; born in Exe-

ter, N. H., Aug. 24, 1842; died in Monte Carlo, France, Apr. 30, 1938; member of Munroe and Co., bankers, from 1871 until 1890, when he retired and settled in Paris; donor of an estimated \$6,000,000 to Dartmouth College. He was awarded the Grand Cross of the Legion of Honor and the Prix de Vertu of the French Academy for his gifts to France, which included an art collection, parks, hospitals, etc.

TUFTS, JAMES ARTHUR. American educator; born in Alstead, N. H., Apr. 26, 1855; died in Exeter, N. H., Nov. 21, 1938; professor of English at Phillips Exeter Academy, 1878-1928; president of the New York Senate, 1921-22; editor of textbooks.

TUTTON, ALFRED EDWIN HOWARD. British mineralogist; born in Stockport, Eng., Aug. 22, 1864; died July 14, 1938; demonstrator of chemistry at the Royal College of Science; president of the Mineralogical Society, 1912-15; winner of the Murchison medal and the Tyndall prize; author of authoritative works on crystallography.

TYLER, HARRY W. American mathematician; born in Ipswich, Mass., Apr. 16, 1863; died in Washington, D. C., Feb. 2, 1938; professor at Massachusetts Institute of Technology, 1892-1930.

UDRZAL, FRANTISEK. Czecho-Slovakian premier (1929-32); born in 1866; died in Prague, Apr. 25, 1938; Minister of Defense (1921-25 and 1926-29); instrumental in organizing the army.

URBAIN, GEORGES. French chemist; born in 1872; died in Paris, Nov. 5, 1938; director of the Institute of Chemistry and professor at Paris University; co-discoverer of lutecium (1907); elected to the Academy of Sciences, 1921.

VALDES, ARMANDO PALACIO. See PALACIO VALDES, ARMANDO.

VANDERBILT, FREDERICK WILLIAM. American railroad director and philanthropist, grandson of Commodore Cornelius Vanderbilt; born Feb. 2, 1856; died in Hyde Park, N. Y., June 29, 1938; noted as a yachtsman.

VANDERVELDE, EMILE. died Dec. 27, 1938.

VEATCH, ARTHUR CLIFFORD. American geologist; born in Evansville, Ind., Oct. 26, 1878; died in Port Washington, L. I., N. Y., Dec. 24, 1938. A specialist in oil lands, he made explorations for the U.S. Geological Survey and Bureau of Mines, S. Pearson and Son, the Sinclair Oil Corp., etc.

VENTH, CARL. American composer; born in Cologne, Ger., Feb. 16, 1860; died in San Antonio, Tex., Jan. 29, 1938; composer of two operas, *The Monk of Iona* and *Fisherman*, and cantatas; winner of the prize of the Federation of Music Clubs with *Pan in America* (1923). After 1908 he lived and taught in Texas.

VIZETELLY, FRANK (FRANCIS) H(ORACE). died Dec. 20, 1938.

VLADECK, B. CHARNEY. died Oct. 30, 1938.

VONIER, DOM ANSCAR. English Benedictine abbot; born in Württemberg, Ger., in 1875; died in Buckfastleigh, Dec. 26, 1938; Abbot of Buckfast (1906-38), responsible for the rebuilding of historic Buckfastleigh Abbey.

VON OSSIETZKY, CARL. See OSSIETZKY, CARL VON.

WADELL, JOHN ALEXANDER LOW. American engineer; born in Port Hope, Ont., Can., Jan. 15, 1854; died in New York, N. Y., Mar. 3, 1938; originator (1889) of the modern vertical-lift bridge. Noted for bridge building in many countries, he received the Clausen medal of the American Association of Engineers (1931), the Norman medal of the Society of Civil Engineers (1937), and several foreign decorations.

WALKER, HORATIO. Canadian painter; died in Ile d'Orleans, Que., Sept. 27, 1938. See VOL. XXIII, p. 284.

WALKER, JANE HARRIETT. British physician; born in Dewsbury, York, Oct. 24, 1859; died in London, Nov. 17, 1938; founder (1901) and superintendent of the East Anglian Sanitarium, Nayland, Suffolk; noted for her fight against tuberculosis and introduction of the open-air treatment in England.

WALKER, WILLIAM HENRY. American cartoonist; born in Pittstown, Pa., Feb. 13, 1871; died in Flushing, L. I., N. Y., Jan. 18, 1938; contributor to *Life* (1898-1924) and other periodicals; credited with first using lithograph crayon for cartooning.

WALLENBERG, KNUT AGATHON. Swedish philanthropist and chairman of the Stockholm Enskilda Bank; born in 1853; died in Stockholm, June 1, 1938; Minister for Foreign Affairs, 1914-17.

WARBURG, OTTO. German botanist and Zionist; born in Hamburg, July 20, 1938; died in Berlin, Jan. 10, 1938; director of the Agricultural Research Institute in Palestine, 1922-38; president of the World Zionist Organization, 1911-20.

WARD, MAJ. GEN. FRANKLIN WILMER. American National Guard officer; born in Philadelphia, Pa., Dec. 4, 1870; died in Albany, N. Y., Mar. 17, 1938; commander of the 106th U.S. Infantry in the Somme offensive of the World War; decorated with the Distinguished Service Medal and foreign citations; author of *Between the Big Parades* (1932) and military textbooks.

WARREN, FISKE. American single-tax advocate and paper manufacturer in Boston; born in Waltham, Mass., July 2, 1862; died in Boston, Mass., Feb. 1, 1938; founder

of four single-tax communities, including Tahanto and Shakerton in Massachusetts; advocate of Philippine independence; national amateur tennis champion, 1893.

WARREN, GEORGE FREDERICK, died May 24, 1938.

WARWICK, FRANCES EVELYN (née MAYNARD), COUNTESS OF British humanitarian; died in Dunmow, Essex, July 26, 1938. See VOL. XXIII, p. 339. She published *Afterthoughts* (1931) and other volumes of memoirs.

WATERMAN, FRANK DAN, American fountain pen manufacturer; born in Alton, Ill., July 30, 1869; died in New York, N. Y., May 6, 1938; defeated republican candidate for Mayor of New York City in 1925.

WEAVER, JOHN VAN ALSTYEN, American author; born in Charlotte, N. C., July 17, 1893; died in Colorado Springs, Col., June 15, 1938. He wrote several volumes of poetry, including *In American*, novels, and the play, *Love 'Em and Leave 'Em* (produced, 1926).

WELLS, HEBER MANNING, American politician and banker; born in Salt Lake City, Utah, Aug. 11, 1859; died in Salt Lake City, Mar. 12, 1938; first governor (Republican) of Utah, 1895-1904.

WESTOVER, MAJ. GEN. OSCAR, U.S.A., died Sept. 21, 1938.

WETZEL, HARRY H. American aircraft official; born in Tamaqua, Pa., Sept. 18, 1888; died in Santa Monica, Calif., July 5, 1938; general manager of the Douglas Aircraft Co., 1922-38.

WHEELER, JOHN MARTIN, American ophthalmologist; born in Burlington, Vt., Nov. 10, 1879; died in Underhill Center, Vt., Aug. 22, 1938; professor at Columbia Medical School and director of the Eye Institute of the Medical Center in New York, 1928-38. Among his notable operations was that on the King of Siam in 1931.

WHITTAKER, CHARLES HARRIS, American architectural critic; born in R. I., May 19, 1872; died in Drovers Rest, Va., Aug. 10, 1938; editor of the *Journal of the American Institute of Architects*, 1913-27; author of *Rameses to Rockefeller* (1934), works on housing, etc.

WHITE, PEARL, American motion-picture actress; born in Green Ridge, Mo., Mar. 4, 1897; died in Paris, France, Aug. 4, 1938; star of *The Perils of Pauline* and other early serials filmed between 1913 and 1923; famed for her performance of daredevil stunts.

WHITE, PERCY, British novelist; born in London, 1852; died in Monte Carlo, Monaco, July 3, 1938; former editor of *Public Opinion* and the *London Evening News*.

WHITEHOUSE, HENRY HOWARD, American dermatologist; born in Hartford, Conn., 1864; died in Mystic, Conn., Aug. 24, 1938; president of the medical board of the New York Skin and Cancer Hospital (retired, 1928); professor at New York Post-Graduate Medical School, 1914-25.

WHITING, RICHARD, American composer of popular songs; born in Peoria, Ill., 1892; died in Beverly Hills, Calif., Feb. 19, 1938. He wrote the music for George White's first *Scandals* and a number of motion pictures. Among his many hits were "Tulip Time in Holland," "Till We Meet Again," and "Japanese Sandman."

WILDER, LOUISE BEEBE (MRS. WALTER ROBB WILDER), American horticulturalist and author of works on gardening; born in Baltimore, Md., Jan. 30, 1878; died in New York, N. Y., Apr. 20, 1938; winner of the gold medal of the Garden Club of America (1937).

WILKIE, SIR DAVID PERCIVAL DALBRECK, British surgeon; born in Kirriemuir, Scot., 1882; died in London, Aug. 29, 1938; professor at Edinburgh University, 1924-38; president of the British Association of Surgeons, 1936-37; winner of the Liston Victoria Jubilee Prize (1918) for researches in abdominal surgery.

WILLCOX, COL. CORNELIUS DEWITT, American army officer and scholar; died in Naples, Italy, Jan. 19, 1938; retired, 1925. See VOL. XXIII, p. 572.

WILLIAMS, HERBERT UPHAM, American pathologist; born in Buffalo, N. Y., Nov. 28, 1866; died in Buffalo, Dec. 8, 1938; professor at the University of Buffalo Medical School, 1894-1934; past president of the American Association of Pathologists and Bacteriologists; noted for research in diseases of ancient times.

WILLIAMS, SIR ROBERT, British railroad and mining industrialist; born in Aberdeen, Scot., in 1860; died in Drumoak, Scot., Apr. 25, 1938; associated with Cecil Rhodes in the development of South Africa.

WILLIAMS, REAR ADM. YANCEY SULLIVAN, American naval officer; born in Monetta, S. C., Apr. 7, 1876; died in San Diego, Calif., Nov. 1, 1938; served in the Spanish-American War and the World War; commander of the Yangtze Patrol (1931-36) and of the special service squadron in Central American Waters (1936-38); awarded the Navy Cross and various medals.

WIRT, WILLIAM ALBERT, died Mar. 11, 1938.

WISTER, OWEN, died July 21, 1938.

WOLCOTT, JOSIAH OLIVER, U.S. Senator (Democrat) from Delaware (1917-21) and Chancellor of Delaware (1921-38); born in Dover, Del., Oct. 31, 1877; died in Dover, Nov. 11, 1938.

WOLFE, THOMAS, died Sept. 15, 1938.

WOLZOGEN, HANS (PAUL), BARON VON, German author and Wagnerian scholar; died in Bayreuth, Ger., June 2, 1938. See VOL. XXIII, p. 676.

WOOD, HOWLAND, American numismatist; born in New Bedford, Mass., May 30, 1877; died in Flushing, N. Y., Jan. 4, 1938; curator of the museum of the American Numismatic Society, 1913-38; expert on Oriental coins.

WOODS, CYRUS E., died Dec. 8, 1938.

WOOLSEY, ROBERT, American comedian; born in Oakland, Calif., Aug. 14, 1889; died in Malibu Beach, Calif., Oct. 31, 1938; starred (with Bert Wheeler) in *Rio Rita* (1928) and motion pictures.

WÜLLNER, LUDWIG, German lieder singer (baritone) and reader of classic literature; born in Münster, Aug. 19, 1858; died in Berlin, Mar. 22, 1938.

WÜRDEMANN, HARRY VANDERBILT, American ophthalmic surgeon, practising in Seattle, Wash., after 1909; born in Washington, D. C., June 13, 1865; died in Seattle, Jan. 30, 1938; editor and author of standard textbooks.

WÜRZBURGER, EUGEN, German educator and statistician; professor of statistics, University of Leipzig (1919-27) and emeritus thereafter; born in Bayreuth, Aug. 23, 1858; died Apr. 29, 1938.

WYLDORRE-SMITH, SIR EDMUND. See SMITH, SIR EDMUND WYLDORRE.

YAGODA, HENRY, died Mar. 14, 1938.

YARDLEY, CAPT. GEORGE W. American ship master with the Pacific Mail Line and the Dollar Line; born in Yardley, Pa., in 1880; died in San Francisco, Calif., May 30, 1938; captain of the *President Hoover*, which was grounded near Formosa in 1937.

YOHE, MAY, American actress; born in Bethlehem, Pa., Apr. 6, 1869; died in Boston, Mass., Aug. 28, 1938. Starting as a chorus girl, she achieved phenomenal success in London in *The Lady Slavey* (1893), *Little Christopher Columbus*, etc. In 1894 she married Lord Francis Hope (divorced, 1902) and became the wearer of the famous Hope diamond. Her subsequent stage appearances met with little success and she died in poverty.

YOUNG, SIR ARTHUR HENDERSON, British governor of the Straits Settlements (1911-19); born Oct. 31, 1854; died in Sunningdale, Berks, Oct. 20, 1938.

ZEHNER, GEN. WILHELM, Austrian Secretary of State for National Defense (1934-38); born in Bistritz, Transylvania, Sept. 2, 1883; committed suicide in Vienna during the Austrian plebiscite for union with Germany, Apr. 10, 1938. Known to be strongly anti-Nazi, he was taken into "protective custody" when Chancellor Schuschnigg was overthrown.

ZEISBERG, FREDERICK CLEMENS, American chemical engineer; born in Jefferson City, Mo., May 13, 1888; died in Wilmington, Del., Nov. 12, 1938; technical investigator of the E. I. du Pont de Nemours Co.; president of the Institute of Chemical Engineers; authority on nitrogen and high pressure gas technique.

ZELENSKY, ISAAK ABRAMOVICH, Russian politician; born in 1890; executed in Moscow on a charge of treason, Mar. 14(?) 1938; former chairman of the Soviet Cooperative Societies and member of the Central Executive Committee.

ZIMBALIST, ALMA GLUCK. See GLUCK, ALMA.

NEGRI SEMBILAN. See FEDERATED MALAY STATES.

NEJD. See ARABIA under *Saudi Arabia*.

NEPAL, ne-pōl'. An independent kingdom in the Himalayas between Tibet and British India, under British influence. Area, about 54,000 square miles; estimated population, 5,600,000. Capital, Katmandu (population, about 80,000). The chief imports are woolen piece goods, silk, raw cotton, brass, petroleum, tobacco, spices, sheep and goats, cattle, salt, sugar, drugs and dyes, leather, iron and copper wares, twist and yarn, and cotton. The chief exports are jute (1937 estimate, 10,000 metric tons to India), saltpeter, tobacco, oil seeds, rice and other grains, wheat, gums, resins and dyes, opium and other drugs, cattle, hides and skins, pulse, clarified butter, spices, and timber. The yearly gross revenue is estimated at 15,000,000 rupees (rupee approximates \$0.6180 at par). The government is a military oligarchy. Reigning sovereign in 1938, Tribhubana Bir Bikram (succeeded, Dec. 11, 1911).

NETHERLANDS, THE. A constitutional monarchy of northwestern Europe. Capital, Amsterdam. Seat of the government, The Hague ('s Gravenhage). Sovereign in 1938, Queen Wilhelmina, who succeeded to the throne on Nov. 23, 1890.

Area and Population. The area, including water belonging to municipal territories, is 13,515 square miles. The population in August, 1938, was

estimated at 8,689,000 (7,935,565 at the 1930 census). In 1930 94 per cent of the people lived in communities of 2000 or more. Living births in 1937 numbered 170,323 (19.8 per 1000); deaths, 75,501 (8.8 per 1000); marriages, 65,776 (7.6 per 1000). Estimated populations of the chief cities on Jan. 1, 1938, were: Amsterdam, 788,379; Rotterdam, 605,734; The Hague ('s Gravenhage), 490,186; Utrecht, 162,981; Haarlem, 135,356; Groningen, 118,400; Eindhoven, 108,504; Tilburg, 93,003; Nijmegen, 92,922; Arnhem, 87,646; Leiden, 76,048.

Education and Religion. There is practically no illiteracy. The school enrollment in 1936-37 was: Kindergartens, etc., 212,339; elementary, 1,236,982; secondary (including day and night commercial schools), 74,730; trades, crafts, domestic science, minor arts, 134,788; agricultural, 29,668 (1935-36); universities and colleges, 12,388. According to the 1930 census, there were 2,890,022 Roman Catholics, 2,732,333 members of the Dutch Reformed Church, 876,958 other Protestants, 111,917 Jews, 10,182 Jansenists, 169,575 belonging to other creeds, and 1,144,393 professing no religion.

Production. According to the 1930 census, 39 per cent of the working population was engaged in industry, 20 per cent in agriculture, 12 per cent in commerce, and 9 per cent in transportation. About 2,280,000 acres (26 per cent of the land area) is cultivable and there are 3,272,000 acres of meadow. The livestock census of May, 1937, showed 2,626,000 cattle, 1,406,000 swine, 608,000 sheep, 300,000 horses, and 28,518,000 poultry. Butter production in 1937 was 223,326,000 lb.; cheese, 267,418,000 lb.; condensed milk, 379,853,000 lb.; powdered milk, 59,965,000 lb. Yields of the chief cereals in 1938 were (in metric tons): Wheat, 412,000; (341,700 in 1937); barley, 136,000 (135,500); rye, 540,000 (480,800); oats, 367,000 (371,100). The potato harvest in 1937 was 91,858,000 bu.; sugar beets, 1,416,000 metric tons; beet sugar (1937-38), 236,000 metric tons; flax, 30,192,000 lb.

Mine and factory production in 1936, with 1937 figures in parentheses where available, was: Coal, 12,803,000 metric tons (14,321,000); lignite, 89,000 metric tons (148,000); briquets, 1,150,000 metric tons (1,328,000); salt, 76,271 metric tons (132,770); cotton yarn (for sale), 63,034,000 lb.; wool yarn, 9,477,000 lb.; boots and shoes, 14,340,000 pairs; margarine, 130,697,000 lb. (151,635,000); cocoa powder, 15,648,000 lb.; cocoa butter, 41,656,000 lb.; potato flour (1936-37), 198,414,000 lb. (310,200,000 in 1937-38); bicycles, 393,000; vessels launched, 81,000 gross tons.

Foreign Trade. Imports for consumption totaled 1,550,167,000 florins in 1937 (1,414,800,000 in 1938); exports of Netherlands products, 1,148,110,000 florins (1,039,200,000 in 1938). The 1937 imports, in order of value, were iron and steel, machinery, wood and cork, tin ore, yarn and thread, wheat and corn. The chief 1937 exports, with values in U.S. currency, were: Vegetable oils, \$35,295,000; tin in blocks, \$30,742,000; radio apparatus, \$28,983,000; condensed and other milk, \$26,372,000; cotton piece goods, \$24,611,000; butter, \$24,266,000. Germany supplied 21.1 per cent of the imports for consumption in 1937 (23.3 in 1936); Belgium, 11.6 (11.7); United States, 8.8 (7.1); United Kingdom, 8.3 (9.2); Netherlands Indies, 8.1 (7.8). Of the 1937 exports, the United Kingdom took 21.7 per cent (22.3 in 1936); Germany, 15.4 (15.7); Belgium, 11 (11.5); Netherlands Indies, 8.2 (5.9); France, 6.6 (7.4); United States, 5.1 (6.0). United States trade figures for 1938

showed exports to the Netherlands of \$96,752,583 (\$93,523,696 in 1937); imports from the Netherlands, \$31,370,871 (\$53,286,683).

Finance. Provisional budget returns for 1937 showed receipts of 706,000,000 florins (670,000,000 in 1935) and expenditures of 775,000,000 florins (812,000,000 in 1935). Revised budget estimates for 1937 placed receipts at 651,000,000 and expenditures at 793,000,000 florins (751,000,000 and 883,000,000 florins, respectively, for 1938). There is no foreign debt. The internal debt totaled 3,698,463,000 florins on Jan. 1, 1938. The florin (guilder) had an average exchange value of \$0.5505 in 1937 and \$0.5501 in 1938.

Transportation. At the end of 1936 the Dutch railways, operated by two state-controlled private companies, had 2232 miles of line in operation. During that year they carried 44,540,000 passengers and 13,889,000 metric tons of freight, the gross receipts totaling 96,970,000 florins. There were nearly 20,000 miles of paved roads at the end of 1938 and a network of super-highways, permitting a speed up to 90 miles an hour without undue danger, was under construction between the chief cities. Much of the country's heavy freight is carried on the waterways, aggregating about 5200 miles in length. Automobiles registered on Jan. 1, 1938, numbered 147,905. There were about 3,250,000 bicycles in use. The great commercial air system (K.L.M.) reported the following statistics for 1937: Local lines, 19,079 passengers, 354,807 lb. of merchandise, 5073 lb. of mail; European lines, 101,702 passengers, 3,110,990 lb. of freight, 1,143,410 lb. of mail; Netherlands Indies lines, 3897 passengers, 132,183 lb. of freight, and 302,773 lb. of mail; West Indies lines, 5899 passengers, 89,366 lb. of freight, and 6846 lb. of mail. The Amsterdam-Batavia line's passenger traffic in 1937 increased 41.3 per cent over 1936; mail, 65.5 per cent; freight, 44.3 per cent. Total receipts in 1937 were \$4,950,200, or \$1,112,400 more than in 1936. The operating loss, covered by government subsidy, was \$305,900. The Netherlands merchant marine on June 30, 1938, comprised 1482 vessels of 2,855,382 gross tons. During 1937, 21,600 ships of 79,167,000 net cubic meter tons entered the ports in the foreign trade.

Government. Executive power is vested in the sovereign and legislative power jointly in the sovereign and the States-General (parliament). There is an Upper Chamber of 50 members elected by the Provincial States for six years and a Lower Chamber of 100 members elected by direct suffrage for four years. Premier in 1938, Dr. Hendrik Colijn (Anti-Revolutionary party), who assumed office May 24, 1933. For the standing of the parties in parliament, see 1937 YEAR BOOK, p. 534.

HISTORY

Internal Affairs. The year 1938 was marked by the birth of a daughter on January 31 to Crown Princess Juliana and Prince Bernhard of Lippe-Biesterfeld, who were married on Jan. 7, 1937. The infant Princess Beatrix of Orange-Nassau and Lippe-Biesterfeld, as she was styled, was in line of direct succession to the throne. On September 6 Queen Wilhelmina observed the 40th anniversary of her coronation. Both of these events were widely celebrated and served to enhance the attachment of the Dutch people to their dynasty. Although Social Democratic Labor party doctrine opposed the monarchical principle, leaders of the party joined in the enthusiastic speeches at official functions celebrating the birth of the princess. They were re-

buked for this at the party's Eastern Congress in April.

The internal problems that most engaged the attention of the government and people during the year were national defense and economic policy. In 1937 the growing European crisis won even the pacifist Social Democratic Labor party over to the necessity for higher defense appropriations. In 1938 the Austrian and Czecho-Slovak crises and the growing Japanese menace to the Netherlands Indies (q.v.) spurred the country to greater defensive preparations. During the Austrian crisis in March, Premier Colijn canceled all army leaves, extended the conscript training period, and provided for a 20 per cent increase in the number of conscripts. On April 6 the Lower Chamber raised the tax on dividends and bonuses for one year for the benefit of the defense fund, which was expected to gain some 10,000,000 guilders.

Opening the States-General's fall session on September 29 at the peak of the Czecho-Slovak crisis, the Queen called for additional defense expenditures to maintain and reinforce "our carefully constructed policy of independence." Defense appropriations voted for 1939 totaled 134,858,170 guilders against 110,359,238 in 1938 and the 1939 sum was to be increased by an additional 8,000,000 guilders in 1940 and by 5,000,000 more in 1941. New armaments authorized included an 8300-ton cruiser, 20 torpedo boats, a flotilla leader, and 9 submarines. To provide the necessary funds, income taxes were imposed on all salaries, rents, and profits. At the same time indirect taxes were cut and the tax burden on large families was reduced.

Extensive military precautions were taken during the Czecho-Slovak crisis to insure the Netherlands' neutrality in the event of a European conflict. The Munich accord was received with temporary relief but with forebodings as to the long-time results. The armament program was speeded and Amsterdam was blacked out for air-raid drills in October. During September the government requested extraordinary powers to insure adequate food supplies in war time. On September 13 a royal decree terminated the ban prohibiting Social Democratic Labor party members from holding rank in the defense forces. This action indicated that the government no longer regarded the Socialists as revolutionary. The ban remained in effect against the Communists, National Socialists (Nazis), and a few other small groups.

The political importance which economic policies had attained as a result of large-scale unemployment and other economic maladjustments that had been chronic since 1930 was evidenced by a revision of the Constitution early in 1938, the seventh since the Statute of the Netherlands was adopted in 1814. The amendment gave the government power to intervene more actively in economic affairs by establishing regulatory bodies in certain professions, trades, and industries. With more than one-fourth of all available non-agricultural labor unemployed at the beginning of 1938, the government was obliged to undertake further measures of economic rehabilitation, despite the growing unbalance in the national budget. In the spring the number of persons on public-works projects was increased from 53,000 to 75,000 and in September it was decided to put an additional 100,000 unemployed to work on further reclamation of the Zuider Zee and other large projects. A concerted effort was also made to combat demoralization among the unemployed.

The Industrial Establishment Bill, passed by the

Lower Chamber March 10, placed under government control the establishment of new industrial enterprises or the increase of capacity of those already established. The subsidies given to nearly all classes of agricultural production were continued, the funds being raised by special import and excise taxes excluded from the regular financial accounts. The Emergency Tariff Powers Law of 1934, under which many of the import restrictions were imposed, was amended to permit even greater protection of Netherland industries against foreign competitors. The gold embargo act of Oct. 1, 1936, was abrogated on Aug. 5, 1938, but as the Netherlands Bank remained unobligated to redeem its banknotes in gold, the move did not signify a return to the gold standard.

Foreign Relations. The Netherlands had for years based its policy of armed neutrality upon the balance of power system in Western Europe. When that balance was ruptured by the Munich accord between France, Germany, Great Britain, and Italy, the Netherlands were impelled to weigh the desirability of revising their foreign policy, particularly after it was reported late in 1938 that Germany coveted certain of the Dutch colonies in the East Indies. As the British navy was the main defense of the Netherlands Indies against both Germany and Japan, the events of 1938 drew the Netherlands and Great Britain more closely together.

The coolness displayed by the Netherlands toward Germany as a result of incidents in 1937 (see 1937 YEAR BOOK, p. 535) was aggravated in 1938. There were unauthorized flights of German airplanes over Netherland territory. On March 8 the German Government apologized for the ill treatment accorded a Netherland army aviator who had been arrested by the Gestapo in Germany in 1935, charged with high treason, and imprisoned for nearly two years while awaiting trial. He charged that he had been systematically ill treated while in prison. Criticisms of this and other developments in Germany voiced by the Netherland press led Hitler's newspaper on May 4 to threaten economic reprisals unless the press attacks were ended.

The German press assumed a more menacing tone toward the Netherlands after the Munich triumph. It suggested that the Netherland Government would be wise to co-operate with Germany in both economic and political affairs. All sports relations between the two countries were suspended late in the year. Dutch hostility toward Germany was particularly aroused by the Nazi purge of the Jews in November. Despite the difficult unemployment situation, which led the government to close the border to German and Austrian refugees in the spring, about 1200 refugees were admitted from Germany in November. Premier Colijn took a leading part in initiating international measures at London for the succor of Jewish refugees. See JEWS.

Meanwhile, the Netherlands completely abandoned reliance upon the collective security system of the League of Nations and terminated its League obligations to impose military and economic sanctions against aggressors. In this policy it acted in co-operation with the other Oslo Powers (see DENMARK under History). The effort of the Netherlands and the other Oslo Powers to lead the way toward a restoration of international trade was also abandoned with the abrogation on May 11, 1938, of The Hague trade convention of May 28, 1937. The Netherlands' decision to recognize the

Italian conquest of Ethiopia was announced Feb. 14, 1938. On July 27 the government decided to exchange representatives with the Insurgent Government of Spain, but stated that this action did not imply recognition of the Franco regime. King Leopold of Belgium visited The Hague late in November and discussed with the Queen and the government a policy of mutual co-operation in trade matters and in the adjustment of political issues (see BELGIUM under *History*).

The Netherland Government repeatedly protested to Mexico against the expropriation without immediate compensation of British-Dutch oil properties in that republic (see MEXICO under *History*). On Feb. 11, 1938, the Netherland Supreme Court upheld the decision of lower courts that the municipality of Rotterdam was not obliged to pay at the gold rate on its 1924 dollar loan. It declared that American law must be applied by Dutch courts in enforcing the bond contract of a loan payable exclusively in the United States.

NETHERLANDS GUIANA. See SURINAM.

NETHERLANDS INDIES. A group of large islands in the East Indies forming a colony of the Netherlands. Capital, Batavia, on the island of Java.

Area and Population. The area, population at the 1930 census, and population density of the various islands is shown in the accompanying table.

NETHERLANDS INDIES: AREA AND POPULATION

Group of islands	Area, sq. miles, 1930	Population, 1930	Density per sq. mile
Java and Madoera	51,032	41,718,364	817
Sumatra	164,148	7,677,826	47
Riouw-Lingga	12,235	298,225	24
Bangka	4,611	205,363	45
Billiton	1,866	73,429	39
Borneo:			
West district	56,664	802,447	14
South and east districts	151,621	1,366,214	9
Island of Celebes:			
Celebes	38,786	3,093,251	80
Manado	34,200	1,138,655	33
Molukka Islands and New Guinea	191,682	893,400	5
Timor Archipelago	24,449	1,657,376	68
Bali and Lombok	3,973	1,802,683	454
Total	735,268	60,727,233	83

The estimated population on Dec. 31, 1937, was 67,400,000. Over 92 per cent of the population is rural. Living births among the natives of Java and Madoera in 1936 numbered 1,162,923; deaths, 790,422. The 1930 census populations of the chief cities, all of which were in Java except as noted, were: Batavia, including Meester Cornelis, 533,015; Soerabaja (Surabaya), 341,675; Semarang, 217,796; Bandoeng, 166,815; Soerakarta, 165,484; Djokjakarta (Jogjakarta), 136,649; Palembang, in Sumatra, 109,069; Malang, 86,645; Makassar, in Celebes, 84,855; Medan, in Sumatra, 76,584; Pekalongan, 65,982; Bandjermasin, in Borneo, 65,698; and Buitenzorg, 65,431.

Education and Religion. According to the 1930 census, there were 4,296,579 literate persons, of whom 400,877 were able to write Dutch. The school attendance in 1936-37 was: Primary vernacular, 1,821,620; elementary, with instruction in Dutch language, 140,360; advanced elementary and secondary, 15,673; university, 1020. The natives are predominantly Moslem, but there are several million converted Christians and Animists and about a million Buddhists.

Production. Agriculture is the main occupation. The area harvested by native agriculturalists in

Java and Madoera in 1937 was 16,457,000 acres; by European estates (plantations) in all the islands in 1936, 2,715,866 acres. Production of the chief crops in 1937 was: Sugar (Java only), 1,414,000 metric tons; rubber (exports), 439,000 metric tons; coffee (exports), 217,925,000 lb.; tea, 147,083,000 lb.; rice (Java and Madoera), 353,474,000 bu.; corn (Java and Madoera), 80,075,000 bu.; peanuts (Java and Madoera), 403,000,000 lb.; tobacco (exports), 110,442,000 lb.; cassava roots (Java and Madoera), 8,055,000 metric tons; copra (exports), 1,094,000,000 lb.; cinchona (European estates), 23,390,000 lb.; kapok (exports), 41,830,000 lb.; palm oil (estate production), 434,634,000 lb.; sisal and agave (exports), 191,677,000 lb. In 1936 there were 4,402,203 cattle, 3,212,016 buffaloes, and 656,000 horses; in 1932, 1,802,000 sheep, 4,068,000 goats, and 1,258,000 swine.

Mineral and metal production in 1937 was (in metric tons): Tin (metal content of ore), 39,793; coal, 1,372,000; natural gas, 1,094,000 (1935); manganese ore, 8493; salt, 145,000; asphalt, 2199; sulphur, 12,400; phosphate rock, 20,000; bauxite, 198,000. The output of gold was 56,327 troy oz.; silver, 500,000 troy oz.; diamonds, 754 carats (1936); petroleum, 52,214,000 bbl. (46,282,000 in 1936); iodide of copper, 359,252 lb. (1936). Manufacturing, formerly confined largely to the processing of agricultural and mineral products for export, is expanding with government aid into the production of such commodities as cloth, tires, soap, flashlights, etc., for domestic consumption. On Jan. 1, 1936, there were 5904 factories and workshops under the Factory Act, including 172 sugar mills, 375 rubber mills, 803 rice mills, 273 tea factories, 255 coffee mills, 23 fiber processing plants, 116 sawmills, 312 power stations, 131 ice plants, and 22 cigarette factories. In addition, some 1,535,000 workers were engaged in minor indigenous industries in 1936.

Foreign Trade. According to preliminary figures, total imports in 1938 were valued at 485,400,000 florins and exports at 665,300,000 florins. In 1937 imports for consumption were 497,850,000 florins; exports of Netherlands Indies products, 950,633,000. The chief 1937 imports were cotton piece goods, iron and steel, machinery and apparatus, foodstuffs, and yarn and thread. The value of the principal 1937 exports in U.S. currency was: Rubber, \$163,303,000; gasoline, \$42,905,000; copra, \$34,422,000; tin ore, \$28,339,000; sugar, \$27,634,000; tea, \$27,006,000; crude tin, \$17,605,000. Of the 1937 imports for consumption, Japan furnished 25.4 per cent by value; the Netherlands, 19.1; United States, 10.2; Germany, 8.5; United Kingdom, 8.3; Singapore, 7.4. Of the 1937 exports, the Netherlands took 20.1 per cent; Singapore, 18.8; United States, 18.7; United Kingdom, 5.3; Japan, 4.5. United States trade figures showed imports from the Netherlands Indies of \$68,710,733 in 1938 (\$115,188,694 in 1937); exports to the Netherlands Indies, \$27,518,254 (\$25,050,275).

Finance. The 1939 budget estimates placed revenues at 591,100,000 florins and expenditures at 634,700,000 florins (550,833,614 and 570,946,433, respectively, in 1938). The actual receipts for 1938 totaled 508,100,000 florins (515,100,000 in 1937). The public debt totaled 1,381,800,000 florins on Dec. 31, 1937 (1,424,900,000 on Dec. 31, 1936). The average exchange value of the florin was \$0.5505 in 1937 and \$0.5501 in 1938.

Transportation. The railway mileage in 1936 was 4561 (government lines, 2703 miles). Roads and highways in 1937 extended about 35,900 miles

(number of automobiles, 62,334). The Netherlands and British trunk air lines connect the islands with Europe, Australia, and intermediate points. The Royal Netherlands Indies Airways (KNILM), operates inter-island services which during 1937 carried 17,601 passengers, 170,012 lb. of freight, and 65,245 lb. of mail. On July 3, 1938, this system launched an independent service to Australia and on Aug. 30, 1938, one connecting Batavia with Saigon, French Indo-China, via Singapore. During 1936 a total of 13,704 vessels of 31,743,000 net registered tons entered Netherlands Indies ports.

Government. Administrative and executive authority is exercised by the Governor-General, assisted by an advisory council of five members and by the Volksraad (assembly). Both the Governor-General and the Council members are nominated by the Queen of the Netherlands. The Assembly of appointed and elected delegates (natives, Netherlands, and Orientals) shares limited legislative powers with the Governor-General. Governor-General in 1938, Jhr. Dr. A. W. L. Tjarda van Starkenborgh Stachouwer (appointed June 8, 1936).

History. In his annual speech at the opening of the Volksraad on June 15, 1938, the Governor-General emphasized the continued unsatisfactory condition of Netherlands Indies' trade, resulting from the generally unfavorable world economic situation. The islands had been deprived of the benefits gained from devaluation of the guilder in September, 1936, by the decline in world commodity prices. Nevertheless, adverse effects of devaluation in the form of higher prices of imported consumers goods remained. On the other hand, food crops raised by natives were ample for local needs and profitable prices were received for them, in contrast to the prices of export products.

The Governor-General stated that the government's policy included continued organized improvement of the quality of Netherlands Indies' export products, increased production for the domestic market, and the encouragement of emigration from the more densely populated island of Java to the outlying possessions. In view of the discouraging budgetary outlook, it was decided to increase the income surtax, the wage tax, and the surtax on ad valorem import duties at the beginning of 1939.

The Japanese invasion of South China, Japanese activities in the Netherlands Indies, and the German drive for colonies gave a great stimulus to defensive preparations during 1938 by the governments of both the Netherlands Indies and the mother country. The measures taken by the Netherlands Government and parliament (see NETHERLANDS, THE, under *History*) were primarily designed to safeguard the rich East Indian colonial empire. In January the Netherlands Indies authorities announced more stringent measures to ascertain the purpose of Japanese fishing vessels in their territorial waters. Some vessels halted by the Coast Guard were found to have powerful wireless sets, complete geodetical equipment, and larger personnel than usual on fishing boats. Several of these vessels refused to halt until fired on.

To meet this threat Netherlands naval, air, and military forces in the East Indies were reinforced. A newly constructed cruiser arrived at Batavia. Another one was due in 1939. A third cruiser was laid down in the Netherlands for the East Indian service. And the old cruiser *Java* was being modernized. The destroyer flotilla was reinforced by more and larger vessels and by four new minesweepers. A submarine construction program was under way. At the same time the army air force

in the Netherlands Indies was strengthened materially by several dozen Martin bombers and 12 Lockheed transport planes were ordered. British-Dutch co-operation in defense of their mutual possessions in Malaya was evidenced by the visit of the Governor-General of Australia and Lady Gowrie to Batavia in April.

The autonomous powers of the nine provincial rajahs of Bali were largely restored on June 29, 1938, in accordance with the Dutch policy of interfering as little as possible with native affairs.

NEUTRALITY. See INTERNATIONAL LAW; UNITED STATES under *Administration*; BELGIUM, DENMARK, FINLAND, NETHERLANDS, NORWAY, SWEDEN, SWITZERLAND under *History*.

NEVADA. Area and Population. Area, 110,690 square miles; included (1930) water, 869 square miles. Population: Apr. 1, 1930 (census), 91,058; July 1, 1937 (Federal estimate), 101,000; 1920 (census), 77,407. Reno had (1930) 18,529; Carson City, the capital, 1596.

Agriculture. Acreage, production, and value of the chief crops of Nevada, for 1938 and 1937, appear in the accompanying table.

Crop	Year	Acreage	Prod. Bu.	Value
Hay (tame)	1938	184,000	370,000 ^a	\$2,220,000
	1937	182,000	376,000 ^a	3,271,000
Potatoes	1938	2,100	336,000	202,000
	1937	2,300	345,000	190,000

^a Tons.

Mineral Production. The value of the yearly production of gold, silver, copper, lead, and zinc in Nevada, stated approximately, for 1938, by the U.S. Bureau of Mines, totaled \$23,720,353. As happened in the cases of other Mountain States, this total fell far short of that for 1937, which was \$34,617,056. The production of all these metals, save gold, was lower in 1938; but most of the decline, in terms of value, occurred in the mining of copper. The quantity of gold recoverable from ore mined advanced to some 289,500 oz. (1938) from 281,332 for 1937; in value, to \$10,138,500, from \$9,846,620. The production of silver fell to about 4,078,000 oz. (1938), from 4,864,750 (1937), and by value, to \$2,636,283, from \$3,762,884. That of copper dropped to 97,860,000 lb. approximately for 1938, from 149,206,000 for 1937; by value, to \$9,590,280, from \$18,053,926. That of lead, to 9,100,000 lb. (1938), from 18,694,000 (1937), and to \$427,700 from \$1,102,946. That of zinc, to some 18,910,000 lb. (1938), from 28,472,000 (1937), and to \$926,590, from \$1,850,680. The quantity of the year's production of gold was the greatest attained in any year after 1918. The increase in quantity resulted in part from the growth of two still young mining enterprises. The higher output of the mines operated for gold was in part offset by a drop in the production of gold as a secondary yield of the ores of copper.

Finance. Nevada's State expenditures in the year ended June 30, 1937, as reported by the U.S. Bureau of the Census, were: For maintaining and operating governmental departments, \$3,534,431 (of which \$561,520 was for local education and \$1,254,988 for highways); for interest on debt, \$43,485; for capital outlay, \$4,097,971. Revenues were \$7,367,888. Of these, property taxes furnished \$1,333,729; sales taxes, \$1,295,950 (chiefly the tax on gasoline, \$1,108,473); departmental earnings, \$198,260; sale of licenses, \$653,564; Federal or other grants-in-aid, \$3,581,829. Funded debt outstanding on June 30, 1937, totaled \$851,000. Net

of sinking-fund assets, the debt was \$662,330. On an assessed valuation of \$194,660,001 the State levied for the year ended June 30, 1938, ad-valorem taxes of \$1,437,722.

Education. Enrollment of pupils in the public schools in the academic year 1937-38 totaled 19,845; this comprised 10,119 in the kindergarten and elementary groups and 9726 in high schools. Expenditures for public-school education totaled \$2,341,486. Teachers numbered 206 in high schools and 580 in elementary positions. Their salaries for the year averaged \$1839 in high schools and \$1419 in elementary positions.

The popular vote (November 8) adopted by referendum a change in the constitution of Nevada, whereby the limitation of taxes was removed from levies for the support of the public schools. There occurred in 1938 a fair amount of activity in building and modernizing public schools.

Political and Other Events. Patrick A. McCarran (Dem.) was re-elected U.S. Senator at the general election (November 8), defeating Tasker L. Oddie (Rep.), former Senator. E. P. Carville (Dem.) won the election for Governor from John Fulton (Rep.). J. G. Scrugham (Dem.) was re-elected U.S. Representative. Senator McCarran, though he had disregarded the desires of the President by opposing important New-Deal legislation, notably the bill to alter the Supreme Court, encountered no Federal opposition to his re-election. His political strength in Nevada rendered it useless to try to terminate his Senatorial career.

The U.S. Department of Justice, conducting a Federal prosecution of persons accused of directing a ring that carried on commercialized unlawful practices in Nevada, obtained the conviction in New York City (February 12) of W. J. Graham and J. C. McKay, on charges of conspiracy and using the mails to defraud. The defendants were alleged to have been politically influential in Reno. Two previous efforts to obtain convictions in New York had failed.

Officers. Nevada's chief officers, serving in 1938, were: Governor, Richard Kirman (Dem.); Lieutenant-Governor, Fred S. Alward; Secretary of State, Malcolm McEachin; Treasurer, Dan W. Franks; Comptroller, Henry C. Schmidt; Attorney-General, Gray Mashburn; Superintendent of Public Instruction, Mildred Bray.

Judiciary. Supreme Court: Chief Justice, Ben W. Coleman; Associate Justices, F. J. L. Taber, Edward A. Ducker.

NEVADA, UNIVERSITY OF. A coeducational State institution of higher education in Reno, Nev., founded in 1874. There was an enrollment of 1100 students for the autumn term of 1938, and 147 in the summer session. The faculty included 81 members. The productive funds amounted to \$334,468, and the income for the year to \$697,584. The library contained 61,024 bound volumes. Acting President, L. W. Hartman, Ph.D.

NEWARK. See NEW JERSEY.

NEW BRUNSWICK. An eastern maritime province of Canada. Area, 27,985 square miles; population (June 1, 1938, estimate), 445,000 compared with 408,219 (1931 census). During 1936 there were 10,513 births (24.2 per 1000), 4803 deaths (11.0 per 1000), and 3397 marriages (7.8 per 1000). Chief towns (with 1931 population figures in parentheses): Fredericton, the capital (8830), Saint John (47,514), Moncton (20,689), and Campbellton (6505), Edmundston (6430). In 1936 there were 99,826 students enrolled in schools

and colleges of all kinds, including 1529 students of university grade.

Production. The gross value of agricultural production for 1937 was estimated at \$26,517,000 (\$29,767,000 in 1936) of which field crops accounted for \$13,598,000 (\$18,396,000 in 1936). Other important items in the 1936 total of agricultural production were dairy products, \$5,025,000; farm animals, \$3,421,000; poultry and eggs, \$1,323,000; fruits and vegetables, \$1,164,000; fur farming, \$873,000. Livestock in the province (1937): 52,300 horses, 214,500 cattle (including 111,400 milch cows), 107,100 sheep, 95,200 swine, and 1,339,300 poultry. Fur production for the year ended June 30, 1936, totaled 53,802 pelts valued at \$740,789. The output (1936) of the forests equaled 161,560 M cu. ft. valued at \$8,848,883. In 1937 the value of the fish catch was \$4,447,688.

Mineral production (1937) was valued at \$2,763,643 of which coal (364,714 tons) represented \$1,180,611; natural gas (576,671 M cu. ft.), \$283,922; gypsum (36,906 tons), \$131,727. In 1936, from the 784 manufacturing plants, employing a total of 13,710 workers, the net value of products was \$56,225,201 (central electric stations, and dyeing, cleaning, and laundry work ceased to be regarded as "manufacturing" industries for 1936). At the port of Saint John, 2,018,412 tons of cargo (import and export) were handled during 1937.

Government. For the fiscal year ended Oct. 31, 1937, ordinary revenue totaled \$7,869,483; ordinary expenditure, \$7,840,393; net public debt, \$66,433,682. The government is vested in a lieutenant-governor, assisted by an executive council of 8 members who also are members of the legislative assembly of 48 members elected for a term of 5 years by the people. In the Dominion parliament, New Brunswick is represented by 10 Senators and 10 members in the House of Commons. Lieutenant-Governor, Col. Murray MacLaren (appointed Feb. 5, 1935); Premier, A. A. Dysart. See CANADA.

NEW CALEDONIA. A colony in the Pacific belonging to France, consisting of the island of New Caledonia and the following dependencies: Isle of Pines, Wallis Archipelago, Futuna and Alofi, Loyalty Islands, and Huon Islands. Total area, 8548 square miles; total population (1936 census), 53,245. Nouméa (capital), on the island of New Caledonia, had 17,055 inhabitants in 1936.

Production and Trade. Coffee, copra, cotton, manioc, maize, tobacco, pineapples, nickel, chrome, cobalt, manganese, and iron are the chief products. In 1936 the blast furnaces produced 6075 tons of nickel matte valued at 23,458,713 francs; chrome ore produced from the mines amounted to 21,300 metric tons; phosphates totaled 2000 metric tons. Exports in 1936 were: Coffee, 1400 metric tons; copra, 2800 metric tons. Livestock in the colony included 98,912 cattle, 6052 sheep, 10,613 goats, 11,605 horses, and 10,560 pigs in 1936. In 1937 the estimated value of merchandise imports (in old U.S. gold dollars) was \$2,700,000 (1936, \$2,100,000); exports, \$2,400,000 (1936, \$2,000,000).

Communications. In 1936, 108 vessels (273,015 tons) entered and 107 vessels (271,829 tons) cleared New Caledonian ports. There was a 20-mile long narrow-gauge railway from Nouméa to Paita, and from Nouméa to Voh there was a daily motor-road service in 1936.

Government. The local budget for 1936 was balanced at 29,225,891 francs (franc averaged \$0.0611 for 1936). The colony is administered by a governor assisted by a privy council, and an elec-

tive council-general of 15 members. Governor, Y. Marchesson (appointed in 1937).

NEWFOUNDLAND, nü'fün(d)-län'd'. A large island at the entrance to the Gulf of St. Lawrence, forming, with Labrador (q.v.), a British colony. Capital, St. John's.

Area and Population. The area of Newfoundland is 42,734 square miles and that of Labrador 110,000 square miles. The population at the 1935 census was 289,516 (Newfoundland, 284,800; Labrador, 4716), compared with a total of 263,033 at the 1921 census. The estimated population of Newfoundland (without Labrador) was 289,000 on Dec. 31, 1937. Births in 1937 numbered 7496; deaths, 4123; immigrants, 9179; emigrants, 9282. The 1935 census populations of the chief towns were: St. John's, 54,886 (47,801 in 1921); Bonavista, 4022; Harbour Grace, 2215; Grand Falls, 4244; Corner Brook, 6374; Carbonear, 3367; Twillingate, 3203; Burin, 2277; Grand Bank, 2209.

Education and Religion. From 7 to 10 per cent of the adult inhabitants are illiterate. The schools are supported mainly by the government but are conducted by religious denominations. In 1936-37 there were 62,497 pupils in primary and secondary schools. In the same year the government appropriated \$1,026,610 for education. According to the 1935 census, there were on the island 93,925 Roman Catholics, 92,709 Anglicans, 76,134 members of the United Church, 18,054 Salvation Army members, 1460 Presbyterians, and 7306 belonging to other denominations.

Production. Fishing, farming, lumbering, mining, and manufacturing are the principal occupations. The production of dried salt codfish in 1937 was 108,640,000 lb.; catch of the seal fishery, 113,340 seals, valued at \$205,022. There are about 188,000 acres under crops and 16,000,000 acres of forests. Livestock statistics for 1936-37 showed 24,400 cattle, 8500 swine, 15,250 goats, 88,550 sheep, and 14,700 horses. The estimated value of agricultural and livestock production in 1937 was \$6,372,000. In the same year there were produced 1,610,000 short tons of iron ore valued at \$4,105,000, 192,000 short tons of lead-zinc-copper concentrates valued at \$5,454,000, and 298,000 short tons of newsprint worth \$13,202,000.

Foreign Trade. For the fiscal year ended June 30, 1938, imports were valued at \$27,912,351 (\$23,924,886 in 1936-37) and exports at \$34,943,240 (\$28,058,073). The chief sources of imports in 1937-38 were: Canada, \$9,973,700; United States, \$9,408,729; United Kingdom, \$6,351,620. Exports went mainly to: United Kingdom, \$13,243,676; United States, \$8,168,162; Canada, \$3,146,570. Flour, textiles, coal, hardware, and foodstuffs are the principal imports and codfish, cod and seal oil, paper and wood pulp, canned lobster, iron pyrites, seal skins, and herring the leading exports.

Finance. For the fiscal year ended June 30, 1938, actual budget receipts totaled \$12,275,456, the highest in the country's history, and expenditures were \$13,593,311, leaving a deficit of \$1,317,855 to be met out of a British Government grant-in-aid. The public debt on June 30, 1937, comprised the funded debt of £19,316,750, loans from the British Government totaling £1,002,388, and loans of \$625,000 (Canadian) from Canadian banks. Money in circulation consists almost entirely of Canadian bank notes. The gold Newfoundland dollar has a par value of \$1 in former U.S. gold dollars and of \$1.6931 in U.S. currency dollars.

Transportation. The railways in 1937 had 838

miles of line (government line, 750 miles) and carried 184,969 passengers and 611,990 long tons of freight. There were about 42,734 miles of roads and highways. Number of automobiles on Jan. 1, 1938, 4665. Work proceeded during 1938 on airport facilities for the proposed transatlantic air service, for which the survey flights were made in 1937. Cobb's Arm near Botwood was being developed as a base for seaplanes and flying boats, while a landplane base was under construction at Hattie's Camp, about 30 miles east of Botwood. The latter base is on a dry unobstructed plateau about 500 feet above sea level and is seldom obscured by the mists that handicap the seaplane base. The airport has four main runways and the most modern facilities. The total cost of the landplane base alone was estimated at about £500,000. Gander Lake, a 30-mile stretch of water one-fourth of a mile south of Hattie's Camp, offered an alternative to the Botwood base. During 1936-37 a total of 1573 vessels of 1,581,708 net registered tons entered the ports of Newfoundland.

Government. As a result of a grave financial and economic crisis, the Newfoundland and British parliaments in 1933 passed legislation through which Newfoundland temporarily relinquished its status as a self-governing dominion. Full legislative and executive powers were vested in a governor acting on the advice of a specially created commission of 6 members (3 from Newfoundland and 3 from the United Kingdom) appointed by the British Government to administer the six governmental departments. The Governor and Commission are responsible to the British Secretary of State for Dominion Affairs. The British Government assumed responsibility for the finances of the island during the reconstruction period. Members of the Commission in 1938 were: Robert Benson Ewbank (Natural Resources), Sir Wilfrid Wentworth Woods (Public Utilities), J. H. Penson (Finance), all Britishers, and J. A. Winter (Home Affairs), L. E. Emerson (Justice), and J. C. Puddester (Public Health), all Newfoundlanders. Governor, Vice Adm. Sir Humphrey Thomas Walwyn, who assumed office Jan. 21, 1936, for a three-year term. In March, 1938, the Dominions Office extended his term of office to five years.

History. Newfoundland's struggle toward economic rehabilitation appeared in the first part of 1938 to be meeting with some degree of success. The Commissioner of Finance reported that budget revenues for 1937-38 exceeded the estimate by more than £400,000 without any increase in the estimated expenditures. Consequently the British Government's grant-in-aid to meet the deficit was reduced from an estimated £695,832 to £263,571. Signs of returning prosperity led the government to increase the 1938-39 expenditure estimates to \$15,350,000, leaving an anticipated deficit of nearly \$4,000,000. About 10 per cent of the expenditures were set aside for outlays of capital as follows: Roads, \$308,000; a fresh fish plant, \$163,000; hospital building, \$163,000; science laboratory, \$82,000; and various other projects. The Commission sought to relieve widespread poverty, particularly among the seasonally employed fishing population, by establishing new industries and providing alternative employment through subsistence farms and other projects.

However, the economic recession in the United States and other countries and the consequent decline in the prices of Newfoundland's export products proved a severe blow to rehabilitation plans and produced a new wave of discontent. Members of the Commission were bitterly criticized and there

were demands for the restoration of local self-government, sponsored at least in part by politicians who hoped to return to public office. There was a mild recurrence of the rioting of previous years. On August 24 a mob of unemployed fishermen attempted to seize Commissioners Woods and Puddester when they appeared at Bonne Bay aboard the cruiser *Shulamite* to investigate reports of distress among relief recipients. Planning to hold the Commissioners for a week and to feed them on the regular dole ration, 200 men attempted to pull the cruiser ashore. But the captain broke the ropes by ordering full speed astern and carried off six rioters who had leaped aboard. The ringleaders of the mob were subsequently arrested and tried.

Later in the year the dull outlook in the pulp and paper market caused extensive lay-offs in the lumbering industry, with the loss of \$2,500,000 in wages. In an effort to sustain employment in this industry, the government on October 1 reached an agreement with Bowater-Lloyd Ltd. for a 226-ton increase in the daily capacity of the Cornerbrook pulp mill which Bowater-Lloyd had recently acquired from the International Paper and Power Co. On November 29 another agreement was announced for the purchase of 5000 square miles of timberlands from the Reid Company on Gander Lake to supply the Bowater-Lloyd mill. The latter company agreed to export annually a minimum of 50,000 cords of unmanufactured wood and to produce 30,000 air-dry tons of pulp annually at the Cornerbrook sulphite plant.

NEW GUINEA, *gīn'ē*. The name of an island in the East Indies, and also of those territories in the Western Pacific (including part of the island of New Guinea) mandated to Australia by the League of Nations. Total area of the island of New Guinea, 308,000 square miles; population, about 1,000,000. See NETHERLANDS INDIES; NEW GUINEA, TERRITORY OF; PAPUA, TERRITORY OF.

NEW GUINEA, TERRITORY OF. The territory administered by Australia under mandate of the League of Nations, consisting of Northeast New Guinea (also called the Mainland), 69,700 square miles; Bismarck Archipelago (consisting of New Britain, New Ireland, Lavongai, Admiralty Islands), 19,200 square miles; Solomon Islands (consisting of Bougainville, Buka, and adjacent small islands), 4100 square miles. Total area, 93,000 square miles; population (June 30, 1938), 563,387 (6270 non-indigenous, and 557,117 enumerated native), exclusive of the unknown number of natives in areas of the territory not yet under government control. Rabaul (on New Britain) is the capital.

Production and Trade. The area under cultivation in 1937-38 totaled 245,184 acres, of which 239,869 acres were devoted to coconuts. Coffee, kapok, cacao, tobacco, native foods, and tropical fruits are also grown. Gold is an important mineral product. Copper, osmiridium, iron, sulphur, platinum, and brown coal have been found. 1937-38 imports were valued at £A1,610,967 (£A1,311,623 in 1936-37); exports, £A2,980,360 (£A3,089,072). The £A averaged \$3.9394 for 1937. Shipping entered and cleared during 1936-37 totaled 656,472 net tons. An air service between Sydney, Australia, and New Guinea was put into operation on May 30, 1938.

Government. For 1937-38 (1936-37 figures in parentheses) revenue totaled £A506,397 (£A481,070); expenditure, £A508,612 (£A460,118); public debt, £A39,378 in 1937-38. The territory is under an administrator assisted by an executive council of 9 members, of whom 1 shall not be an officer of

the territory. The legislative council consists of the administrator, the 8 official members of the executive council and 7 non-official members, the latter nominated by the administrator and appointed by the governor-general of Australia. Administrator, Brig.-Gen. W. R. McNicoll (appointed, Sept. 13, 1934). See AUSTRALIA under History.

NEW HAMPSHIRE. Area and Population. Area, 9341 square miles; included (1930) water, 310 square miles. Population: Census of Apr. 1, 1930, 465,293; Federal estimate for July 1, 1937, 510,000; census of 1920, 443,083. Manchester (1930) had 76,834 inhabitants; Concord, the capital, 25,228.

Agriculture. Acreage, production, and value of the chief crops of New Hampshire, for 1938 and 1937, appear in the accompanying table.

Crop	Year	Acreage	Prod. Bu.	Value
Hay (tame)	1938	386,000	405,000 *	\$4,374,000
	1937	383,000	405,000 *	4,494,000
Potatoes	1938	9,600	1,296,000	1,102,000
	1937	10,200	1,479,000	1,065,000
Corn	1938	16,000	656,000	466,000
	1937	15,000	630,000	485,000
Apples	1938	.....	623,000	748,000
	1937	.....	1,204,000	1,252,000

* Tons.

Finance. New Hampshire's State expenditures in the year ended June 30, 1937, as reported by the U.S. Bureau of the Census, were: For maintaining and operating governmental departments, \$12,663,871 (of which \$554,137 was for local education and \$5,112,044 for highways); for interest on funded debt, \$503,304; for capital outlay, \$3,732,100. Revenues were \$18,514,798. Of these, property taxes furnished \$2,868,783; sales taxes, \$3,825,650 (mainly the tax on gasoline, \$3,229,762); departmental earnings, \$1,299,113; sale of licenses, \$3,745,206; unemployment compensation, \$2,282,617; from the State monopoly of alcoholic beverages, \$835,394; Federal or other grants-in-aid, \$2,607,305. Funded debt outstanding on June 30, 1937, totaled \$14,132,636. Net of sinking-fund assets, the debt was \$13,900,701. On an assessed valuation of \$588,825,853 the State levied for the year ended June 30, 1938, ad-valorem taxes of \$2,655,296.

Education. New Hampshire's inhabitants of school age (from 5 to 16 years) were reckoned, for the school year 1937-38, at 89,630. The year's enrollments of pupils in public schools numbered 76,390. This comprised 54,867 elementary pupils, 20,304 in high schools, and 1219 evening students. Expenditures in the year for public-school education came to \$7,568,577. Salaries paid to the 2957 teachers, according to groups, averaged \$1918.89 for men and \$1418.45 for women in high schools; and in elementary positions, \$1413.05 for men and \$1093.77 for women. A State-wide system for the retirement of teachers in the public schools of New Hampshire went into effect at the outset of 1938.

Charities and Corrections. Changes that went into effect in 1938 rearranged the functions of the State in the provision of public support for the divers classes of needy inhabitants. The State government of New Hampshire left to the counties, cities, and towns the entire administration and financing of ordinary poor-aid (unemployment relief). Authority over old-age assistance (pensions for the elderly poor) was transferred to the State Welfare Administrator. Support for dependent minors was put in the hands of counties, cities, and towns for financing, under the State's supervision.

Public aid for the needy blind was transferred to the State's administration. A newly created Department of Public Welfare, headed by a directing board and an Administrator, assumed the State's duties, specified above, as to the aged, the blind, and children; it also took the supervision of the State's institutions caring for members of any of these groups. The temporary support for persons thrown out of work (unemployment insurance) was administered by a special division of the State's Bureau of Labor. The State set up a Department of Probation.

Political and Other Events. The State's 12th constitutional convention, meeting early in the year and adjourning in June, drew numerous amendments to the State constitution. A State law requiring both parties to undergo tests to demonstrate freedom from venereal disease as a prerequisite to marriage went into effect on October 1.

The New England hurricane of September 21-22 did widespread damage to trees and buildings. An estimate in the press set the attendant loss of life at 13. Keene, among the most severely affected of the cities, lost a great number of the elms for which it had been noted. The economic loss through the devastation of pieces of woodland was estimated as high as \$10,000,000. The estimate of all damage was \$24,000,000.

Under an act of 1935 the State undertook the construction of a dam and reservoir in the town of Pittsburg, near the head of the Connecticut River, at the anticipated cost of \$2,300,000, to intercept floodwaters and generate hydroelectric power, thus designedly extinguishing the cost in the long run. In litigation as to this enterprise the State Supreme Court held (April 9) that the State's proceeding was constitutionally valid.

Elections. Gov. Francis P. Murphy (Rep.) was re-elected at the general election (November 8), defeating John L. Sullivan (Dem.). Representative Charles W. Tobey (Rep.) won the election for U.S. Senator from the incumbent, Fred H. Brown (Dem.). Both the State's seats in the U.S. House of Representatives were gained by Republicans; one of these, Arthur B. Jenks of Manchester, who had served in the 75th Congress until ousted by the House in favor of his Democratic opponent, Alphonse Roy, was elected for the new term, defeating Roy by a substantial margin.

Officers. The chief officers of New Hampshire, serving in 1938, were: Governor, Francis P. Murphy (Rep.); Secretary of State, Enoch D. Fuller; Treasurer, F. Gordon Kimball; Attorney-General, Thomas P. Cheney; Comptroller, Charles T. Paten; Commissioner of Education, James N. Pringle.

Judiciary. Supreme Court: Chief Justice, John E. Allen; Associate Justices, Thomas L. Marble, Oliver W. Branch, Peter Woodbury, Edwin L. Page.

NEW HAMPSHIRE, UNIVERSITY OF. A co-educational State institution of higher learning at Durham, N. H., founded in 1866 in Hanover, N. H., and transferred to Durham in 1893. The 1938-39 enrollment was 1940, of whom 1319 were men and 621 women. The summer session had a registration of 437. The faculty and research and extension staff totaled 326. The endowment amounted to \$1,240,381, and the income for the year was \$1,837,492. A field house and cage, a class and laboratory building for the plant and animal sciences, and a new wing to a women's dormitory were completed in 1938-39, and a new class and laboratory building and service building were occupied for the first

time. The library contained 97,610 volumes. President, Fred Engelhardt, A.M., Ph.D.

NEW HEBRIDES, hēb'ri-dēz. A British-French condominium comprising a group of islands in the South Pacific. Espiritu Santo, Malekula, Efate, Ambrym, Erromanga, Epi, Aoba, Pentecost, Maéovo, Gaua, and Vanua Lava were the main islands. Total area, 5700 square miles; population (1938 estimate), 43,205, including 2205 non-natives. Vila, the capital, had about 1200 inhabitants; Malekula had 9000 natives.

The principal products are copra, cacao, coffee, cotton, maize, sulphur, and vanilla. In 1937 total imports were valued at £152,722; total exports, £149,247; joint revenue totaled £27,729; joint expenditure, £21,982; executive power is vested in a British Resident Commissioner (who is under the British High Commissioner stationed at Suva, Fiji Islands) and a French Resident Commissioner (subordinate to the French High Commissioner stationed at Nouméa, New Caledonia).

NEW JERSEY. Area and Population. Area (1930, but revised to exclude 64 square miles of water yielded to Delaware in a revision of boundary), 8160 square miles; included water, 646 square miles. Population: Apr. 1, 1930 (census), 4,041,334; July 1, 1937 (Federal estimate), 4,343,000; 1920 (census), 3,155,900. Newark (1930) had 442,337 inhabitants; Jersey City, 316,715; Paterson, 138,513; Trenton, the capital, 123,356.

Agriculture. Acreage, production, and value of the chief crops of New Jersey, for 1938 and 1937, appear in the accompanying table.

<i>Crop</i>	<i>Year</i>	<i>Acreage</i>	<i>Prod. Bu.</i>	<i>Value</i>
Corn	1938	187,000	7,486,000	\$4,641,000
	1937	208,000	8,528,000	5,714,000
Potatoes	1938	54,000	10,530,000	5,160,000
	1937	58,000	10,498,000	5,459,000
Hay (tame) ...	1938	216,000	357,000 *	4,605,000
	1937	222,000	370,000 *	5,032,000
Apples	1938	.....	4,607,000	2,847,000
	1937	.....	5,463,000	3,901,000
Sweet potatoes .	1938	14,000	1,470,000	1,470,000
	1937	17,000	2,414,000	1,714,000
Peaches	1938	.....	1,172,000	1,641,000
	1937	.....	1,651,000	1,651,000

* Tons.

Mineral Production. Of the total yearly value of New Jersey's native mineral products, \$37,405,369 for 1936, clay products produced nearly one-half; their total attained \$18,311,062. More than half of the remainder was derived from the mining of zinc; the State ranked second among the members of the Union in zinc-mining. The content of zinc in ore mined yearly rose to 101,408 short tons (1937), from 89,883 tons (1936), and the value of the metal to \$13,461,309, from \$9,868,010. There occurred, in 1937, more than the usual small production of iron ore from some of the extensive deposits in the State. The quantity of ore mined jumped to 544,635 gross tons (value, \$2,474,087), from 194,295 tons for 1936.

Education. Enrollments of pupils in the public schools of New Jersey in the academic year 1937-38 numbered 762,197. This comprised 37,076 in kindergartens, 491,560 in elementary study, 49,894 in junior high schools, 34,441 in senior high schools, 139,297 in four-year high schools, 802 in post-graduate courses, and 9127 in special classes. Enrollments in all groups but the four-year high schools were lower than for the year before. The year's expenditures for public-school education attained \$100,378,140; this included \$17,280,540 for service of debt, but excluded \$5,022,416 for out-

lays. The teachers numbered 28,473; their salaries for the year averaged \$2004.90.

Acts of 1938 assured the tenure of their positions to public-school secretaries and, in two counties, to city superintendents. The New Jersey Teachers' Association, renamed, became the New Jersey Education Association.

Charities and Corrections. While the State made temporary provision for bearing a considerable part of the heavy cost of locally administered poor-relief, there persisted a demand for measures to put this participation on an ample and durable basis. As to other kinds of support, care, and custody of individuals, the State had a highly centralized system under the general control of its Department of Institutions and Agencies (W. J. Ellis, Commissioner). Unemployment compensation (temporary support for those thrown out of employment) was, however, separately administered. Dependent children to the number of 33,814 received from the Department of Institutions and Agencies either support under the system of Social Security or other forms of State care; through a Commission for the Blind, the Department gave either support or other services to 3351 persons, some of them blind and the rest seriously handicapped as to vision; those who received money numbered 583. An Old-Age Assistance Division distributed Social-Security support to 26,971; a Parole Division supervised 3343 parolees. The State Institutions governed by the Department contained, in October, 20,772 inmates.

Legislation. The annual session of the Legislature convened on January 11 and recessed on June 17. Much time and effort early in the session went into an endeavor of the Republican majority to scrutinize the heavy Democratic vote in Hudson County, which had effected the election of Governor Moore in November, 1937, and which the Rev. Lester H. Clee, Republican candidate, had denounced as fraudulent (see *Events*, below).

Dealing with the State's share of the cost of the support of the indigent unemployed, numerous because of the then-current economic slump, an act appropriated \$5,000,000 toward work on the State's roads, to be available on condition that the Federal WPA should grant \$20,000,000 to the same program. By other legislation, notably that allowing the use of transferrable balances in certain State funds, a sum estimated as close to \$11,000,000 was provided toward the direct support of indigents who could not get such employment; this sum was to be distributed among the local governing bodies as an addition to their own provisions, which totaled about \$4,000,000. The yearly appropriation act, as passed, carried \$39,256,036 for the State's expenditures through the ensuing fiscal year.

Second and final passage was given to a resolution submitting to disposal by popular vote a proposal to amend the State constitution so as to permit betting under the pari-mutuel system at race tracks. By recessing until late in the year, instead of adjourning, the Legislature prevented the people's voting on this proposal in 1938; a clause of the State constitution required that four months elapse between the adjournment and the vote. Enactments giving effect to recommendations of the Princeton Local-Government Survey Commission imposed more strict State regulation of local governments' finances, through a local-government commissioner and an advisory board of four appointees of the Governor.

Acts for social and economic regulation included: Authority for the State to enforce price-fixing

contracts between producer and retailer, as to gasoline and liquor; prohibition of sales of merchandise below what it had cost the dealer; imposition on both parties to an intended marriage, as a prerequisite to their getting a license, of the requirement that they present physicians' certificates declaring each free from syphilis in a communicable stage; and requirement that expectant mothers undergo medical test for syphilis. A bill to prohibit strikers' seizure and unwarranted occupation of the premises at which they had been employed was passed by the Senate but was deferred by the Assembly, under pressure of a demonstration carried on outside the Capitol by several hundred followers of pro-labor organizations.

Power to make the assessments of public utilities' property, for the purpose of apportioning among them about \$12,000,000 of taxes, was restored by the Legislature, over a veto, to the State Tax Commissioner, from whom it had been taken by a legal decision in 1937. Acts dealing with public housing permitted municipalities to create housing authorities, of the sort contemplated in the Federal program for low-rent living quarters, and granted power to condemn property needed for the housing projects.

Political and Other Events. Jersey City, the political domain of Mayor Frank Hague, was assailed from two directions early in the year. The mainly Republican Assembly endeavored to find fraud in the records of the vote by which this community had upset in 1937 the Republican majority in the rest of the State and elected a Democratic Governor. Partisans of the C.I.O., aided by champions of political liberalism, waged a separate campaign to break down the city's practice of excluding labor organizers and liberal agitators. Neither of the moves met with extensive success.

The Legislative investigation in Jersey City was based upon a charge, made by the late Republican candidate for Governor, the Rev. Lester H. Clee, that 55,000 fraudulent ballots had been counted for Moore in Hudson County, of which Jersey City was the chief part. A committee was appointed (January 20) by authority of the Assembly to investigate the county's vote. The committee demanded the surrender of the poll books and registry lists of the county, but these were kept locked in a safe-deposit vault in Jersey City. The Assembly then sent its sergeant-at-arms on the same errand, directing him to summon to his aid the State Police, if necessary. Superintendent Kimberling of the State Police declined to help the Assembly, citing an opinion from the Attorney-General's office, that the law did not authorize him to do so. The committee then summoned certain of the county's election officers. Refusing to testify, three were charged with contempt of the Legislature's authority, arraigned in Essex County, and held for action by a grand jury. Habeas corpus proceedings were instituted on their behalf. Vice-Chancellor Kays, ruling in these proceedings, held (March 25) that the order of the Assembly creating the committee usurped judicial functions and was void, and he ordered the discharge of the prisoners. A petition of Senator Clee, that the State Supreme Court institute an investigation of the vote in Hudson County, was dismissed.

The liberals' and laborites' crusade in Jersey City had started in connection with efforts to unionize industrial employees there in 1937. Suit on behalf of the C.I.O. was filed (Jan. 7, 1938) in the Federal District Court at Newark, for an injunction to prevent Jersey City's authorities from restricting the

efforts of the C.I.O. to organize unions. While this suit was pending, there occurred a series of picturesque agitations of a sort likely to put the Hague administration vividly before the public as a repressive regime. Efforts to distribute handbills, notably one of the text of the Bill of Rights, were made, until the authorities decided (April 1) that the Federal Supreme Court's decision in the Griffin, Ga., case rendered Jersey City's ordinance against handbills unenforceable. Norman Thomas, former Socialist candidate for President, attempted to hold a public meeting in the street on April 30; he was seized by the police and put aboard a ferry boat bound for New York City; he later tried to have a case prosecuted against the city authorities for kidnapping, under the Federal "Lindbergh Law." U.S. Representatives O'Connell of Montana and Bernard of Minnesota announced that they would hold a street meeting on May 7, in Journal Square, but a hostile crowd said to number 50,000 persons filled the square and the visitors did not appear. O'Connell was later taken (May 27) by the police while making a speech in a park and put on a train bound for Newark. Mayor Hague produced a demonstration on his own behalf (June 6) in the form of an "Americanism parade" said to have been attended by more than half of the population of the city.

Hague appeared and gave testimony (June 14 and after) in the hearings of the C.I.O.'s injunction suit in Newark. He frankly upheld Jersey City's repression of those whom he regarded as agitators of discord and revolution, deserving to be deported or removed to Alaska. The court, October 27, granted the plaintiffs an injunction. An investigation made by the Federal Department of Justice in the summer ended in an announcement (September 7) that the Department had found no evidence of Hague's having violated the Federal statute against conspiracy to deprive a citizen of constitutional rights.

Governor Moore Begins Third Term. Inaugurated January 18, Governor Moore started his third term. None of the terms were consecutive, for the State constitution did not allow a Governor to succeed himself immediately. Moore was the first Governor of the State to take the office for more terms than two. Leaving the U.S. Senate to become Governor, Moore, by his first official act in his new term, appointed as his temporary successor in the Senate John Milton, a lawyer and former prosecuting attorney of Hudson County, closely connected with the political organization of Mayor Hague of Jersey City. The Governor maintained a degree of harmony with the mainly Republican Legislature, despite the Assembly's effort to invalidate his election. Industrial unemployment, severe until late in the year, remained the State's foremost administrative problem. Unemployed working persons dependent on public assistance numbered around 60,000 for most of the year. The program of road work for which the Legislature had provided \$5,000,000 was carried on by the WPA, which allotted the requisite \$20,000,000 of Federal money thereto. This program brought employment for about 20,000 of the dependent workers. Difficulty was encountered during the summer in making the State's monthly contributions to the direct support of the remaining 40,000 unemployed persons, as part of the State's taxes on railroads, expected to supply some of the \$11,000,000 made available by the Legislature, remained unpaid awaiting the outcome of litigation. The State's unemployment-relief commission started in July a

drive against persons who failed to take work offered by the WPA, threatening to remove a great number of them from among the beneficiaries of direct aid by the State and localities.

Other State Matters. Congress gave consent to an agreement between New Jersey and Pennsylvania for the construction and operation, by local public bodies in the two States, of a vehicular tunnel under the Delaware River near Philadelphia. The State Superintendent of Weights and Measures increased the State's blockade against the entry, from Pennsylvania, of anthracite coal illicitly taken by "bootleg" miners in that State. No coal without a certificate of origin was allowed to enter New Jersey. The State began in January a system of semiannual compulsory inspection of all automobiles by its motor-vehicle bureau; this involved determining the mechanical fitness of not far from 1,000,000 vehicles under the State's regulation, and requiring owners to correct defects; the purpose was to reduce the risk in travel on the roads; about half of the vehicles first inspected were reported to have been defective in some respect.

Municipal and Local. Newark's extensive program to supply to its poor, by collaboration with the U.S. Housing Authority, living quarters at small rent, made a start in September. The President gave final approval to Federal allotment of 90 per cent of the cost of three of the six housing enterprises projected in the city; of this cost, \$6,697,000, Newark was to meet the other 10 per cent. The Newark Housing Authority proceeded toward acquiring the intended sites. The Newark Airport, important to travel by air to and from the whole New York area, threatened to run short of money in August and faced prospect of curtailed operation for a time. The city's higher budget for the year and heavy reductions in assessments caused the announcement of a rise in the rate of the tax on property in Newark to \$5.46, from the previous \$3.69 per \$100. Norman Thomas, previously expelled from Jersey City, tried to make a speech in Military Park, Newark (June 4), and was pelted with eggs and shouted down by a band that included many men in veterans' caps. A vehicular toll bridge over the Delaware River between Phillipsburg, N. J., and Easton, Pa., was opened for use (January 14); it had been built by a joint commission created by the two States and had cost \$2,500,000. At Camden, "Westfield Acres," a set of 514 apartments, costing about \$3,000,000 and restricted to occupancy by families having incomes of not over \$1300 a year, was opened (April 30) by the U.S. Housing Authority. Camden created a Camden Housing Authority to qualify it for participation in further Federal financing of construction of living quarters at low rentals. An ordinance of Camden, imposing a tax at the rate of \$10,000 a year on self-service chain stores selling foods, was contested in the State courts. At Union City, war veterans (October 2) invaded a hall and prevented a meeting at which Fritz Kuhn, leader of the German-American Bund, regarded as a Nazi organization, was to speak.

Elections. At the general election (November 8) W. Warren Barbour (Rep.) was elected U.S. Senator for the unexpired term to end Jan. 3, 1941, by a vote of 815,659 to 707,339 (unofficial tally) for William H. Ely (Dem.). Barbour, formerly Senator, had lost his seat to Smathers in 1936. The vacancy that he won in 1938 was that created by the resignation of Senator Moore early in the year, to become Governor (see above). The Republican campaign for Senator made much of

the unfavorable publicity that had been showered on Hudson County, the State's Democratic Gibraltar, during the year. Eleven Republicans and 3 Democrats were elected to form the State's delegation of 14 in the House of Representatives; four seats that had been Democratic thus went to Republicans. The Republican majority in the State Senate was increased by one; that in the Assembly remained numerically the same.

Officers. New Jersey's chief officers, serving in 1938, were: Governor, A. Harry Moore (Dem.); Secretary of State, Thomas A. Mathis; Treasurer, William H. Albright; Comptroller, Frank J. Murray; Attorney-General, David T. Wilentz; Commissioner of Education, Charles H. Elliott.

Judiciary. Chancellor, Luther A. Campbell; Supreme Court, Thomas J. Brogan (Chief Justice), Thomas W. Trenchard, Charles W. Parker, Clarence E. Case, Joseph L. Bodine, Ralph W. E. Donges, Harry Heher, Joseph Perskie, Newton H. Porter.

NEW JERUSALEM, CHURCH OF THE. An organization which is also known as the New Church, and popularly called Swedenborgian because based upon the statement of Christianity set forth in the writings of Emanuel Swedenborg, Swedish scientist, philosopher, theologian, and seer (1688-1772). The two bodies that now compose it in the United States are the General Church of the New Jerusalem and the General Convention of the New Jerusalem. For history see THE NEW INTERNATIONAL ENCYCLOPEDIA under *Swedenborgians*.

The General Church of the New Jerusalem. This body, which separated from the General Convention over the question of the divine inspiration of Swedenborg's writings, was organized in 1897 under episcopal government. Its headquarters are in Bryn Athyn, Pa., where it maintains a cathedral of unusual architectural interest and the Academy of the New Church, with departments from kindergarten to junior college and including also a theological and a normal school. On Jan. 1, 1938, the General Church had a world-wide membership of 2180 adults, exclusive of South African native missions. Of its 21 societies and 5 "circles," 16 were in the United States and Canada, 3 in England, and others in France, the Netherlands, Sweden, Natal, New South Wales, and Brazil, while a native mission was maintained in South Africa. The Church was served by 3 bishops, 37 pastors, and 2 ministers. Its official periodical is *New-Church Life*.

The General Convention of the New Jerusalem in the United States of America. In 1938 the General Convention consisted of about 5500 communicant members, united into 86 societies, territorially organized as 14 associations and 3 independent societies. The ministerial membership was 98. The Convention maintained the New-Church Theological School in Cambridge, Mass., Urbana College in Urbana, Ohio, and the Waltham School for Girls in Waltham, Mass. Among its periodicals were the *New-Church Messenger*, weekly, Brooklyn, N. Y., and *The Helper*, weekly, Philadelphia, Pa. *The New Christianity*, quarterly, Brooklyn, N. Y. At the Convention's 117th annual meeting, held in Washington, D. C., May 3-10, 1938, the Rev. Fred Sidney Mayer of Baltimore, Md., was re-elected president; Lloyd A. Frost, of Cambridge, Mass., vice-president; Albert P. Carter, of Boston, Mass., treasurer; Benjamin A. Whittemore of Boston, recording secretary, and Horace B. Blackmer, of Malden, Mass., assistant secretary.

NEW MEXICO. Area and Population. Area, 122,634 square miles; including (1930) water,

131 square miles. Population: Apr. 1, 1930 (census), 423,317; July 1, 1937 (Federal estimate), 422,000; 1920 (census), 360,350. Santa Fe, the capital, had 11,176 inhabitants in 1930.

Agriculture. Acreage, production, and value of the chief crops of New Mexico, for 1938 and 1937, appear in the accompanying table.

Crop	Year	Acreage	Prod. Bu.	Value
Cotton	1938	99,000	95,000 *	\$4,275,000
	1937	159,000	163,000 *	6,862,000
Hay (tame)	1938	136,000	268,000 *	2,198,000
	1937	129,000	264,000 *	2,772,000
Corn	1938	193,000	2,606,000	1,720,000
	1937	203,000	2,740,000	2,055,000
Grain sorghums .	1938	350,000	2,975,000	1,160,000
	1937	375,000	4,500,000	2,070,000
Dry beans	1938	166,000	531,000 *	1,865,000
	1937	184,000	681,000 *	2,464,000
Wheat	1938	263,000	2,680,000	1,608,000
	1937	269,000	3,139,000	3,233,000

* Bales. ♢ Tons. ° 100-lb. bags.

Mineral Production. Of the total yearly value (\$45,858,089) for 1936, of the production of New Mexico's native minerals, petroleum, increasingly important, supplied one-half, while coal and natural gas contributed, together, nearly one-fourth. The metals gold, silver, copper, lead, and zinc accounted for most of the remainder. The yield of petroleum mounted to 38,797,000 bbl. for 1937, from 27,223,000 (value, \$22,930,000) for 1936. Actively developed in 1937, the Eunice and Monument pools, in Lea County, both surpassed the Hobbs field, the former leader in output. Although no new fields were found during the year, the known area of some fields was considerably extended. The production of natural gas was stated for 1936 as 33,928 million cu. ft.; in value, \$5,489,000. In 1937 about 23,773 million cu. ft. were marketed and 56½ billion were stripped of gasoline, while increasing quantities were utilized in divers ways in the petroleum operations. The mining of coal increased to 1,795,000 net tons (1937) from 1,596,775 tons (value, \$4,325,000) for 1936.

Gold, silver, copper, lead, and zinc were produced in New Mexico to the aggregate value of \$8,438,091 for 1938, as approximated by the U.S. Bureau of Mines. This was much below the total, \$14,038,790, for 1937. Most of the decline was due to a fall in the production of copper, to some 35,090,000 lb. for 1938, from 64,106,000 for 1937; by value, to \$3,439,212, from \$7,756,826. The yearly total of zinc rose in quantity to some 51,954,000 lb. (1938), from 47,854,000 (1937), but owing to lower prices fell in value to \$2,545,746, from \$3,110,510. The production of gold diminished to some 38,600 oz. (1938), from 41,171 (1937), and by value, to \$1,351,000, from \$1,440,985. Silver and lead, produced in relatively small amounts, did not either of them yield as much as \$1,000,000 for either year.

Education. The State's Department of Education augmented in 1938 its supervision of public transportation for public-school pupils in New Mexico, with a view to effecting greater safety and efficiency, as well as economy. Federal aid was provided for the vocational training of persons engaged in distributive occupation. Assuming more of the cost of the public schools' support, the State carried 76 per cent of this cost, leaving only 24 per cent to counties and local units.

Charities and Corrections. The State institutions providing care and custody for persons were governed by separate respective boards. The New Mexico State Penitentiary, for the year ended June 30, 1938, averaged 649 inmates.

Legislation. The Legislature met in special

session late in August, to enact various measures, including provision of primary elections, in place of partisan conventions, for the nomination of candidates to elective office.

Political and Other Events. Negotiations with other States for the sharing of the water of rivers (valuable above all for agricultural irrigation) were active. A new agreement on the allocation of such waters was signed (March 16) at Santa Fe by the Governors of New Mexico, Colorado, Texas, and Utah. Accusations of political manipulation of the Federal WPA organization in the State were followed (September 24) by the dismissal of Fred Healy, WPA Administrator for New Mexico. Another huge limestone cavern, near Carlsbad but 12 miles south of the previously discovered Carlsbad Cavern, was found by a sheep-rancher early in the year and explored for a distance of several miles.

Elections. John E. Miles (Dem.) was elected Governor, defeating A. K. Mitchell (Rep.). The State's U.S. Representative, J. J. Dempsey (Dem.), was re-elected.

Officers. The chief officers of New Mexico, serving in 1938 were: Governor, Clyde Tingley (Dem.); Lieutenant-Governor, Hiram M. Dow; Secretary of State, Elizabeth F. Gonzales; Auditor, Jose O. Garcia; Treasurer, James J. Connelly; Attorney-General, Frank H. Patton; Superintendent of Public Instruction, H. R. Rodgers.

Judiciary. Supreme Court: Chief Justice, Howard L. Bickley; Associate Justices, Thomas J. Mabry, Charles R. Rice, A. L. Zinn, Daniel K. Sadler.

NEW SOUTH WALES. An Australian State. Area, 309,432 square miles; population, exclusive of full-blood aboriginals (Mar. 31, 1938, estimate), 2,717,873 compared with 2,600,847 (1933 census). During 1937 there were 47,497 births, 25,235 deaths, and 23,188 marriages. Sydney (the capital), including suburbs, had 1,279,080 inhabitants on Dec. 31, 1937. Other important cities (with 1933 census populations) are Newcastle and suburbs, 104,485; Broken Hill, 26,925; Goulburn, 14,849; Cessnock, 14,385; Lithgow, 13,444. The 3452 State schools had 377,715 pupils enrolled in the last quarter of 1936; the 745 private schools and colleges (exclusive of many business schools), 99,073 pupils; the University of Sydney, 3206 students; the Technical College, with branch schools, 21,364 students.

Production. Wheat, barley, oats, maize, rice, sugar cane, tobacco, bananas, oranges, grapes, and apples are the principal agricultural products. During 1937-38, 56,000,000 bu. of wheat were produced from a total of 4,416,000 acres. The principal dairy products for 1936-37 were butter, 109,830,751 lb.; cheese, 7,417,640 lb.; bacon and ham, 22,069,860 lb. Wool (greasy), 505,700,000 lb. (1937). Livestock (1936): 53,166,010 sheep, 3,288,169 cattle, 549,829 horses, 390,780 pigs.

Minerals produced during 1937 were valued at £A11,988,088, of which coal accounted for £A5,823,469; silver and lead, £A4,310,613; gold, £A595,855; tin, £A336,628; copper, £A72,406. The 8720 factories, with 208,497 employees, had a value of production for 1937 amounting to £A76,753,978 net (£ Australian averaged \$3.9394 for 1937).

Government. For the fiscal year ended June 30, 1938, revenue totaled £A60,090,000; expenditure, £A59,976,000; public debt, £A354,168,000. Budget (1938-39): Revenue, £A55,325,000; expenditure, £A55,317,000. The executive power of the State rests in the hands of a governor (appointed

by the King), aided by an executive council. Parliament consists of the legislative council of 60 members (elected jointly by both houses of parliament), and the legislative assembly of 90 members elected by universal adult suffrage (at the State general election of Mar. 26, 1938, the standing of the political parties in the legislative assembly was: United Australia, 37; Country, 22; Labor, 28; Independent Labor, 1; Independent, 1). Governor, Lord Wakehurst (assumed office April, 1937); Premier, B. S. Stevens. See AUSTRALIA under History.

NEW YORK. Area and Population. Area, 49,204 square miles, exclusive of State water in the Great Lakes, but including (1930) other water, 1550 square miles. Population: Apr. 1, 1930 (census), 12,588,066; July 1, 1937 (Federal estimate), 12,959,000; 1920 (census), 10,385,227. New York City had (1930), 6,930,446 inhabitants; Buffalo, 573,076; Rochester, 328,132; Syracuse, 209,326; Albany, the capital, 127,412.

Agriculture. Acreage, production, and value of the chief crops of New York, for 1938 and 1937, appear in the accompanying table.

Crop	Year	Acreage	Prod. Bu.	Value
Hay (tame) ..	1938	4,009,000	5,436,000 *	\$39,139,000
	1937	4,108,000	5,747,000 *	47,125,000
Corn	1938	685,000	25,345,000	16,474,000
	1937	672,000	23,856,000	16,938,000
Potatoes	1938	220,000	26,840,000	16,104,000
	1937	227,000	28,375,000	15,890,000
Apples	1938	.....	16,380,000	13,104,000
	1937	.....	24,340,000	14,942,000
Oats	1938	782,000	26,588,000	8,774,000
	1937	752,000	18,800,000	8,272,000
Wheat	1938	303,000	7,533,000	4,746,000
	1937	346,000	8,276,000	8,193,000
Dry beans ...	1938	161,000	1,449,000 *	3,774,000
	1937	158,000	1,264,000 *	3,920,000
Barley	1938	146,000	4,307,000	2,067,000
	1937	133,000	3,059,000	1,866,000
Buckwheat ..	1938	161,000	2,496,000	1,323,000
	1937	144,000	2,448,000	1,591,000

* Tons. ♢ 100-lb. bags.

Mineral Production. Apart from the processing and fabrication based on imported minerals, New York State's production of its native minerals attained for 1936 the total of \$76,224,969. The greatest single item in this total was the production of Pennsylvania-grade petroleum, which increased to 5,478,000 bbl. for 1937, from 4,663,000 bbl. for 1936; the value of the output for 1936 was \$11,380,000. The relatively high price of this superior petroleum encouraged its recovery from wells by water flooding. The production of 1937 was said to be the State's highest, for petroleum, in more than half a century. Natural gas yielded, in 1936, 12,341 million cu. ft. (value, \$8,645,000). The output of stone, chiefly of the crushed sort, attained an aggregate value of \$10,033,000 for 1936. The makers' shipments of Portland cement increased in quantity to 6,106,083 bbl. (1937), from 5,651,412 (1936), and in yearly value to \$8,825,785 from \$8,794,448. The total value of clay products for 1936 was \$8,882,646. The output of salt rose slightly to 2,084,867 short tons (1937), from 2,021,983 (1936); by value, to \$5,795,551 from \$5,609,932.

Industry in the treatment of minerals from elsewhere included the production of coke, which advanced to 4,951,703 net tons (1937), from 4,835,921 tons (value, \$28,566,271) for 1936. Producers' shipments of pig iron rose to 2,702,072 gross tons (1937), from 2,216,751 (1936) and in value to \$55,789,609, from \$35,181,959. There were made in the State (1936) 187,016 long tons of ferro-alloys (value, \$16,346,231).

Finance. New York's State expenditures in the year ended June 30, 1937, as reported by the U.S. Bureau of the Census, were: For maintaining and operating governmental departments, \$335,965,861 (of which \$17,582,746 was for highways, \$83,507,099 for charities, \$36,210,864 for hospitals, and \$120,874,021 for local education); for interest on debt, \$23,125,710; for capital outlay, \$62,496,708. Revenues were \$486,822,450. Of these, property taxes furnished \$2,159,711; income taxes, \$104,892,155; inheritance taxes, \$33,649,970; sales taxes, \$57,156,956 (including tax on gasoline, \$43,584,556); departmental earnings, \$11,673,135; sale of licenses, \$100,176,996; unemployment compensation, \$47,858,100; Federal or other grants-in-aid, \$49,087,674. Funded debt outstanding on June 30, 1937, totaled \$663,760,000; the floating debt, \$62,263,576. Net of sinking-fund assets, the funded debt was \$525,900,265. On an assessed valuation of \$25,667,925,760, the State levied in the year ad-valorem taxes of only \$2,159,711; the general State tax on property, formerly an important source of revenue, now was levied solely to cover judicial and military expenses.

Education. For the academic year 1936-37, inhabitants of ages up to 18 years were reckoned to number 3,879,546; this was about 1 per cent less than the corresponding total for the year before. Enrollments in all public day schools numbered 2,284,831, or 0.2 per cent less than the year before. Those in elementary schools totaled 1,586,962—2.9 per cent down for the year; those in high schools, 697,869—up 4 per cent. There was an additional enrollment of 180,014 in evening, vocational, and Americanization classes. Teachers numbered 82,147; their salaries for the year averaged \$2383.15. The year's expenditures for public-school education attained \$375,175,802, inclusive of expended proceeds of debt issues; exclusive of this component, the total was \$334,889,510. This included current expenditure, \$278,029,918; service of debt, \$52,230,824; and capital outlay not met by debt issue, \$4,628,768.

The Board of Regents' inquiry into the character and cost of public education was completed in 1938. According to the *Journal* of the National Education Association, this inquiry, which had continued for three years, was expected to afford a basis for improving New York's system of public education. See **EDUCATION IN THE UNITED STATES.**

Charities and Corrections. The administration of the divers sorts of care and custody of individuals on the part of the State was the function of three departments, each dealing with a separate group. The Department of Social Welfare had charge of the State's disbursements for purposes of general poor-relief and of old-age assistance (Federal and State support for the elderly poor); it also attended to the inspection of charitable institutions, matters of children's welfare, the treatment of delinquent minors, care of the Indian poor, certain help to the blind, and the direction of three training or industrial schools for young delinquents, and of the Thomas Indian School, at Iroquois, and the State Women's Relief Corps Home at Oxford. The Department of Correction administered State prisons, reformatories, special institutions for defective delinquents, and asylums for the criminal insane. The State prisons had (December 31) 10,005 inmates; the reformatories, 2772; institutions for defective delinquents and insane criminals, 4622. The Department of Mental Hygiene had authority over the State hospitals for the mentally unsound, and institutions for

the care of epileptics and of the feeble-minded, except the special institutions for criminals in such categories.

On July 1 the State hospitals under the Department of Mental Hygiene had 66,625 inmates; the institutions for mental defectives, 12,547; and the Colony for Epileptics, 2521. The total population of these institutions, 81,693, did not include some 8000 former inmates released but still on parole.

Legislation. Convening in regular annual session on January 5, the Legislature adjourned on March 19. It passed a budgetary act appropriating \$386,364,615 for the ensuing year's expenditure by the State government; a supplementary budget act provided an additional \$1,900,000. Other appropriations included \$1,350,000 for the expenses of the State constitutional convention held in 1938. Initial passage was given to resolutions proposing, for submission to the disposal of the popular vote, the following amendments to the State constitution: To set up a "revolving" or self-renewing fund of \$200,000,000 for loans by the State to aid enterprises for building dwelling-quarters for occupancy at low rent; to exempt from the constitutional debt limit loans made by cities for this purpose; and to allow wagers under the pari-mutuel system at horse races. See **CHILD LABOR**; **MINIMUM WAGE.**

Sympathetic with some of the aims of Governor Lehman despite its strong Republican element, the Legislature enacted many measures of sociological bearing at his recommendation. The already-mentioned constitutional proposals as to housing were part of his program; the legislators further followed his suggestions by admitting persons earning over \$3000 a year to eligibility for the benefits of compensation for unemployment; by restricting the services of private detectives in industrial disputes; by forbidding rises in the rentals of tenements in New York City (essentially the "old-law" tenements) that failed to comply with the multiple-dwelling law; and by permitting the mutual savings banks to sell industrial life-insurance policies of not over \$3000. The chief object of the latter measure was to enable purchasers of this type of insurance to save on the cost, in premiums, necessitated by the prevailing method of companies' weekly or monthly collections. Dealing with public health, an act required the parties to an intended marriage to undergo a physician's test showing the absence of communicable syphilis, not more than 20 days before the granting of a wedding license. A separate act required that a syphilis test be made in all cases of pregnancy; and another measure created a special commission to study problems of health and shape a program to guide the Legislature in 1939. The proposal to ratify the pending Federal Constitutional amendment to allow regulation and prohibition of the labor of persons under 18 years of age ("child-labor amendment") was again brought up for ratification and was defeated by a strong adverse vote.

The State's moratorium on foreclosure for failure to pay back the principal of a mortgage at maturity was extended again, until Jan. 1, 1940; that on deficiency judgments was extended only until July 1, 1939.

The State's system of taxation was maintained, inclusive of the "emergency" taxes on incomes and on gasoline; the law as to the taxation of capital gains, however, was modified. Discrimination on account of the applicant's age, in tests for the civil service, was prohibited.

New York City's temporarily granted powers of taxation were made to continue for another year.

The city also received power to levy an occupancy tax in order to obtain money with which to meet the interest on bonds issued for the cost of building housing for the poor. The city was allowed to continue operating its subways on a five-cent fare for two years more, the suspension of the requirement that the service pay for itself being again prolonged. In four counties—Westchester, Nassau, Erie, and Monroe—dog-racing as a commercial undertaking was made lawful for the period of one year, with a view to making a trial before passing further legalization.

Laws bearing on crime included an anti-lynching act, imposing penalty of imprisonment, for from 20 years to life, on any member of a mob causing the death, by violence, of a person suspected of, or arrested for, a crime. Persons holding conscientious objection to the penalty of death were excluded from panels for murder juries.

Constitutional Convention. Delegates elected in 1937 convened (Apr. 5, 1938) at Albany in a convention to revise and amend the State constitution. This was the constitution of 1894, as altered from time to time by numerous piecemeal amendments. The convention adjourned on August 26, having amended the constitution in a great number of respects, some of them committing the State to new policies, others being controversial on other accounts. All amendments voted by the convention were submitted to the voters of the State at the general election (November 8). To insure that some, if rejected, should not cause the rejection of the whole, as had happened with the proposed constitution of 1915, the changes and additions were put before the people in nine separate propositions. The popular vote rejected propositions 2, 5, and 7, and adopted the other six. Of those rejected, No. 2 would have changed, favorably to the up-State counties, the basis for reapportioning representation in the Legislature, No. 5 would have given the State judiciary authority to review the questions of fact, as well as those of law, attaching to quasi-judicial decisions rendered by the State's administrative authorities, and No. 7 would have prohibited to the local governments the adoption or maintenance of the system known as proportional representation as the means of electing local representative bodies. See PROPORTIONAL REPRESENTATION.

Of the six adopted parts by the popular vote, No. 1 contained all of the proposed new constitution that dealt with matters sufficiently sure of acceptance not to require to be submitted by themselves. No. 3 put into the constitution a plan for carrying out the elimination of grade crossings of railroads and highways in the State and of apportioning its cost among State, subdivisions, and railroads. No. 4 gave the State and local governments extensive ability to spend and borrow in order to build living quarters for the poor and to do away with slums. No. 6, a "bill of rights" for labor, guaranteed to employees the rights of organization and of bargaining with employers collectively through employees' chosen agents; it also committed the State government to the maintenance of 40 hours of work a week, as a maximum, at wages on the prevailing scale of rates, in all public contracts. No. 8, dealing with governmental promotion of the individual welfare of the population, authorized the Legislature to furnish protection, by insurance or otherwise, against the hazards of unemployment, sickness, and old age; the inclusion of "sickness" was commonly taken to open the way to the State's creating a system of health insurance. No. 9, deal-

ing with municipal acquisition of privately-owned transit in New York City, permitted the city to incur additional debt up to \$315,000,000, exempt from its constitutional debt limit, wherewith to purchase the transit properties of private companies.

Apart from matters that thus came individually before the voters for adoption, the new constitution contained many features of difference from its predecessor. The Legislature's power to pass a special law affecting some single city was somewhat restricted. Amplifications were made in New York City's power of self-government. Into the bill of rights was inserted a guarantee against "unreasonable" interception of communications by telephone or telegraph, aimed at the practice of police and others, to "tap" wires for evidence; but a proposal to render evidence thus obtained inadmissible in the courts failed to pass the convention. For the servants of the State and those of its subdivisions, membership in a public pension system was made a contractual relation, and the diminution of rates of the pensions was forbidden. Suspension or impairment of the power of grand juries to investigate public officials' conduct of their duties was prohibited; any officials refusing to waive their constitutional immunity to making incriminating admissions were thereby to forfeit office.

Political and Other Events. Eligibility for payments from the unemployment-compensation fund, previously instituted by the State and the Federal Social Security Board, began at the outset of the year. The paying of claimants started February 1; the list of applications from persons who had recently lost employment then totaled 613,853. The payments to such persons totaled \$46,837,260 up to June 30, and the number of beneficiaries exceeded 600,000. Although the period was one of mainly shrinking employment the taxes collected from employers for the fund mounted faster than the outgo. The payments helped in some degree to keep down the need for the ordinary public support to indigents.

Relations with Federal Government. The WPA continued to afford support, in the form of employment on devised tasks, to a great number of the needy both in New York City and elsewhere about the State. The Federal Power Commission was asked by the Power Authority of the State for permission to intervene in proceedings as to the amendment of the license of the Niagara Falls Power Co., so that the Authority could offer plans for co-ordinating hydroelectric resources in the State, the Niagara and St. Lawrence Rivers included. A decision of the Federal Supreme Court, upholding the application of the Federal income tax to salaries of the Port of New York Authority, coupled with other and similar decisions of the same court as to taxing incomes from some other agencies of States, led Attorney-General Bennett to take steps for the purpose of averting Federal efforts to collect taxes in such cases retroactively. The State's Commissioner of Agriculture co-operated with the Federal Secretary of Agriculture to institute regulation of the marketing of milk in the area supplying New York City. The expected effect was to raise the prices paid to dairy-farmers. This action, taken under the Federal Marketing Agreement Act of 1937, was approved in August by a referendum of the affected farmers in several States and went into effect September 1.

State Courts' Decisions. The Court of Appeals (highest State tribunal) held (May 24) that funds of the public schools could not be employed, as they had been in New York City, under a State

act of 1936, to supply the pupils of the non-public (chiefly Catholic parochial) schools with transportation to and from home. The same court rejected (March 8) as unconstitutional a State law that exempted the State Police organization from the need to choose its personnel by competitive examinations. Judge O'Dwyer of Kings County dismissed indictments (June 11) against nine strikers for rioting, holding that to let the indictments stand would whittle away the right of picketing. The State Labor Relations Board, formed under the State's Labor Relations Act of 1937, ruled (February 1) that an employer must negotiate with employees' representatives even though the employees were on strike.

Local Occurrences. The hurricane of September 21, severely felt in the whole southeastern corner of the State, was calamitous in Suffolk County, Long Island, and particularly along the island's southern shore, from Fire Island Inlet to Montauk Point. The Ocean washed over Fire Island at Salt-aire; Westhampton and Quogue were in part flooded by waters raised by the gale, and Westhampton Beach was largely demolished by wind and water. Some scores of persons were thought to have lost their lives, although as most of the stricken communities were seaside summer resorts the missing could not be counted with certainty.

At Niagara Falls, the Falls View International Bridge, carried from its bases by the pressure of an ice jam, fell on January 27. The Thousand Islands Bridge, an international bridge over the upper end of the St. Lawrence River, between New York and Canada, was officially opened on August 18. At Wellsville, a fire at the refinery of the Sinclair Oil Company (July 18) caused loss of property estimated to approximate \$5,000,000. At Riverhead, persons connected with the German-American Settlement League, Inc., operating a camp at Yaphank for a group regarded as sympathizers with the German Nazi movement were convicted (July 12) of violating the State's law as to civil rights and subjected to severe sentences, but the defendants appealed the case and the conviction was reversed (Nov. 4, 1938).

New York City. The task of providing public support for several hundreds of thousands of indigents not among those maintained by the Federal WPA continued to burden New York City. The magnitude of the undertaking in 1938 may be judged from figures published in that year, covering 1937: Receipts of over \$71,000,000 from special city taxes for the purpose, plus \$40,500,000 from the State for "unemployment and home relief" in the city, went into the support of indigents; this formed about one-eighth of all the municipal expenditure outside of repayments of debt. Current economic relapse increased the need early in 1938 for such support, by 9 per cent over the rate of a year before, while the Legislature's having taken, in 1937, for the State a tax of 2 per cent on public utilities' receipts, diminished the city's means for giving poor-aid. Mayor La Guardia obtained from the Legislature authority for the City to impose a new tax on cigarettes and other levies for replenishing such means.

The year's levy of the tax on property, the chief source of the municipal revenue, rose slightly, to \$2.80 per \$100; its level indicated that the city had escaped, in the main, the tendency to excessive rates and consequent loss of assessable value, of which complaint had been made in some other leading municipalities. The municipal government prepared to participate in the new Federal plans for

the creation of more public housing at low rentals for the poor; it created a Housing Authority and imposed a new special tax on the occupancy of premises for business, designed to meet charges on debts of \$20,000,000 to be contracted by this body.

Preliminary moves were made toward effecting the long-postponed municipal policy of acquisition of the lines of the private transit companies. In addition to obtaining from the Constitutional Convention (see above) provision of the exemption of bonds for this acquisition, from the limit to the municipal debt, the city dealt with the affected interests for new terms on which the properties might be bought. A tentative offer of the Interborough Rapid Transit lines at \$170,213,508—about \$68,000,000 below a previous figure—coming through the Transit Commission, a body to which the Mayor was antagonistic, was set aside in March on the ground that the company was in bankruptcy and unable to decide a sale for the creditors; but the discussion of the subject was soon renewed. The city arranged in April to purchase the Sixth Avenue line of the Manhattan Elevated Railway for \$12,500,000. Before consummating the deal it bought in as tax liens at public auction its own claims against the Manhattan for unpaid taxes and penalties of \$8,061,316, carrying power of foreclosure, and became able to pay for the Sixth Avenue line in part with the liens. The line was closed for demolition (December 5).

Among notable structural changes started or carried out in the city were: The building, set under way by the city's Housing Authority, with \$30,000,000 in credit from the U.S. Housing Authority, of 5748 living quarters for poor families in Red Hook, Brooklyn; preliminary work on a peripheral parkway about Brooklyn and Queens boroughs, to cost \$27,900,000, inclusive of a grant of \$12,000,000 from the PWA; the commencement of a Criminal Court Building and City Prison on Centre Street opposite the old building of like name, to cost \$18,500,000, a grant of \$8,325,000 from the PWA included; the demolition of the former New York Post Office, at the southern end of City Hall Park; and progress on buildings at the site of the projected World's Fair in Queens Borough. Dealing with the project of decomposing the city's sewage at treating plants instead of discharging it into the tidal waters, the Bureau of Sanitation reported (August 6) that one-fifth of the sewage actually was treated in two existing plants that had cost \$26,720,000; that other such plants, to cost \$18,000,000, were in construction; and that about \$118,000,000 more of such construction would be needed to do away wholly with the discharge of raw sewage. Such improvement in the surrounding waters as had actually occurred appeared in a bulletin of the U.S. Bureau of Fisheries stating that shad to a total weight of 2,000,000 lb. or more had been taken in the year's run in the Hudson River, as against 847,000 lb. in 1935.

Bowling Green, at the southern end of Broadway, Manhattan, was restored to its proportions of Colonial days. Renovations and improvements were made in Grant's Tomb. The State Merchant Marine Academy was moved to quarters built for it at the abandoned Fort Schuyler, near Throggs Neck, by the WPA. The Cloisters (a collection of medieval art made by the late George Gray Barnard [q.v.], sculptor), established on a site at the northern end of Fort Tryon Park, was given to the Metropolitan Museum of Art by John D. Rockefeller and opened (May 10) as a branch of the museum.

The city started in March the construction of works to bring, at completion in 1947, 440,000,000 gallons of water a day from the headwaters of the Delaware River, as originally projected in 1927. The Board of Estimate authorized (May 9) a contract by which the city established a corporation as the operator of the free port, or foreign-trade zone, that had been constructed at Stapleton, Staten Island.

Changes in the municipal government made by the new charter adopted in 1936 came into effect with 1938. A City Council of 26 members elected under the system of proportional representation in the previous November took the place of the Board of Aldermen in January. This system of election, involving the counting of voters' second choices in cases where their first choices of candidates did not score a sufficiently high total to elect, involved complications and uncertainties as to the result of the count. When these were resolved the Council turned out to have its fair share of members unknown to the general public or lacking in previous experience of public business. Three of the members-elect were excluded for 11 weeks because of the difficulty of determining whether they had been residents of the areas from which they were elected. The efficacy of proportional representation was questioned both in the city and at the State Constitutional Convention, which voted a constitutional change forbidding the use of this system of election by localities; the rejection of this amendment by the popular vote in November indicated at least an aversion to being tied down to electing municipal bodies by small districts, as had been done with the city's aldermen. A new City Planning Commission came into existence. Headed by A. A. Berle, Jr., and composed of appointees, the body was designed primarily as an agency for fitting together the numerous and independently designed plans for the development and improvement of the city. It had also, among divers tasks, that of ruling on the admissibility and therefore on the priority, of plans involving capital outlay, submitted by the several branches of the municipal government—a function necessary to keeping such outlay within designed bounds. This duty was in its turn involved in that of drawing and submitting the city's yearly budget of capital outlay. The much older Regional Plan Association, an unofficial body, remained active and submitted to the Commission its proposals for general plans as to systems of highways and of parks.

District Attorney Thomas E. Dewey of New York County continued his energetic prosecution of influential persons in the criminal world for the operation of blackmail on business enterprise, the so-called "racket." In connection with the alleged sale of political and police protection to the dealers in policy tickets, a form of gambling similar to lotteries and therefore illicit, Dewey brought to trial James J. Hines, long Democratic leader in the 11th Assembly District; however, after a month of duration Justice Ferdinand Pecora declared a mistrial (September 12) on account of Dewey's having brought another matter, prejudicial to Hines and foreign to the case, before the jury.

Elections. At the general election (November 8) Gov. Herbert H. Lehman (Dem.) was re-elected by a vote unofficially totaled as 2,383,584 to 2,316,078 for Thomas E. Dewey (Rep.). The other elective State offices went to Democrats, but majorities of Republicans were elected to both houses of the Legislature. Two U.S. Senators were elected: For the full term, Sen. Robert F. Wagner

was re-elected, defeating John L. O'Brien (Rep.); for the rest of the term of the late Sen. Royal S. Copeland, James M. Mead (Dem.) defeated Edward F. Corsi (Rep.). To the U.S. House of Representatives were elected 25 Democrats and 20 Republicans; this made a net change of four seats from the Democratic to the Republican side. Representative John J. O'Connor, chairman of the committee on rules, was defeated for re-election by James H. Fay (Dem.). O'Connor, a Democrat while in Congress, was attacked by President Roosevelt as one of the selected list of members of Congress that the President wanted sent back to private life as out of sympathy with the Administration's liberal doctrines; he was the only member of the lower house thus singled out. He nevertheless ran in the primaries, appearing as a candidate on both the Democratic and the Republican ticket; losing his own party's nomination, he became the Republican candidate.

Voting on a new State constitution submitted in the form of nine propositions, the people adopted six of these and rejected three (Nos. 2, 5, and 7; see *Legislation*, above).

Officers. The chief officers of the State of New York, serving in 1938, were: Governor, Herbert H. Lehman (Dem.); Lieutenant-Governor, M. William Bray; Secretary of State, Edward J. Flynn; Comptroller, Morris S. Tremaine; Attorney-General, John J. Bennett, Jr.; Commissioner of Education, Frank P. Graves.

Judiciary. Court of Appeals: Chief Judge, Frederick E. Crane; Associate Judges, Irving Lehman, John F. O'Brien, Irving G. Hubbs, John T. Loughran, Edward R. Finch, Harlan W. Rippey.

NEW YORK, COLLEGE OF THE CITY OF. A co-educational institution in New York City, founded in 1848. It is governed by the Board of Higher Education and supported by municipal taxation. The enrollment for the autumn of 1938 was 25,547. The total enrollment for the summer session of 1938 was 6239, and for the preparatory high school, 1191. The faculty numbered 1055. The income for the year was \$3,917,861. The library contained 221,406 volumes and 61,452 pamphlets. Construction of an addition to the library was in progress. President, Frederick B. Robinson, LL.D., resigned Dec. 15, 1938. Acting President, Nelson P. Mead, Ph.D.

NEW YORK CITY. See NEW YORK; AQUEDUCTS; BRIDGES; MUNICIPAL GOVERNMENT; PAINTING; RAPID TRANSIT; SCULPTURE; TUNNELS.

NEW YORK UNIVERSITY. A nonsectarian and privately governed institution for the higher education of men and women in New York City, chartered in 1831. It comprises the following divisions: At University Heights, a college of arts and pure science, college of engineering, Guggenheim school of aeronautics; at Washington Square, the graduate school of arts and pure science, school of law, school of commerce, accounts, and finance, Washington Square College, school of education, graduate division for training in public service; at the Wall Street division, the graduate school of business administration and courses in the school of commerce, accounts, and finance. The medical college is on East 26th St.; the dental college on East 23d St.; the school of architecture and allied arts, on Sixth Avenue at Bryant Park, the graduate institute of fine arts at 17 East 80th Street, and Hofstra College at Hempstead, Long Island.

The enrollment for the year 1937-38 in all divisions of the university, after deducting all duplica-

tions, was 47,771, including University college of arts and pure science, 1123; school of law, 1079; college of medicine, 653; college of engineering, 2442; graduate school of arts and science, 1034; school of education, including both graduate and undergraduate divisions, 11,274; school of commerce, accounts, and finance, including Wall Street division, 12,262; Washington Square college, 5396; graduate school of business administration, 1764; school of retailing, 931; college of dentistry, 538; school of architecture and allied arts, 509; the combined summer divisions (1938), 7831; division of general education and related courses, 7396; Hofstra College, 579.

The faculty of the university numbered 2096, including 209 professors, 139 associate professors, 224 assistant professors, and 876 instructors. The productive funds for the year 1937-38 amounted to \$9,218,621, and the income was \$299,830. The total income of \$8,135,634 was derived as follows: Student fees, \$7,104,875; dormitory rents, \$61,940; gifts, \$265,841; other income, \$403,146, and income from endowment, \$299,830. The libraries contained 541,690 volumes. Chancellor, Harry Woodburn Chase, Ph.D., L.H.D., Litt.D., LL.D.

NEW ZEALAND. A self-governing British dominion in the South Pacific. Capital, Wellington.

Area and Population. Exclusive of certain small annexed islands the area of New Zealand totals 103,722 square miles, of which North Island has 44,281 and South Island 58,092. The population, as estimated for June 30, 1938, was 1,604,244 (including 87,145 Maoris). By the census of 1936, the population was 1,573,810, of which North Island had 1,018,036 and South Island 554,455. By racial origin, 1,484,528 of the population of 1936 were European, 82,326 Maoris (to include 15,014 half-castes), and 2899 Chinese. While inhabitants averaged only about 15 to the square mile, a great part of them lived in cities, and as the latest census indicated, 59.54 per cent of them dwelt in communities of at least 1000 persons. The populations of the chief cities (1936) were: Auckland, 212,159; Wellington, 149,971; Christchurch, 132,559; Dunedin, 81,961; Wanganui, 25,795; Invercargill, 25,772; Palmerston North, 24,067. Births and deaths in 1936 came respectively to 16.6 and 8.7 per 1000 inhabitants; marriages, to 9.2. Yearly immigration (year ended with Mar. 31, 1936), amounted to 31,293; emigration, to 32,416.

Education and Religion. Illiterates form less than 2 per cent of the population. Schools maintained by public authority give the young a free, secular education. While education is compulsory, it need not be obtained at the free schools, and a considerable part of the elementary education is given by private schools. The public primary schools numbered (December, 1937) 2349 and had 6226 teachers and 207,653 pupils; the registered private primary schools numbered 306 and had 27,931 pupils. Special village schools for the Maoris had at that time 9642 scholars. For education beyond the elementary stage there are 86 secondary departments of district high schools, 21 technical high schools and day schools, and 46 colleges and grammar schools, while the endowed and private secondary schools number 57. The University of New Zealand, which had, in 1937, 5010 students, includes Auckland University College, Victoria University College, Canterbury University College, and the University of Otago. Two agricultural colleges, at Lincoln and at Massey, have 228 students, and are affiliated with the University. Prevalently of British origin, the people of New Zealand, as to

religious faith, are reckoned (1936) mainly as Anglican (40.28 per cent), Presbyterian (24.66), Methodist (8.11), and Roman Catholic (13.09).

Production. Of the whole land, 1,521,000 acres, a mere 2.3 per cent, was classed as under cultivation in 1937, and even this included some land bearing grass; 17,250,000 acres were grouped as grass and pasture land; 13,416,000, as forest; and 23,612,000, as unimproved. The value of the agricultural crops was estimated for the year 1936-37, in New Zealand pounds (£NZ), at 8,800,000; the yield of marketed animals, at £NZ47,100,000; dairy products, poultry, and apiary yields, at £NZ37,200,000; and the revenue of forests, at £NZ3,600,000. The country, principally pastoral and occupied with animal husbandry, supported, in 1937, 31,306,000 sheep, 4,389,000 cattle, and 802,000 swine. The chief crops, in the harvest of 1936-37, produced as follows: Wheat, 7,169,000 bu.; barley, 747,000 bu.; oats, 3,525,000 bu.; corn (maize), 302,000 bu.; peas, 481,000 bu.; potatoes, 4,716,000 bu.; grass seed and clover seed, 16,194,000 lb. The animal products of the year 1936-37, in thousands of pounds, were: Butter, 307,948; cheese, 204,546; pork, bacon and ham, 95,368; mutton and lamb, 623,440; beef, 309,641; wool, 302,900. Veal output, by number of carcasses, was 1,054,507.

Mining industry included the production of gold, totaling, for 1936, 164,575 troy oz.; of silver (1936), 432,973 oz.; the yearly quantity of coal mined was (1937) 2,278,000 long tons. Manufactures, according to data for the year 1936-37, furnished products to the value of £NZ105,941,722, of which £NZ35,273,647 represented the value added by manufacture; the manufacturing establishments numbered 5728, employed 96,401 persons, and paid their employees yearly wages of £NZ18,333,077. Important components of the manufactured output of 1936-37 were: Wheat flour, 132,987 long tons; ale, 15,077,000 gal.; leather, 5,795,000 lb.; boots and shoes, 2,001,000 pairs; rough-sawn lumber, 305,889,000 ft.; furniture, £NZ1,380,000; printing, publishing, and binding, £NZ4,407,000; clothing and hosiery, £NZ4,224,000.

Foreign Trade. For the year ended Mar. 31, 1938, New Zealand's imports amounted to 58,065,000 New Zealand pounds; exports, to £NZ65,008,000; the consequent excess of exports, to £NZ6,943,000. This excess, though more than one-eighth of the year's imports, fell far below the recent norm, of some £NZ12,400,000. The conjectured total required to meet the year's debits not visible in the foreign trade totals approximated £NZ10,000,000, and there occurred, as reported later in 1938, considerable reduction of foreign balances of the New Zealand banks. By contrast, the totals for the next previous year (1936-37), imports of £NZ47,621,000, exports of £NZ60,235,000, and £NZ12,614,000 as the excess of exports, showed the results of a normal year.

In terms of U.S. dollars, the imports of the calendar year 1937, totaling \$222,907,000, included among leading items \$22,985,000 for automobiles, \$12,710,000 for electrical machinery, \$7,717,000 for cotton goods, \$4,496,000 for woollen goods, \$4,824,000 for silk and rayon goods, \$7,200,000 for clothing, and \$7,369,000 for gasoline. The same year's exports, totaling \$256,905,000, consisted mainly of butter, \$67,421,000; frozen meats, \$56,175,000; wool, \$75,783,000; and cheese, \$21,322,000. In 1937 the United Kingdom took 76 per cent of the exports of New Zealand, the United States 7.2, Japan 4.7, Australia 2.6, and Canada 2.5; of the imports, the United Kingdom sent 49.6 per cent, the United

States 12.4, Australia 11.7, Canada 8.1, and Japan 1.9.

Finance. The budget for the fiscal year ended Mar. 31, 1939, estimated receipts of the consolidated fund at £NZ35,845,000 and expenditures therefrom at £NZ35,787,000. The consolidated fund, however, was to meet only a minor part of the proposed expenditure of £NZ20,719,000 for public works. For the year ended Mar. 31, 1938, the reported receipts of the consolidated fund totaled £NZ36,059,443, and the expenditures therefrom £NZ35,248,621.

The gross public debt, as of Mar. 31, 1937, had been commonly reckoned as £NZ287,670,000, which represented securities charged upon public revenues. The figure had risen by the corresponding date of 1938, to £NZ290,201,000. The Minister of Finance later declared, however, that other liability of the government, related to discharged soldiers and to rural advances, and totaling £NZ6,913,000, had been discharged since Mar. 31, 1937, more than offsetting the apparent increase of the total debt.

The monetary system is based on the New Zealand pound, closely related to the pound sterling but not (since Dec. 6, 1938) exchangeable with it at a fixed ratio. The rate of exchange of the New Zealand pound in U.S. dollars, on Dec. 31, 1938, was \$3.74; averaging, for 1934, \$4.0246, the rate descended slightly to an average of \$3.9691 for 1937, and to \$3.9235 for 1938.

Transportation. The railroads are virtually all owned by the government. They have a total of 3320 miles of line (March, 1937). They carried, in the year ended with Mar. 31, 1938, 22,441,212 passengers and 7,516,494 tons of freight. Additional mileage of line is under construction. The aggregate length of highways in 1937 was 57,673 miles; automobiles numbered 214,849. Post offices, in 1936, numbered 1766. The government owns the telegraph and telephone systems; telephones in use, Mar. 31, 1937, numbered 178,599. The Pan American Airways deferred opening in 1938 a route between Auckland and Honolulu; airplanes maintain a daily express service between Auckland and Dunedin. There is air service to Australia and London. Ships in foreign trade, entering ports of New Zealand, numbered 631, totaling 2,962,880 net tons, in 1937, as against 638, of 2,889,708 net tons, in 1936.

Government. Executive power is exercised by the Governor-General, appointed by the Crown for five years on recommendation of the Dominion Government. Legislative power rests with the Governor-General and a Parliament of two chambers—the Legislative Council of 39 members appointed by the Governor-General for seven years, and the House of Representatives of 80 members, elected by general male and female suffrage for four years. Governor-General and Commander-in-Chief in 1938, Viscount Galway, who assumed office Apr. 12, 1935. Prime Minister, Minister of External Affairs, of Cook Islands, of Broadcasting, and Native Minister, Michael J. Savage, heading a Labor Cabinet appointed Dec. 5, 1935.

HISTORY

Labor Wins General Election. After one of the most strenuous campaigns ever known in New Zealand, Prime Minister Savage's Labor Government was returned to power with a net loss of one seat in the elections to the House of Representatives held Oct. 15, 1938. The standing of the parties in the new House, with their standing at dissolution

in parentheses, was: Labor, 54 (55); National party, 24 (19); Independents, 2 (6). Labor held only two farming districts but increased its voting strength in the cities and towns.

The victory of Labor on a platform calling for far-reaching socialization was attributed in part to three years of prosperity in New Zealand resulting from a general rise in the prices of the islands' export products. This prosperity had been distributed to all sections and classes of the population through the Labor Government's measures. These measures included heavy expenditures on public works, social services, housing, and other pump-priming and unemployment-relief projects, financed by heavy taxation in the higher income brackets (see 1935, 1936, and 1937 YEAR BOOKS for legislation in those years).

New Legislation. In 1938 a number of important new laws of a similar nature were enacted previous to the general election. These included a bill passed on March 15 giving the government the sole right to mine iron ore and authorizing it to establish and operate iron and steel mills. A loan of £NZ5,000,000 was authorized to finance the scheme, which called for the employment of about 1200 workers and the production of 100,000 tons of semi-finished steel annually after two years. A Social Security Bill consolidating and increasing pension benefits and providing for universal free medical services was passed by Parliament on September 14. The bill increased some and reduced other existing state pensions and extended the pension system to include orphans and persons 60 years of age and over. The program was financed by a tax of one shilling on the pound on wages and incomes, the existing registration fee of one pound per annum paid by males over 20 years old, a State subsidy of one pound per one pound of contributions from taxpayers, and a tax of one shilling per pound on chargeable company income, with certain exemptions.

Other measures put into force during the year included state control of citrus fruit and banana imports; increases on tariff duties effective March 1 and affecting 67 items, which were designed to foster existing secondary industries and encourage the erection of new plants; and a government guarantee of prices for dairy products. The Labor leaders even applied to themselves their theories of a more equitable distribution of income. All Labor cabinet members and legislators deposited their salaries in a common pool, from which each contributor drew the same amount regardless of his position. Thus Prime Minister Savage received \$2730 annually like all the others instead of the \$10,000 legally due him.

The Labor Program. In addition to pointing to its past performances, the Labor party fought the election on a platform calling for still more radical legislation. Among its proposals were greater state control over currency and credit; extension of credit on easier terms to farmers and to parties desirous of establishing secondary industries; an extension of guaranteed prices for farm and livestock products to compensate the farmer in accordance with his actual services rendered; further government construction of housing; provision of family allowances on a scale needed to enable every mother to maintain each child; and more education and health services.

Effects of Labor Policies. Conservative businessmen and financiers joined forces with the Nationalist party opposition in attacking the Labor economic policies as ultimately ruinous. They de-

clared that the government's heavy expenditures might be borne during a period of rising prices and buoyant revenues but that they would cause disaster when prices dropped and revenues declined. They pointed out that the surplus of exports over imports in the year ended Sept. 30, 1938, was only £NZ3,743,000 compared with a surplus of £NZ11,638,000 in 1936-37 and with the £NZ9,000,000 or £NZ10,000,000 required each year for the service of the Dominion's overseas debt, held chiefly in Great Britain.

While the voters paid little attention to these warnings in the general election, there was growing uneasiness among capitalists and the larger property owners. This was reflected in a steady flight of capital to neighboring Australia, which increased after the Labor electoral victory. A recession in world prices and trade, affecting New Zealand's exports, and misgivings as to the outcome of the Labor Government's policies caused a severe decline in the overseas reserves of New Zealand banks. As a result, the government (December 6) suspended the statutory obligation of the Reserve Bank of New Zealand to redeem its notes in sterling and all imports and exports were made subject to official permit. Meanwhile the banks in New Zealand complained that while taxes upon their operations were increased, their income had been drastically reduced and their labor costs increased by the Labor policies.

Empire Relations. The Labor platform in the 1938 election had a plank calling for co-operation with the other members of the British Commonwealth in mutual defense preparations. Prime Minister Savage and the members of his government strongly criticized the British Government's efforts at Geneva in September to repudiate the League principles in fulfilling its bargain with Mussolini on the Ethiopian and other issues (see GREAT BRITAIN and ITALY under *History*). But in the European crisis produced by Czech-German controversy in the same month, the government and people of New Zealand made it plain that they stood wholeheartedly behind the mother country.

NICARAGUA, nik'ä-rä'gwä. The largest in area of the Central American republics. Capital, Managua.

Area and Population. With an area of 49,500 square miles, Nicaragua had a population estimated at 1,000,000 in 1938 (638,119 at the 1920 census). Estimated populations of the chief cities in 1938 were: Managua, 115,000; León, 32,669; Granada, 21,172; Masaya, 15,000; Matagalpa, 5200. The people are mainly of Spanish, Indian or mixed blood, but there is a considerable infusion of West Indian Negroes on the east coast.

Education and Religion. The adult population is about 60 per cent illiterate. In 1937, 48,911 children of school age were enrolled in the schools (37,212 in 1936). All secondary schools are privately owned. There are universities at Managua, León, and Granada. Roman Catholicism is the dominant religion.

Production. Agriculture, cattle raising, lumbering, manufacturing for local consumption, and gold and silver mining are the leading occupations. In 1937 there were exported 34,808,000 lb. of coffee, 2,472,000 bunches of bananas, 2,980,000 lb. of cotton, 5,433,000 lb. of cotton seed, 13,930,000 bd. ft. of timber (1,458,000 bd. ft. of mahogany), and 752,000 lb. of hides and skins. Cacao, beans, plantains, corn, and yucca also are grown. There is some sugar grinding and coffee cleaning.

Foreign Trade. Imports in 1937 were valued

at 5,621,000 U.S. currency dollars (\$5,580,000 in 1936) and exports at \$7,038,000 (\$4,648,000 in 1936). The United States furnished 54.2 per cent by value of the 1937 imports (46.2 in 1936); Germany, 15.2 (24.0); United Kingdom, 8.5 (12.5); Japan, 4.3 (2.6). Of the 1937 exports, the United States took 55.4 per cent (53.9 in 1936); Germany, 21.4 (16.0); France, 8.3 (13.0); Japan, 4.8 (2.9). The value of 1937 coffee exports was \$3,078,000; bananas, \$985,000; gold, \$849,000; cotton, \$553,000.

Finance. For the fiscal year ended July 31, 1937, actual budgetary receipts were 7,494,000 cordobas and expenditures 6,850,000 cordobas. The 1937-38 budget estimates placed receipts at 5,586,000 cordobas and expenditures at 6,340,000 cordobas. No official figures were available for extra-budgetary operations. On Apr. 30, 1938, the public debt was reported at 7,319,000 cordobas, of which 2,722,000 was external, 3,744,000 internal, and 753,000 floating. The cordoba (nominal parity, \$1.693) had an average value in the official exchange market in 1937 of \$0.68, in the uncontrolled market \$0.40, and in the curb market \$0.34.

Transportation. Railway lines in 1936 totaled 353 miles (283 government and about 70 private). The road and highway mileage in 1937 was 1670; number of automobiles, 775. During 1937, 450 steamers of 758,179 net registered tons entered Nicaraguan ports in the foreign trade. There were about 314 miles of air routes in 1936.

Government. The Constitution of 1913 vested executive power in a President elected for four years and legislative power in a congress of two houses—a Chamber of Deputies of 43 members elected for four years by limited suffrage and a Senate of 24 members elected for six years. President, Gen. Anastasio Somoza (Liberal), who was elected virtually without opposition on Dec. 8, 1936, and assumed office Jan. 1, 1937.

HISTORY

Internal Affairs. With less than half of his four-year term of office served, President Somoza took steps during 1938 to perpetuate his control of the government and to strengthen his dictatorial powers. In accordance with the suggestion advanced by Dr. Carlos A. Morales, a Liberal justice of the Supreme Court, in an article in the Managua newspaper *La Prensa* on May 14, Congress convened on August 6 and declared itself dissolved after abolishing the existing Constitution and requesting the President to convoke elections for a Constituent Assembly to draft a new fundamental law.

Elections were held November 6 for a Constituent Assembly of 45 members, to which 27 Liberals, 11 Conservative Nationalists, and 7 Conservatives were chosen under the watchful eye of the Somoza-controlled National Guard. Among the deputies elected were former President José María Moncada, former Vice-President Enoc Aguado, and Dr. Morales. Dr. Aguado was elected President of the Constituent Assembly which met at Managua on December 15. The Assembly was still at work upon the new Constitution at the year end.

These proceedings aroused bitter protests from opponents of President Somoza in exile. Former President Emiliano Chamorro, long the leader of the Conservative party, from his refuge in Mexico City denounced Somoza as an unconstitutional usurper of the presidency who was seeking to prolong his dictatorship by further unconstitutional methods (see *La Prensa*, New York, July 2, 1938). A group of Nicaraguan exiles in New York City,

organized as the Nicaraguan Patriotic Committee of New York, issued a manifesto of protest early in August. The draft of Somoza's new Constitution, they charged, abrogated existing bars against re-election of a President, against the election of a relative as his successor, and against the candidacy of military men in active service for public office. It modified the educational laws to make military instruction obligatory and to permit the appointment of National Guard members as school teachers. It made the National Guard independent of the national courts of justice. It gave the President, who was also commander-in-chief of the Guard, dictatorial powers in finance, the making of treaties, negotiation of loans, the declaration of war, and the proclamation of a state of siege.

Although President Somoza repeatedly proclaimed his attachment to democratic principles during the year, he played the role of a full-fledged dictator. On January 22 he announced at a press conference that he would "not tolerate either political or religious discussions in the newspapers or in the pulpits"; nor would he permit "the energies of the people to be wasted in fruitless arguments." Following this, Congress on January 25 enacted legislation forbidding the dissemination of fascism, communism, or any other alien political philosophy by foreigners or Nicaraguans. About the same time the government increased all government salaries with the exception of the President, and arranged to secure the funds by doubling various taxes and raising the rates for public utilities. Wage levels for certain private industries also were boosted by government decree. In July President Somoza freed all prisoners guilty of common crimes and all National Guard soldiers serving terms for violation of military regulations. The safe arrival of his three children from New York by steamer inspired this decree. On the eve of the convening of the Constituent Assembly prominent citizens in Managua formed the Nicaraguan Democratic Union to fight communism, nazism, and fascism. The President's actions and declarations led some Nicaraguans to charge that he sought to implant fascism as a vehicle for the extension of his personal power.

The depreciation of the cordoba and the lack of foreign exchange, which became acute in 1937 (see 1937 YEAR BOOK, p. 549), continued to harass the country during 1938. The cost of living rose to a level that caused acute suffering among the lower classes. To check speculation in foreign exchange, profits of merchants were limited to 20 per cent by a law of January 22. Early in February President Somoza undertook to lower costs of necessities to the poor by establishing government commissaries at various points. Yet an increase in customs duties during the same month to promote government revenues added to the cost of living. A new financial and exchange law of June 8, 1938, served to raise the value of the cordoba as against the dollar and thus tended to depress prices somewhat within the country. The government's financial position remained difficult, however, and in December the country's economic system suffered another blow when locusts destroyed the bean crop, one of the chief foods of the people.

It was announced in April that the directorate of the National Bank of Nicaragua, established in 1912, would be moved from New York to Managua. The Nicaraguan Government purchased all of the stock from New York banking groups in 1934. A contract for additions to the national palace, then under construction at Managua, was

signed with a New York firm in April also. The palace, to cost \$1,000,000, was to house all the government offices, most of which had operated from rented quarters since the 1931 earthquake. On November 13 President Somoza announced that the Campo de Marte, site of the presidential palace and of barracks for the National Guard, would be converted into a university and the Guard troops moved outside of Managua's limits.

Foreign Relations. The reciprocal tariff concessions granted under the Nicaraguan-United States commercial treaty of Mar. 11, 1936, were ended as of Mar. 1, 1938, in accordance with notes exchanged at Managua on Feb. 8, 1938. Washington officials agreed to this modification of the treaty in view of Nicaragua's difficult financial situation. Another agreement adjusting financial issues between the two governments was signed in Washington April 14. This wiped off the books Nicaragua's debt (principal and interest) of about \$484,000 due the U.S. Government for arms, munitions, and military equipment. In return for this, plus \$72,000 to be paid the Nicaraguan Government by the United States, Nicaragua's claim of \$641,116 (principal and interest) against the U.S. Government for allegedly illegal income taxes levied upon the government-owned Pacific Railway of Nicaragua was liquidated.

Developments in Europe and the Far East during 1938 greatly increased prospects for the construction by the United States of the long-discussed Nicaraguan inter-oceanic canal. President Somoza in 1937 attempted to secure United States financial aid for canalization of the San Juan River, part of the canal route. But in June, 1938, the U.S. Navy Department and four other official agencies urged further study of the larger canal project before any action was taken. The Munich Accord of Sept. 29, 1938, greatly influenced United States naval defense problems and on December 4 the New York Times announced that the Nicaraguan canal was receiving serious study from government officials and members of Congress.

The boundary dispute between Nicaragua and Honduras that was revived in 1937 remained largely quiescent during 1938 while efforts to negotiate a settlement proceeded unsuccessfully at San José, Costa Rica (see HONDURAS under *History*). Nevertheless President Somoza took steps to modernize and strengthen his armed forces. A shipment of artillery, bomb throwers, anti-aircraft guns, tanks, and armored cars reached Managua on January 14.

NICKEL. World consumption of nickel in all forms during 1938 amounted to approximately 204,000,000 lb. This is a decrease of some 16 per cent from the 1937 record of 240,000,000 lb. The decrease was due mainly to the abrupt drop in business in the United States in the last half of 1937 and the first half of 1938. Estimates of the United States consumption for the last six months of the past year indicate a definite improvement in this important market which normally takes half the total output. European and other markets continued to be relatively steady.

According to the U.S. Bureau of Foreign and Domestic Commerce, exports of nickel amounting to 11,842,937 lb. in 1938 were valued at \$2,892,423 (in 1937, 7,633,189 lb. valued at \$2,685,304); imports were valued at \$13,089,284 in 1938 (in 1937, \$23,986,004).

According to a survey issued in December by Robert C. Stanley, President of International Nickel Co. of Canada, the following percentages give a general picture of the relative importance of

the various forms in which nickel entered world industry in 1938:

Steels	60%
Constructional steels, stainless steels and other corrosion and heat resisting steels, and steel castings	
Nickel cast iron	3%
Nickel-iron alloys	1%
Nickel-copper alloys and nickel silvers	14%
Nickel brass, bronze, and aluminum alloy castings ..	2%
Heat resistant and electrical resistant alloys	3%
Monel, malleable nickel, nickel clad, inconel	9%
Electrodeposition	6%
Non-metallic materials for the chemical industry ...	1%
Nickel salts, ceramic materials, storage battery, materials, and catalysts	
Miscellaneous and unclassified	1%

NIGER. See FRENCH WEST AFRICA.

NIGERIA, ni-jě'ri-a. A British area in West Africa consisting of the Colony (1381 sq. mi.; pop., 368,495 in 1936) and the Protectorate (including British Cameroons, 34,081 sq. mi.; pop., 831,103) divided into the Northern Provinces and Southern Provinces. Total area, 372,674 square miles; total population (1938 estimate), 20,476,795. The main towns are Ibadan with 386,907 inhabitants; Lagos (capital), 130,400; Kano, 77,153; Ogbomoshò, 86,744; Iwo, 57,817; Oshogbo, 49,568; Oyo, 48,714; Abeokuta, 53,319; Ilorin, 42,066; and Iseyin, 36,805.

Production and Trade. The principal products (with 1937 export figures, in metric tons) are palm oil (148,200), palm kernels (154,800, palm oil content), cotton (8900), groundnuts (473,600), cacao (98,800), tin ore (11,000, metal content of ore), and coal (296,000 produced during 1936). Gold produced in 1937 totaled 25,720 troy oz. Other products are hides and skins, bananas, ginger, tobacco, rice, mahogany, columbite, wolfram, silver-lead ore, and ghee. Livestock in the Northern Provinces in 1936 included 4,172,383 goats, 2,650,373 cattle, 1,572,557 sheep, 457,891 donkeys, 175,297 horses, 40,750 swine, and 1792 camels. In 1937 imports were valued at £18,567,675, including cotton goods (£4,851,041), provisions, tobacco, automobiles and trucks, etc.; exports, £19,575,665, including groundnuts (£4,057,893), palm kernels (£3,647,717), palm oil (£2,368,924), cacao (£3,657,367), and tin ore (£2,628,175).

Communications. There were in 1938 over 21,018 miles of highways and 2340 miles of railway line. During the year 1936-37 the Nigerian Railways carried 8,314,870 passengers and 891,848 tons of freight. Lagos is linked with a weekly air-mail service from London by way of Kano and Khartoum. Airdromes are being built throughout the country in preparation for the establishment of an internal air service to link together the remote provincial centers. Shipping aggregating 4,139,695 tons entered and cleared the ports during 1936.

Government. For the year ending Mar. 31, 1938, revenue totaled £7,342,450; expenditure, £7,375,570; public debt, £24,764,599. Revenue for the year 1938-39 was estimated at £6,574,149. Nigeria, including the British Cameroons attached to the Protectorate for administrative purposes, is under the control of a governor assisted by an executive council; and a legislative council (Order in Council of November, 1922, amended 1928) for the Colony and the Southern Provinces of the Protectorate with control over Protectorate government expenditure in the Southern Provinces. The legislative council includes the governor as president, 28 official members, 3 nominated official members, 3 elected members representing Lagos, 1 elected member representing Calabar, and 15 nominated

unofficial members. Legislation for the Northern Provinces is in the governor's hands. Governor and Commander-in-Chief, Sir Bernard H. Bourdillon (appointed, June 21, 1935).

NIGHTINGALE ISLANDS. See ST. HELENA.

NITROGEN. See FERTILIZERS.

NOBEL PRIZES. The prizes presented annually according to the will of Alfred Nobel, Swedish inventor and philanthropist, to the persons who were considered to have made the greatest contributions toward the progress of the world and the welfare of mankind in the fields of physics, chemistry, medicine, literature, and the promotion of peace, were awarded for 1938 at Oslo on December 10 (the anniversary of the death of the donor) to the following: Physics, to Professor Enrico Fermi of the University of Rome for "his discovery of new elementary radioactive substances produced by irradiation of neutrons"; literature to Pearl Buck, American novelist, the author of "The Good Earth" and other novels about China; and peace, to the Nansen International Office for Refugees at Geneva, an organization that collects information on the material and moral welfare of refugees and gives general directions to relief institutions. The prizes for chemistry and medicine were reserved until 1939.

NON-FEDERATED MALAY STATES. See UNFEDERATED MALAY STATES.

NORTH CAROLINA. Area and Population. Area, 52,426 square miles; included (1930) water, 3686 square miles. Population: Apr. 1, 1930 (census), 3,170,276; July 1, 1937 (Federal estimate), 3,492,000; 1920 (census), 2,559,123. Charlotte had (1930) 82,675 inhabitants; Raleigh, the capital, 37,379.

Agriculture. Acreage, production, and value of the chief crops of North Carolina, for 1938 and 1937, appear in the accompanying table.

Crop	Year	Acreage	Prod. Bu.	Value
Tobacco	1938	603,000	519,530,000 *	\$119,187,000
	1937	674,000	595,530,000 *	142,726,000
Corn	1938	2,442,000	46,398,000	29,235,000
	1937	2,326,000	45,357,000	30,843,000
Cotton	1938	857,000	400,000 *	17,400,000
	1937	1,103,000	780,000 *	33,457,000
Hay (tame) .	1938	962,000	863,000 *	11,392,000
	1937	967,000	924,000 *	12,195,000
Peanuts	1938	243,000	249,075,000 *	8,967,000
	1937	238,000	297,500,000 *	9,818,000
Potatoes	1938	79,000	8,690,000	5,648,000
	1937	94,000	9,588,000	5,849,000
Sweet potatoes	1938	81,000	8,748,000	5,686,000
	1937	80,000	7,680,000	5,683,000
Wheat	1938	473,000	5,440,000	4,515,000
	1937	493,000	5,817,000	6,748,000
Oats	1938	253,000	5,566,000	2,338,000
	1937	230,000	4,830,000	2,705,000

* Pounds. * Bales. * Tons.

Finance. State expenditures in the year ended June 30, 1937, as reported by the U.S. Bureau of the Census, were: For maintaining and operating governmental departments, \$48,384,519 (of which \$9,867,610 was for highways and \$22,097,259 was for local education); for interest on debt, \$7,043,658; for capital outlay, \$19,281,207. Revenues were \$93,491,264. Of these, property taxes furnished only \$32,572, in tardy payments, due in previous years; sales taxes, \$33,881,119 (including tax on gasoline, \$21,654,023); income taxes, \$11,324,441; departmental earnings, \$5,861,465; sale of licenses, \$15,922,951; unemployment compensation, \$5,602,580; Federal or other grants-in-aid, \$11,457,866. Funded debt outstanding on June 30, 1937, totaled \$162,606,500. Net of sinking-fund assets, the debt

was \$136,419,505. There was no State levy of ad-valorem taxes.

Education. For the academic year 1936-37, the latest for which data were obtained, the inhabitants of school age (from 6 to 21 years) were stated to number 1,105,241. Enrollments of pupils in public schools totaled 882,006. They comprised 708,450 in the elementary group and 173,556 in high schools. The year's current expenditure for public-school education totaled \$25,550,073. The public schools employed 23,495 teachers, whose salaries for the year averaged \$764.

A movement in progress in 1938 sought legislation to provide for teachers in North Carolina's public schools a system of retirement, with support, in old age and an extension of the State's provision of a minimum of schooling, already in effect for the lower grades, to cover all twelve grades of the public-school system.

Charities and Corrections. Besides administering public support for the aged poor and the needy children, the Board of Charities and Public Welfare exercised general supervision over 14 State institutions for the care or custody of persons and over 85 prison camps situated about the State. The institutions had each a directing board of its own. Persons in the State's care or custody numbered (November 30) 18,983. Of these, 9752 were convicts in prison camps; in the State institutions were 9231. The institutions and the respective numbers in their charge were: Caswell Training School, at Kinston, 723; State Hospital, Goldsboro, 2132; State Hospital, Morganton, 2278; State Hospital, Raleigh, 2263; Orthopedic Hospital, Gastonia, 158; Sanatorium, at Sanatorium, 533 (tuberculous); Western Sanatorium (also for the tuberculous), Black Mountain, 129; Confederate Women's Home, Fayetteville, 42; Eastern Carolina Training School, Rocky Mount, 110; Stonewall Jackson Training School, Concord, 474; State Industrial School for Girls, Wagle Springs, 165; Morrison Training School, Hoffman, 171; Efland School (Negro girls), 10; Farm Colony for Women, Kinston, 43.

Political and Other Events. The State's policy of reducing its public debt, adopted several years before, was carried on; the State's Treasurer announced that, in the fiscal year ended with June 30, \$5,924,000 of the bonded debt had been redeemed. This brought the debt down \$54,600,000 below the peak that it had attained in the fiscal year 1932. See CHILD LABOR.

An inscribed stone, reported in January to have been found on the bank of the Chowan River, purported to be a relic of the lost colony of Roanoke. It carried 17 lines about the fate of Virginia Dare and her parents. Its authenticity was not established.

Elections. U.S. Senator Robert R. Reynolds (Dem.) was re-elected at the general election (November 8), easily defeating Charles A. Jonas (Rep.). Democrats were elected to all the State's 11 seats in the House of Representatives.

Officers. The chief officers of North Carolina, serving in 1938, were: Governor, Clyde R. Hoey (Dem.); Secretary of State, Thad Eure; Treasurer, Charles M. Johnson; Auditor, George Ross Pou; Attorney-General, Harry McMullan; Superintendent of Public Instruction, Clyde A. Erwin.

Judiciary. Supreme Court: Chief Justice, Walter P. Stacy; Associate Justices, Michael Schenck, Heriot Clarkson, A. A. F. Seawell, W. A. Devin, J. Wallace Winborne, M. V. Barnhill.

NORTH CAROLINA, THE UNIVERSITY OF. A State institution for the higher education of men and, with restrictions as to admission, of women in Chapel Hill, N. C., founded in 1789. The enrollment in the autumn of 1938 was 3510, of whom 3119 were men and 391 women. In correspondence and extension courses 1700 were registered. In the summer session of 1938, 1974 students were registered. The resident faculty numbered 280. The endowment amounted to approximately \$2,000,000 and the budget for the year was \$1,872,700. The library contained about 375,000 volumes. President, Frank Porter Graham, LL.D.

NORTH CAUCASUS TERRITORY. See RUSSIAN SOVIET FEDERATED SOCIALIST REPUBLIC.

NORTH CENTRAL COLLEGE. A coeducational institution of higher learning at Naperville, Ill., founded in 1861. In the autumn of 1938 there was an enrollment of 578 students, of whom 333 were men and 245 women. There were 41 members on the faculty. The productive funds amounted to \$987,000, and the current income for the year was \$187,350. Gifts included \$25,000 Student Aid Fund and \$5800 others. The library contained more than 22,000 volumes. President, Edward Everett Hall, Ph.D.

NORTH DAKOTA. Area and Population. Area, 70,837 square miles; included (1930) water, 654 square miles. Population: Apr. 1, 1930 (census), 680,845; July 1, 1937 (Federal estimate), 706,000; 1920 (census), 646,872. Bismarck, the capital, had (1930) 11,090 inhabitants.

Agriculture. Acreage, production, and value of the chief crops of North Dakota, for 1938 and 1937, appear in the accompanying table.

Crop	Year	Acreage	Prod. Bu.	Value
Wheat	1938	8,955,000	79,839,000	\$42,315,000
	1937	7,018,000	57,005,000	54,155,000
Barley	1938	1,254,000	21,318,000	5,543,000
	1937	1,280,000	21,120,000	8,448,000
Corn	1938	981,000	16,186,000	6,960,000
	1937	908,000	17,252,000	8,108,000
Oats	1938	1,391,000	31,298,000	4,695,000
	1937	1,312,000	29,520,000	6,494,000
Hay (tame) .	1938	1,046,000	1,162,000 *	4,648,000
	1937	990,000	1,008,000 *	5,141,000
Potatoes	1938	130,000	9,750,000	3,900,000
	1937	114,000	11,970,000	4,668,000
Flaxseed	1938	298,000	1,490,000	2,310,000
	1937	292,000	1,548,000	2,802,000
Rye	1938	961,000	12,974,000	3,503,000
	1937	672,000	6,720,000	3,965,000

* Tons.

Political and Other Events. U.S. Senator Gerald P. Nye (Rep.) was re-elected at the general election (November 8), defeating William Langer (Independent) and J. J. Nygard (Dem.). John Moses (Dem.) was elected Governor, by a moderate margin over John P. Hagan (Rep.). The two Republican U.S. Representatives-at-large composing the State's delegation to the House of Representatives were re-elected. The rate of \$40 a month for pensions to the elderly poor was adopted by vote.

Governor Langer's failure to win the Senatorship in November ended nearly a year of effort on his part to gain this post. Wielding a strong organization within the State's old Non-Partisan League, he nevertheless was defeated for the Republican nomination for Senator at the nominating primary on June 28. This failure was attributed to his inability to obtain the support of Representative William Lemke; Lemke, at first put on the League's slate for renomination, refused to endorse Langer, whereupon the League dropped Lemke for another choice. Lemke thereafter campaigned on his own

account for the Republican nomination and made use of the opportunity to attack Langer's own record and campaign for Senator. The Republican primary accepted all the candidates on the League's slate except Langer himself and Lemke's opponent, both of whom it rejected. Langer thereupon ran for election as an independent, advocating a plan for raising the monthly rate of old-age assistance in the State to \$40, which was put on the ballot. The pension plan, though carried in the election, did not help him sufficiently to overcome the vote for Nye.

Officers. The chief officers of North Dakota, serving in 1938, were: Governor, William Langer (Ind.); Lieutenant-Governor, T. H. H. Thoresen; Secretary of State, James D. Gronna; Auditor, Berta E. Baker; Treasurer, John Gray; Attorney-General, Alvin C. Strutz; Superintendent of Public Instruction, Arthur E. Thompson.

Judiciary. Supreme Court: Chief Justice, A. M. Christianson; Associate Justices, P. O. Sathre, A. G. Burr, James Morris, W. L. Nuessle.

NORTH DAKOTA, UNIVERSITY OF. A State institution of higher education for men and women at University Station, Grand Forks, N. D., founded in 1883. The enrollment for the autumn of 1938 was 1807. The 1938 summer session had an attendance of 372. The faculty numbered 140. The income, derived from State appropriations, land-grant funds, student fees, etc., amounted to approximately \$501,000. The library contained 82,455 catalogued volumes. President, John C. West, Ed.D.

NORTHEAST NEW GUINEA. See NEW GUINEA, TERRITORY OF.

NORTHERN RHODESIA. See RHODESIA, NORTHERN.

NORTHERN TERRITORY (AUSTRALIA). An Australian Territory. Area, 523,620 square miles; population, 5552 (Mar. 31, 1938, estimate), compared with 4850 (1933 census). Figures for population are exclusive of full-blood and half-caste aboriginals (19,214 at the census of 1933). Darwin, the capital, had 1730 inhabitants on Dec. 31, 1937.

Production. Rice, tobacco, coconuts, mangoes, bananas, cotton, various fodder plants, and peanuts are grown on a small scale but agriculture has made little progress to date. The natural grasses of the large pasture lands are rich in nutriment and provide food for livestock. There were in the Territory on Dec. 31, 1936, 855,398 cattle, 31,056 horses, 470 pigs, and 11,162 sheep. Wool (greasy) produced during 1937-38 was estimated to total 35,000 lb. The mineral output for the year ended June 30, 1937, was estimated to be valued at 127,849 Australian pounds, of which gold represented £A91,543 and tin, £A7696 (Australian £ averaged \$3.9394 for 1937).

Government. The Territory is controlled by an administrator, with headquarters at Darwin, aided by a deputy administrator in Stuart (Alice Springs). In the Australian House of Representatives at Canberra, the Northern Territory is represented by an elected member who takes part in the debates but does not vote. Administrator, C. L. A. Abbott.

NORTH OSETIAN AUTONOMOUS SOVIET SOCIALIST REPUBLIC. See RUSSIAN SOVIET FEDERATED SOCIALIST REPUBLIC.

NORTHWESTERN UNIVERSITY. A coeducational institution of higher learning in Evanston and Chicago, Ill., founded in 1851. It is composed of a college of liberal arts, a graduate school, and schools of engineering, commerce, jour-

nalism, music, education, and speech, in Evanston; and schools of law, medicine, dentistry, commerce, journalism, and University College in Chicago. For the autumn term of 1938 there was an enrollment of 5743 full-time and 9315 part-time students. In the 1938 summer session 4516 students were enrolled. The faculty included 634 full-time and 674 part-time members. The endowment as of Aug. 31, 1938, was \$25,000,000; the total budget for the fiscal year 1938-39 was \$4,800,000. The total gifts to the University during the year ending Aug. 31, 1938, amounted to \$2,300,000. In the various libraries of the University there were approximately 600,000 bound volumes and 200,000 pamphlets. President, Walter Dill Scott, Ph.D.

NORTHWEST TERRITORIES (CANADA). The vast area in northern Canada, east of the Yukon, provisionally divided, for administrative purposes, into the districts of Franklin (554,032 sq. mi.), Keewatin (228,160 sq. mi.), and Mackenzie (527,490 sq. mi.). Total area, 1,309,682 square miles; population (1937 estimate), 10,000 as against 9723 including 4670 Eskimos and 4046 Indians in 1931. Seat of government, Ottawa.

Production. The 211,551 pelts of fur-bearing animals taken during the year ended June 30, 1936, were valued at \$1,188,285. Mineral production (exclusive of radium and uranium) for 1937 was valued at \$117,978, of which silver (135,442 fine oz.) accounted for \$60,788.

Government. The Northwest Territories are governed from Ottawa by a commissioner, a deputy commissioner, and a council of five members (all appointed by the Governor General in Council). Commissioner, Charles Camself.

NORWAY. A constitutional monarchy of northern Europe. Capital, Oslo. Sovereign in 1938, King Haakon VII, who was elected by the Storting (parliament) Nov. 18, 1905.

Area and Population. With an area of 124,587 square miles (land area, 119,148 sq. mi.), Norway had a population estimated at 2,907,000 on Dec. 31, 1937 (2,814,194 at the 1930 census). In 1930, 28.5 per cent of the population lived in incorporated towns and cities. Living births in 1937 numbered 44,482 (15.3 per 1000); deaths, 30,025 (10.4 per 1000); marriages, 23,864 (8.2 per 1000). The 1930 census populations of the chief cities were: Oslo, 253,124; Bergen, 98,303; Trondheim (Nidaros), 54,458; Stavanger, 46,780; Drammen, 25,493.

Education and Religion. Primary education is compulsory and there is practically no illiteracy. Enrollment in elementary schools in 1935-36 was 369,861 pupils; in secondary schools, 27,680 (1934-35); in the university, 5518 in 1936. According to the 1930 census the entire population adhered to the national church (Evangelical Lutheran) with the exception of 12,207 Methodists, 7788 Baptists, 2827 Roman Catholics, 667 Mormons, and 81 Quakers.

Production. According to the 1930 census 29.9 per cent of the working population was engaged in agriculture, forestry, and gardening, 27.6 per cent in industry, 10.1 per cent in commerce, 9.6 per cent in transportation, 7 per cent in fishing and whaling, and 5.5 per cent in public administration and the liberal professions. The national income totaled 2,637,000,000 crowns in 1937 (2,305,000,000 in 1936). The 1929 land survey showed 1,924,000 acres under cultivation, 549,000 acres of meadow, and 18,531,000 acres of forest. The value of agricultural production was 516,000,000 crowns in 1937. Yields of the chief cereals in 1938 were (in metric tons): Wheat, 71,100 (68,000 in 1937); barley, 124,600 (129,200); rye, 11,000 (11,200); oats,

181,700 (188,500). The 1937 potato crop was 31,-620,000 bu.; sown hay, 2,901,000 metric tons; fodder roots, 720,000 metric tons. The 1938 fishing catch was valued at 86,101,000 crowns (81,563,000 in 1937); whaling catch, 1937-38, 988,000 bbl. of oil valued at 42,900,000 crowns (1,058,000 bbl. worth 72,800,000 crowns in 1936-37). Industrial production in 1938 was valued at about 1,890,000,-000 crowns (1,990,000,000 in 1937). Iron ore production in 1938 reached the record figure of 1,545,-000 tons (1,076,000 in 1937); pyrites in 1937, 1,050,000 metric tons. Output of other minerals in 1936 was (in metric tons): Feldspar, 24,695; titanium ores, 67,194; pig iron, 32,710; aluminum, 15,-405; zinc, 45,028; fine silver, 215,405 troy oz. The output of mechanical wood pulp for sale was 699,-348 metric tons in 1936; chemical wood pulp, 411,-290 metric tons; paper, 814,851,000 lb.; margarine, 121,983,000 lb.; beer, 12,006,000 gal.

Foreign Trade. Imports in 1938 totaled 1,188,-436,000 crowns and exports 786,746,000 crowns as compared with 1,292,717,000 and 923,258,000, respectively, in 1937. Ships, iron and steel, coal, mineral oils, and yarns and cordage were the chief 1937 imports, in order of value. The main exports were, in U.S. currency dollars: Fish and shellfish, \$32,285,000; wood pulp, \$27,718,000; paper, including newsprint, \$20,322,000; fur skins, \$10,298,-000; saltpeter, \$10,026,000. Of the 1937 general imports, 18.3 per cent by value came from the United Kingdom, 16.9 from Germany, 15.2 from Denmark and Sweden, and 8.5 from the United States. Of the 1937 exports, Britain took 25.1 per cent, Germany 13.1, Denmark and Sweden 11.6, and the United States 9.8.

Finance. For the fiscal year ended June 30, 1938, total actual budget revenues were 603,500,000 crowns and expenditures 558,900,000 crowns, leaving a gross surplus of 44,600,000 and a net surplus of 36,600,000 crowns. For 1936-37 receipts and expenditures balanced at 456,997,000 crowns. The budget estimates for 1938-39 balanced at 565,800,-000 crowns. The national debt on Dec. 31, 1938, totaled 1,430,390,000 crowns (1,471,420,000 at the end of 1937). The average exchange value of the Norwegian crown was \$0.2484 in 1937 and \$0.2457 in 1938.

Transportation. Norway in 1937 had 2272 miles of government railway lines and 212 miles of private lines. In 1936-37 the state lines carried 20,-669,000 passengers and 11,188,000 metric tons of revenue freight. Gross receipts were 76,834,000 crowns. Highways extended 25,289 miles in 1937; number of automobiles, 69,872. Civil aviation statistics for 1937 were: Miles flown, 574,920; flying hours, 5742; passengers, 16,080; baggage, 117,027 lb.; express and freight, 223,678 lb.; mail, 83,705 lb. Regular flying schedules are confined to the period May to September, inclusive. The Norwegian merchant marine as of June 1, 1938, comprised 1965 vessels of 100 tons or over with a capacity of 4,614,005 gross tons. The gross freight earnings of this fleet was estimated at 600,000,000 to 620,000,000 crowns in 1938 (750,000,000 in 1937). During 1937 a total of 10,716 vessels of 9,320,000 net registered tons entered Norwegian ports.

Government. Executive power is vested in the King, who acts through a cabinet responsible to the Storting (parliament). The Storting consists of 150 members, elected for three years by universal male and female suffrage. When assembled, the Storting divides itself into the Lagting and Odelsting, comprising one-fourth and three-fourths of the membership, respectively. The two sections

function much as do the upper and lower houses of a bicameral parliament. Premier in 1938, Johan Nygaardsvold (Labor), heading a cabinet formed Mar. 20, 1935. The composition of the Storting following the election of Oct. 19, 1936, was: Labor, 71; Conservative, 36; Liberal, 23; Agrarian, 18; Christian People's, 2.

History. The year 1938 was uneventful in Norwegian domestic affairs, except for the death of Queen Maud (q.v.) in London on November 20 and the action of the Storting on June 20 in making women eligible for government posts, including appointments to the clergy, under the same conditions as men. Like the other small democracies of northwestern Europe, Norway was alarmed by the growing danger of war in Europe and sought to chart a neutral course among the rivalries of the great powers. The Foreign Ministers of Finland, Denmark, Norway, and Sweden, met at Oslo on April 5-6 to formulate joint plans for the defense of their neutrality. On May 21, Norway formally recognized Italy's sovereignty over Ethiopia. Ten days later the Storting unanimously approved a declaration that Norway reserved the right to maintain complete neutrality in any war resulting from action by the League of Nations that she did not approve. Subsequently, on July 23, Norway joined with the six other members of the Oslo bloc in announcing at Copenhagen that she was "definitely determined never to participate in any conflict between great powers."

With the other Oslo powers, Norway agreed, on May 11, to abrogate the Hague Convention of May 28, 1937, for the gradual reduction of trade barriers. To defend its neutrality policy, the government in March asked for a moderate increase in defense appropriations. Foreign Minister Beck of Poland visited Oslo early in August in furtherance of his policy of creating a neutral bloc of eastern and northern European powers. The threat of war arising from the German-Czech crisis in September, led Norway to tighten her coast defenses. On September 26 Norway concluded a new agreement with Germany covering the transfer of funds for the service of German and Austrian loans. The Norwegian motorship *Norseman*, flying the flag of Panama, was seized by the Insurgent Government of Spain late in the year while en route from the Black Sea to Oslo with a cargo of wheat for the Norwegian Government. Foreign Minister Halvdan Koht addressed several protests to the Franco Government against this seizure, but an Insurgent court at Palma, Majorca, declared the ship and cargo a lawful prize.

An unemployment insurance law, providing for the compulsory insurance of about 544,000 industrial workers, was enacted June 24, 1938.

See DENMARK under *History*.

NORWEGIAN LITERATURE. See SCANDINAVIAN LITERATURE.

NOTRE DAME, UNIVERSITY OF. A Roman Catholic institution at Notre Dame, Ind., founded in 1842 for the higher education of men. The enrollment in the summer session of 1938 was 949, of which number 645 were religious, sisters of religious communities being permitted to attend. The enrollment for the first semester of 1938-39 was 3114. The faculty numbered 230. The endowment amounted to \$1,010,000, while the income for the year 1937-38, including student fees and departmental income, was \$1,904,599. The library contained 188,708 volumes and 1212 periodicals. President, the Rev. John F. O'Hara, C.S.C., Ph.D.

NOVA SCOTIA, nō'va skō'shya. An eastern maritime province of Canada. Area, 21,068 square miles; population (1938 estimate), 548,000 compared with 408,219 (1931 census). During 1936 there were 11,808 births (22.0 per 1000), 5897 deaths (11.0 per 1000), and 4129 marriages (7.7 per 1000). Chief cities (1931 population figures in parentheses): Halifax, the capital (59,275), Sydney (23,089), Glace Bay (20,706), Dartmouth (9100), New Glasgow (8858), Truro (7901), Sidney Mines (7769), New Waterford (7745), Amherst (7450), Yarmouth (7055). In 1936 there were 137,604 students enrolled in the schools including 11,570 students in the universities and colleges.

Production. The estimated gross value of agricultural production for 1937 was \$27,932,000 (\$29,039,000 in 1936) of which field crops accounted for \$10,570,000 (\$13,593,000 in 1936). Other important items included in the 1936 total of agricultural production were dairy products, \$6,495,000; fruits and vegetables, \$4,067,000; farm animals, \$2,548,000; poultry and eggs, \$1,216,000; fur farming, \$448,000. Livestock in the province (1937): 42,500 horses, 228,900 cattle (including 115,700 milch cows), 137,600 sheep, 50,000 swine, and 1,244,100 poultry. The apple crop for 1937 amounted to 2,252,636 barrels. In 1937, with 18,088 men employed in the fisheries, the fish catch was valued at \$9,229,834. The 1936 output of the forests equaled 121,446 M cu. ft. which was valued at \$6,199,647.

Mineral production (1937) was valued at \$30,314,188 of which coal (7,256,954 tons) accounted for \$25,640,819; gypsum (926,796 tons), \$978,288; gold (19,918 fine oz.), \$696,931; zinc (5,485,550 lb.), \$268,902; salt (47,865 tons), \$216,401. In 1936, from the 1158 manufacturing plants, with 15,944 employees, the net value of products was \$67,784,970 (central electric stations, and dyeing, cleaning, and laundry work ceased to be regarded as "manufacturing" industries for 1936).

Government. For the year ended Nov. 30, 1937, revenue totaled \$11,096,227; expenditure, \$11,033,838; net funded public debt, \$87,599,662. Estimates for the year ending Nov. 30, 1938, indicate revenue of \$11,653,961 and expenditure of \$11,646,062. The government is administered by a lieutenant-governor (appointed by the Dominion government) who is assisted by an executive council of 8 members who also are members of the House of Assembly of 30 members elected for a term of 5 years by popular vote of the people. Nova Scotia is represented in the Canadian parliament at Ottawa by 10 members in the Senate and 12 members in the House of Commons. Lieutenant-Governor, Robert Irwin (appointed May 1, 1937); Premier, A. L. MacDonald.

History. On Apr. 14, 1938, the legislative assembly of Nova Scotia passed a law, effective on June 30, 1938, providing for the control of the sale of goods by the installment system. Dealers must obtain an annual license from the attorney general if they wish to sell goods on the installment plan and their books must always be open for inspection by members of the department of the attorney general. See CANADA.

NYASALAND (nyä'sä-länd'; nī-äs'a-) **PROTECTORATE.** A British protectorate in East Africa. Land area, 37,374 square miles; population (Jan. 1, 1938), 1,639,329 including 1894 Europeans and 1631 Asiatics. The main settlements are Zomba, the headquarters of the government, Blantyre, Limbe, Lilongwe, Karonga, Fort Johnston, Livingstonia, and Port Herald.

Production and Trade. Cotton, tobacco, tea, maize, coffee, and rubber were the principal prod-

ucts. Livestock in the protectorate (1936): 260,764 goats, 222,718 cattle, 55,516 sheep, 72,371 pigs, 182 asses and mules, and 38 horses. Minerals known to exist include gold, copper, iron, bauxite, asbestos, mica, graphite, manganese, and coal. In 1937 (excluding transit), imports were valued at £746,575 (cotton piece goods, provisions, and hardware were the main items); exports, £901,925, of which tobacco (14,536,933 lb.) accounted for £423,994; tea (8,816,788 lb.), £326,038; cotton (4,628,821 lb.), £105,722. In 1938 there were 3371 miles of highways.

Government. For 1937 revenue amounted to £476,261; expenditure, £443,800. On Oct. 12, 1938, the report of the commission appointed in 1937 to inquire into the financial position of Nyasaland was issued. The public debt was about £5,250,000 and was represented mainly by railway development. Budget estimates for 1938 indicated revenue of £425,299 and expenditure of £425,000; in addition to the ordinary expenditure, about £200,000 is required for public debt payments and railway guarantees and this additional expenditure is made from loans and grants-in-aid from the Imperial government. The protectorate is administered by a governor who is aided by an executive council of 4 official members and a legislative council (consisting of the governor, the 4 members of the executive council, and 4 unofficial members), the governor having the right of veto (Order in Council of Sept. 4, 1907). Governor and Commander-in-Chief, Sir Harold B. Kittermaster (appointed Apr. 9, 1934). See RHODESIA, NORTHERN, under *History*.

OATS. The 1938 production of 31 countries reporting to the International Institute of Agriculture was placed at 3,291,952,000 bu. and the acreage at 90,048,000 acres. The production was 5.6 per cent above that of 1937 and 10 per cent above the average for the five years 1932-36, while the acreage was practically the same as for the preceding year and only 2.7 per cent below the 5-year average. The leading countries and their yields, not including the United States, the Soviet Republics, and countries of the southern hemisphere, were as follows: Germany, including Austria, 462,218,000 bu., Canada 400,897,000 bu., France 375,418,000 bu., Poland 178,847,000 bu., and Sweden 98,119,000 bu. For the four years 1932-35 the Soviet Republics reported an average production of 1,099,236,000 bu. and for the five crop years 1932-33 to 1936-37, Argentina, the leading producing country south of the equator, reported an average yield of 55,885,000 bu. In the crop-year 1937-38 the Argentine yield was placed at 47,468,000 bu., harvested from only 1,777,000 acres, although 3,254,000 acres were sown. The acreage for the crop year 1938-39 was reported at 3,361,000 acres, and the yield was estimated at 51,671,000 bu.

The Department of Agriculture estimated the 1938 oats crop of the United States at 1,053,839,000 bu. and the harvested acreage at 35,477,000 acres. The yield was 9 per cent less than the 1,161,612,000 bu. produced in 1937 but 1 per cent above the average for the 10 years 1927-36 and the acreage was slightly above the 1937 acreage but 7 per cent below the 10-year average. Of the 1938 area seeded, 1,138,000 acres were not harvested for grain. The average yield per acre this year was 29.7 bu. compared with 32.9 bu. in 1937 and the 1927-36 average of 27.1 bu. The leading states and their yields were reported as follows: Iowa 198,086,000 bu., Minnesota 128,700,000 bu., Illinois 110,534,000 bu., and Wisconsin 76,105,000 bu. Iowa led also in acreage with 5,913,000 acres, followed by Minnesota with

3,900,000 acres, Illinois with 3,509,000 acres, and Wisconsin with 2,455,000 acres. The average yields in the 48 states ranged from 14.2 bu. in Florida to 48.4 bu. in Washington. From Iowa and Minnesota eastward the crop suffered losses from rust, lodging, and sprouting in the shock while in Nebraska, North and South Dakota, and Montana the yield was better than in recent years although part of the acreage was cut early to reduce grasshopper and other insect damage and loss from drought.

During the fiscal year ended June 30, 1938, the United States exported 11,361,000 bu. of oats, 3,625,000 lb. of oatmeal, groats, and rolled oats in bulk and 13,827,000 lb. in packages and imported 11,000 bu. of grain and 212,000 lb. of oatmeal, rolled oats, and other like products.

OVERLIN COLLEGE. A nonsectarian institution for the higher education of men and women in Oberlin, Ohio, founded in 1833. The registration for the first semester of 1938-39 was 1832, College of Arts and Sciences 1335, Conservatory of Music 411, Graduate School of Theology 86, while that for the summer session of 1938 was 154. The faculty had 196 members. The productive funds of the institution as of Aug. 31, 1938, amounted to \$18,674,134, and the income for the year was \$1,561,297. The library contained 386,664 bound and 234,263 unbound volumes. President, Ernest Hatch Wilkins, Ph.D., Litt.D. LL.D.

OBITUARY RECORD OF THE YEAR.

See NECROLOGY.

OCEANIA, FRENCH ESTABLISHMENTS IN. A French colonial possession in the Pacific, consisting of the following main groups of islands: Society, Marquesas, Tuamotu, Leeward (Iles sous le Vent), Gambier, Tubuai, and Rapa. Total area, 1520 square miles; population (1936 census), 43,608 including 37,786 natives and about 5290 French. The main island is Tahiti (600 sq. m.; 19,029 inhabitants in 1936) of the Society Islands. Capital, Papeete (7061 inhabitants in 1931).

The chief products are copra, sugar, rum, bananas, oranges, mother-of-pearl, vanilla, and phosphates (1936 estimate, 147,000 metric tons). In 1937 the estimated value of merchandise imports (in old U.S. gold dollars) was \$1,600,000 (1936, \$1,300,000); exports, \$1,700,000 (1936, \$1,400,000). In 1935, 432 overseas vessels (442,852 tons) entered the ports. For 1936 revenue and expenditure balanced at 12,961,630 francs (franc averaged \$0.0611 for 1936). The establishments are administered by a governor aided by an administrative council. Governor, Henri C. Sautot (appointed, May 9, 1935).

OCEAN ISLAND. See GILBERT AND ELLICE ISLANDS.

OGLETHORPE UNIVERSITY. An institution of higher education for men, founded in 1913 as a revival of the famous institution which existed in Milledgeville and in Atlanta, Ga., from 1835 to 1872. The enrollment for the autumn term of 1938 was 800. The 1938 summer session had an attendance of 210. There were 31 members on the faculty. The income for the year amounted to \$120,000. The library contained 60,000 volumes. President, Thornwell Jacobs, LL.D., Litt.D.

OHIO. Area and Population. Area, 41,040 square miles, exclusive of State's waters in Lake Erie, but including (1930) 300 square miles of other water. Population: Apr. 1, 1930 (census), 6,646,697; July 1, 1937 (Federal estimate), 6,733,000; 1920 (census), 5,759,394. Cleveland had (1930) 900,429 inhabitants; Cincinnati, 451,160; Toledo,

290,718; Columbus, the capital, 290,564; Akron, 255,040.

Agriculture. Acreage, production, and value of the chief crops of Ohio, for 1938 and 1937, appear in the accompanying table.

Crop	Year	Acreage	Prod. Bu.	Value
Corn	1938	3,568,000	156,992,000	\$83,206,000
	1937	3,796,000	163,228,000	83,246,000
Wheat	1938	2,381,000	46,420,000	28,780,000
	1937	2,432,000	46,136,000	46,597,000
Hay (tame) ..	1938	2,637,000	3,695,000 ^a	20,322,000
	1937	2,472,000	3,255,000 ^a	25,064,000
Oats	1938	1,121,000	36,993,000	8,508,000
	1937	1,246,000	35,511,000	11,364,000
Potatoes ...	1938	118,000	12,626,000	8,207,000
	1937	118,000	10,030,000	7,823,000
Apples	1938	.....	3,565,000	3,565,000
	1937	.....	12,636,000	7,364,000
Tobacco ...	1938	27,500	24,617,000 ^b	3,438,000
	1937	30,900	28,587,000 ^b	3,850,000
Soy beans ..	1938	253,000	5,313,000	4,250,000
	1937	171,000	3,249,000	2,664,000

^a Tons. ^b Pounds.

Mineral Production. Of the yearly total, by value (\$147,832,820), for 1936, of the production of Ohio's native minerals, clay products, coal, and natural gas were the major items. The clay products amounted to \$46,115,626 for 1936. The production of coal, 24,500,000 net tons for 1937, closely approximated the 24,110,078 tons of 1936, which totaled \$38,838,000 in value. The output of natural gas, 46,994 million cu. ft., in value \$22,153,000 for 1936, was stimulated by a ready demand, which led to the completion of many productive wells in 1937. The yield of petroleum diminished to 3,559,000 bbl. for 1937, from 3,847,000 bbl. (value, \$6,090,000) for 1936. The production of lime, in which Ohio led the Union, rose to 1,069,374 short tons (1937), from 905,358 tons (1936), and by value to \$8,653,571, from \$7,354,902.

Industry in the treatment on non-native minerals included a heavy production of coke, which rose to 6,731,363 net tons (1937), from 6,242,300 tons (value, \$26,938,007) for 1936. Furnaces' shipments of pig iron increased to 7,724,882 gross tons (1937), from 7,351,407 tons (1936); in value, to \$167,076,855, from \$125,097,158; in this production the State ranked second in the Union. The production of open-hearth steel, however, diminished to 9,067,944 gross tons (1937), from 9,789,985 tons (1936).

Education. Shrinkage in revenue brought, in 1938, some renewal of the problem of support, from which the public schools of Ohio had lately emerged into fairly normal conditions. The regulations for the certification of teachers were amended in a manner thought likely to increase the competence of the teaching body.

Charities and Corrections. Ohio's administration of the chief sorts of public support for needy inhabitants was affected by the year's political campaigning. Governor Davey, opposed by a strong faction of his fellow-Democrats, had difficulty in obtaining from the Legislature (see *Legislation*, below) additional appropriations and money-raising acts with which to augment the localities' means of poor-relief. In the course of the State campaign the State's Division of Aid for the Aged, administering old-age assistance, was accused of having sent out to the recipients of this form of public support letters urging that they give political support to Davey; the Federal Social Security Board, taking up the accusation, summoned Davey for questioning; treating the proceedings as a political move against him, he failed to attend when summoned.

The State's 23 institutions for the public care and custody of persons, all operated by the Department of Public Welfare (Mrs. Margaret M. Allman, Director), contained in 1938 a daily average of 38,516 inmates. These institutions were: State mental hospitals at Athens, Cleveland, Columbus, Dayton, Macedonia, Lima, Cincinnati, Toledo, and Massillon; Ohio Hospital for Epileptics, Gallipolis; institutions for the feeble-minded, at Columbus, Orient, and Apple Creek; Ohio State Sanatorium, Mount Vernon; Ohio Soldiers' and Sailors' Home, Sandusky; Madison Home, Madison; Boys' Industrial School, Lancaster; Girls' Industrial School, Delaware; Ohio Penitentiary, Columbus; Prison Farm, London; Ohio State Reformatory, Mansfield; Reformatory for Women, Marysville, Bureau of Juvenile Research, Columbus. The Department's non-institutional services included aid to the needy among the aged and the blind, assistance of various sorts to children, supervision of probation and parole, work of criminal identification, and the operation of prison industries. See OLD-AGE PENSIONS.

Legislation. The second special session of the Legislature, continuing from 1937, adjourned at the beginning of March. It made considerable but, in the outcome, insufficient provision for the State's contribution to poor-aid: it authorized the withdrawal of \$6,500,000 from the proceeds of the sales tax, for distribution among the local subdivisions at the rate of \$2 from the State for every \$1 granted by a subdivision for the support of indigents; and it imposed an excise tax at the rate of 0.65 per cent on the receipts of public utilities, intended to produce about \$4,000,000 a year for the same purpose. It passed, but Governor Davey vetoed a bill limiting the receipt of poor-relief to citizens and to those having declared intention to become citizens, and one creating a Director of Relief, subject to a board of review. The Senate created a committee to hunt for improper practices in the State administrative offices.

A later (third) special session of the current Legislature, summoned by Governor Davey to make further allowance for the support of the poor, convened on May 16 and adjourned on July 8. It enacted the means of the State's supplying about \$12,000,000 toward the support of the indigent for the remainder of 1938. The expiring temporary taxes for raising money to this use were made to stay in effect through 1941, and authority was given the State administration to borrow money by pledging future receipts of some taxes.

Political and Other Events. Dependency on public support was reported in May to have spread to a greater extent than ever before in Ohio. The WPA then had on its payrolls 233,500 individuals, and the cases listed with the State's Auditor as receiving State and local public support numbered 144,795. The actual recipients commonly represented whole families; consequently the total of the persons supported at Federal or State-and-local cost was estimated at 1,272,500—one-fifth of the population of the State. Cleveland had one-sixth of those dependent on the latter kind of support. Toledo, because of the idleness of its glass-making industry, had a great number, as did Dayton and Columbus; State aid in these cities gradually ran out in the spring. Their own authorized means were worked to exhaustion, Cleveland in particular owing about \$2,000,000 to vendors of foodstuffs on food orders that it had issued to poor families who had used them to pay for nourishment. The situation was complicated by considerable popular antagonism to meeting the cost of poor-aid in the

affected cities. Areas not affected objected to being taxed for a need not their own, and many people in the cities themselves grudged paying taxes to support indigents who had come in from other parts not many years before and were consequently still regarded as outsiders. Cuyahoga County, embracing Cleveland, went so far as to avoid collecting the necessary but disliked taxes, though dependency almost trebled in Cleveland, from December, 1937, until May. By providing that money might be borrowed on future receipts of certain taxes, the Legislature bypassed the obstacle of popular opposition to immediate further taxation for poor-relief, so that difficulties diminished at least temporarily after the midyear. Ohio's system of unemployment-compensation in accordance with the Federal Social Security Act, though already in effect as to the collection of taxes to build up the fund for the purpose was not to start the intended payments to persons thrown out of work until the outset of 1939. Absence of such payments in 1938 accounted for part of the need for other kinds of public assistance, but the outlook indicated that this need would diminish after the year-end, as unemployment-compensation came into play.

Proceedings Against Governor Davey. Several groups moved, by official proceedings and otherwise, during the months prior to the State primary elections, to bring up charges damaging to Governor Davey. These groups included a committee of the strongly Democratic State Senate, Democratic National Committeeman Charles Sawyer and his political supporters, the State Attorney-General's office, and the Committee for Industrial Organization. The Senate's committee, inspired by members of Davey's own party, acted with energy worthy of a non-partisan or a Republican body: it drew forth testimony that the State had paid for coal of a more expensive grade than it had received, that a solicitor had promised that the State would buy automobiles of the General Motors' make if a contribution of \$25,000 were given to Davey's campaign fund of 1934, and other like matter. The committee terminated at the close of the second special legislative session, the lower house of the Assembly having failed to vote funds for its continuance after the March adjournment.

Charles Sawyer, starting in January a campaign for the Democratic nomination as candidate for Governor, sharply criticized Davey in public speeches and an open letter. Convened by the Attorney-General, a grand jury of Hamilton County heard testimony that over 100 employees of the State liquor stores in and about Cincinnati had been solicited to give a percentage of their salaries as contributions to Davey's third-term campaign fund; this grand jury brought indictments in June and July against 18 persons, including Director of Finance Allison, on charges of political assessment of salaries of persons in the State's civil service. Through the publications of some of the labor organizations within the C.I.O., Davey was denounced in July as having been harmful to the C.I.O.'s policies and undertakings, and the vote of members of the component unions was marshaled to defeat his renomination.

Other State Matters. An act passed by the Legislature in 1937, supposedly for the minor purpose of refunding to taxpayers about \$250,000 in penalties and interest on delinquent taxes paid up between 1930 and Jan. 1, 1937, was found likely to involve the refunding of a much greater total. It was contested in the courts; the State Supreme Court ruled (May 4) that the law was uncon-

stitutional. The effort of the 91st Assembly to obtain for its members payments to the aggregate of some \$27,000 as mileage on suppositious trips between their homes and the Capital at the times of a number of "constructive" or fictitious weekly meetings and recesses written into the official journals as having occurred between July 22 and Dec. 8, 1936, was also fought in the courts. The opponent of the measure, a farmer of West Jefferson, named Arnett Harbage, won in the Court of Common Pleas a decision (May 24) enjoining payments not yet made and ordering those already made (payments to the Senators) to be restored.

Delegates from Ohio and seven other States concerned in the sanitary condition of the water of the Ohio River drew in Cincinnati a compact, for adoption by their respective States, for measures to rid the river of pollution. The desired Federal legislation for aid to works to end the pollution was not enacted during the year. In the administration of the law assigning to the counties a proportion of the proceeds of the State's sales tax, the question arose, whether the State could withhold payment to counties that had failed to pay sums due to the State. A suit of Montgomery County, to mandamus the payment, to it, of its full share of the tax, led to a decision of the Supreme Court (March 9) upholding the State Auditor's retention of enough of a county's share to satisfy unpaid debt. The renewed depression in business was accompanied by a sharp fall in receipts from the sales tax for a considerable part of 1938. The completion of the Muskingum project by the Federal Government was marked by a ceremony (July 17) at the Bolivar Dam, near New Philadelphia; the whole work, including 14 dams, was delivered into the control of the Muskingum Watershed Conservancy District. The undertaking was expected to do away with the severe floods that had afflicted the population along this river and also along the Ohio River, below the junction of the two.

Municipal Affairs. In Cincinnati the Charterites (local political party) lost the control of the City Council, which they had dominated for 12 years; Republican members, with Independent aid, elected (January 1) the Mayor, James G. Stewart. The city's planning commission rejected as too costly a plan submitted by the U.S. Army Engineers, for a \$6,000,000 wall at the river bank, to shut out floods. Columbus was deprived of the service of street cars and busses for a week, because of a strike of the operating force, which ended (April 23) without the strikers' gaining their demands for a closed shop and higher pay.

Elections. In the general election (November 8) Robert A. Taft (Rep.), son of the late President William H. Taft, was elected U.S. Senator, by a heavy majority over Senator Robert J. Bulkley (Dem.), a thoroughgoing supporter of the New Deal, who sought re-election. For Governor, John W. Bricker (Rep.) defeated Charles Sawyer (Dem.); the whole Republican State administrative ticket was elected. Republicans were chosen to occupy 15 of the State's 24 seats in the U.S. House of Representatives; the remainder, 9 seats, went to Democrats; Republican net gain in the delegation to the House was 13 seats. Both Houses of the State Assembly passed into Republican control.

The almost universal defeat of the Democratic candidates in November, while in line with results in some of the other northern, central, and eastern States, befell a party handicapped by months of

domestic strife. Democrats opposed to Governor Davey (see above) had brought his administration into public mistrust. He nevertheless retained a powerful political organization and sought a nomination for a third term. His opponent Sawyer, backed by the anti-Davey faction, won the Democratic nomination only by a narrow margin, in the primary on August 9.

Officers. Ohio's chief officers, serving in 1938, were: Governor, Martin L. Davey (Dem.); Lieutenant-Governor, Paul P. Yoder; Secretary of State, William J. Kennedy; Auditor, Joseph T. Ferguson; Treasurer, Clarence H. Knisley; Attorney-General, Herbert S. Duffy; Director of Education, E. N. Dietrich.

Judiciary. Supreme Court: Chief Justice, Carl V. Weygant; Judges, George S. Myers, Roy H. Williams, Arthur H. Day, Charles B. Zimmerman, Robert N. Gorman, Edward S. Matthias.

OHIO NORTHERN UNIVERSITY. An institution for the higher education of men and women at Ada, Ohio, founded in 1871, and under the direction of the Methodist Episcopal Church. The enrollment for the fall quarter of 1938 was 757. The 1938 summer quarter had an attendance of 299. The faculty consisted of 40 members. The productive endowment of the institution, as of June 30, 1938, amounted to \$402,508, and the income for 1937-38, to \$175,486. The library contained 21,000 volumes. President, Robert Williams, DD., LL.D.

OHIO STATE UNIVERSITY. A State institution for the higher education of men and women in Columbus, Ohio, founded in 1870. The enrollment for the autumn of 1938 totaled 13,148, distributed as follows: Graduate School, 1341; agriculture, 1554; arts and sciences, 2492; arts-education, 95; commerce and administration, 2205; dentistry, 200; education, 2280; engineering, 1864; law, 220; medicine, 303; nursing, 33; optometry, 115; pharmacy, 219; veterinary medicine, 227. There were, in addition, 6054 students registered in the summer session. The faculty numbered approximately 1000. Endowment amounted to \$1,574,000, total income for the year was \$8,372,800, and total expenditures were \$8,670,580. The library contained 497,175 volumes. Acting President, William McPherson, LL.D.

OHIO UNIVERSITY. A State university for the higher education of men and women, founded at Athens, Ohio, in 1804. The student enrollment for the 1st semester of 1938 was 3288, of whom 194 were in the College of Applied Science, 503 in the College of Arts and Sciences, 431 in the College of Commerce, 610 in the College of Education, 73 in the College of Fine Arts, 116 in the Graduate College, 1350 in the University College, and 11 in the Division of Physical Welfare. The enrollment for Extension Division and Correspondence Study courses was approximately 1090. The faculty numbered 241. The library contained 114,365 bound volumes. The amount of endowment and income for the period July 1, 1937, to June 30, 1938, was endowment, \$85,814; interest, \$4909. President, Herman G. James, Ph.D., J.D., LL.D.

OHIO WESLEYAN UNIVERSITY. An institution for the higher education of men and women in Delaware, O., under the control of the Methodist Episcopal Church, chartered in 1842. For the autumn semester of 1938 the total enrollment was 1421. The faculty numbered 116. The productive endowment of the university amounted to \$3,633,354 and the income for 1937-38 for educational enterprises was \$467,733 and for auxiliary enterprises \$321,954. The library contained 153,566

volumes. Acting President, Edward L. Rice, Ph.D., Sc.D. See PRINTS.

OIL. See PETROLEUM.

OKLAHOMA. Area and Population. Area (1930, with later revision to exclude 45 square miles yielded to Texas in a revision of the boundary), 70,012 square miles; included (1930) water, 643 square miles. Population: Apr. 1, 1930 (census), 2,396,040; July 1, 1937 (Federal estimate), 2,548,000; 1920 (census), 2,028,283; Oklahoma City, the capital, had (1930) 185,389 inhabitants; Tulsa, 141,258.

Agriculture. Acreage, production, and value of the chief crops of Oklahoma, for 1938 and 1937, appear in the accompanying table.

Crop	Year	Acreage	Prod. Bu.	Value
Wheat	1938	5,302,000	58,322,000	\$33,827,000
	1937	4,610,000	65,462,000	62,844,000
Cotton	1938	1,732,000	570,000	22,515,000
	1937	2,372,000	773,000	27,891,000
Corn	1938	1,754,000	35,080,000	16,488,000
	1937	1,720,000	30,960,000	17,028,000
Oats	1938	1,307,000	27,447,000	6,038,000
	1937	1,334,000	27,347,000	9,845,000
Grain sorghums	1938	1,211,000	12,716,000	5,468,000
	1937	1,381,000	13,810,000	7,319,000
Hay (tame)	1938	582,000	815,000	4,564,000
	1937	555,000	680,000	5,644,000
Potatoes	1938	33,000	2,376,000	1,663,000
	1937	34,000	2,516,000	1,686,000

* Bales. * Tons.

Mineral Production. The yearly total value of Oklahoma's production of native minerals attained, for 1936, \$305,152,286, of which petroleum contributed more than three-fourths, while most of the remainder came from natural gas and from gasoline extracted therefrom. The State led the Union in the production of zinc, which, however, supplied little more than 4 per cent of the State's yearly mineral total. The yield of petroleum, while still limited to some extent by proration, advanced to 228,924,000 bbl. for 1937, from 206,555,000 bbl. (value, \$232,100,000) for 1936. The Pitts district, which had become a substantial producer only in 1935, contributed half the gain of 1937; its total, 30,977,000 bbl. for that year just exceeded that of the declining Seminole field, from which it took second place in the State's production. The Oklahoma City district somewhat increased its production after several years of previous decline and kept a long lead as the State's foremost source of petroleum. No remarkable finds of petroleum in new territory were reported for 1937. The quantity of natural gas produced and sold to consumers in 1936 was 280,481 million cu. ft.; its value, \$28,847,000. From gas processed for the purpose, including some not sold to consumers thereafter, gasoline was extracted to the total of 486,704,000 gal. in 1937, as against 418,591,000 gal. (value, \$17,516,000) in 1936. The quantity of zinc in ore mined yearly rose to 135,696 short tons for 1937, from 129,175 for 1936; the value of the metal total advanced to \$17,640,480, from \$12,917,500. Coal mined in 1936 attained, in quantity, 1,540,303 short tons; in value, \$3,500,000. Production of lead was 29,840 short tons for 1937 and 25,427 for 1936; by value, \$3,521,120 (1937) and \$2,339,284 (1936).

Finance. Oklahoma's State expenditures in the year ended June 30, 1937, as reported by the U.S. Bureau of the Census, were: For maintaining and operating governmental departments, \$57,638,597 (of which \$13,822,775 was for local education and \$14,293,454 for highways); for interest on debt, \$561,025; for capital outlay, \$13,181,108. Revenues were \$80,900,143. Of these, property taxes fur-

nished (from former years' levies) \$141,787; sales taxes, \$28,191,411 (including tax on gasoline, \$13,297,461); income taxes, \$7,226,455; departmental earnings, \$2,336,780; sale of licenses, \$7,299,939; unemployment compensation, \$3,727,492; Federal or other grants-in-aid, \$16,060,399. Funded debt outstanding on June 30, 1937, totaled \$12,898,600. Net of sinking-fund assets, the debt was \$11,935,899. The assessed valuation of taxable property was \$1,214,908,401 for 1937, but the State levied no ad-valorem taxes for that year.

Education. Obtaining more ample aid from the State, the public schools of Oklahoma were able in 1938 to effect improvement in a variety of ways. According to the *Journal* of the National Education Association, the public schools were kept open longer on the average, some increase occurred in teachers' salaries, and schools' equipment and the service of transporting pupils improved.

Political and Other Events. The Social Security Board stopped payments (March 2) of Federal money under its control, toward aid to the pensions for the elderly indigents and assistance to other groups in Oklahoma covered by the Social Security Act. In doing so it alleged misuse of public funds in the State's administration of old-age assistance. The State's system of old-age assistance, adopted in 1936 and in effect in 1937, had begun by taking over about 37,000 persons from poor-relief, without due investigation of their cases on its own part. This was possible because the management of the old-age assistance rested largely in the county commissioners and lacked sufficient central control. The investigation of cases already on the rolls, attempted by the workers that the law provided for the purpose, was halted by widespread protests. The number of the recipients mounted above 68,000 before the beginning of 1938. It greatly exceeded expectations and the means at hand for meeting the State's half of the monthly payments. The monthly payments, over \$1,000,000, ran nearly to double the average for the 48 States, while the average check of the recipient was less than four-fifths of the average for the Union. This anomaly was explained by the fact that Oklahoma paid assistance to 6 out of every 10 inhabitants of qualifying age, or thrice the corresponding ratio for the whole Union; no other State, indeed, approached Oklahoma's ratio. About 20,000 more persons were said to be seeking old-age assistance at the time when the Federal contributions ceased. Investigators for the Social Security Board were reported to have found in each of three counties more recipients than the estimated number of sufficiently aged people. See CHILD LABOR; OLD-AGE PENSIONS.

The formation of soil-conservation districts, chartered by the Secretary of State as authorized by a State act, began in April. Such districts were to have power to elect supervising boards and to adopt regulations, restricting the use of land, by popular vote.

Elections. Leon C. Phillips (Dem.), elected Governor at the general election (November 8), won by an ample margin over Ross Rizley (Rep.). U.S. Senator Elmer Thomas (Dem.), winning reelection, easily defeated Harry O. Glasser (Rep.). All the nine Democratic candidates were elected U.S. Representatives. Senator Thomas was marked as a friend of the New Deal, by President Roosevelt's own declaration (July 9) in a public address at Oklahoma City, of his sentiment for the Senator. Thomas won the Democratic nomination at the primaries (July 12).

Officers. Oklahoma's chief officers, serving in 1938, were: Governor, E. W. Marland (Dem.); Lieutenant-Governor, James E. Berry; Secretary of State, Frank C. Carter; Auditor, C. C. Childers; Treasurer, Hubert L. Bolen; Attorney-General, Mac Q. Williamson; Superintendent of Public Instruction, A. L. Crable.

Judiciary. Supreme Court: Chief Justice, Monroe Osborn; Associate Justices, Thurman S. Hurst, Wayne W. Bayless, Earl Welch, James I. Phelps, N. S. Corn, Thomas L. Gibson, Orel Busby, Fletcher Riley. Criminal Court of Appeals: Thomas H. Doyle, Bert B. Barefoot, James S. Davenport.

OKLAHOMA, UNIVERSITY OF. A State institution for the higher education of men and women in Norman, Okla., founded in 1890. The enrollment for the autumn of 1938 totaled 6728, of whom 4668 were men and 2060 were women. For the summer session of 1937, 2347 students were registered. There were 329 faculty members. The productive funds amounted to \$3,841,071, and the income for 1938-39 was \$2,378,171. The library contained 220,000 volumes. President, William Bennett Bizzell, Ph.D.

OLD-AGE PENSIONS. Work of the Social Security Board. It will be recalled that under the Social Security Act, signed on Aug. 14, 1935, provision was made for matching Federal grants-in-aid to the states in order to provide old-age assistance. The intention here was to extend to needy aged 65 years and over cash allowances to permit them to live in their own homes or with relatives and friends and to complete their last years outside of the walls of county poorhouses. This system was inaugurated at once and in August, 1935, 314,000 aged persons were receiving the assistance provided for. By September, 1938, this total had mounted to 1,737,781, with all the jurisdictions in the United States co-operating. In addition, the law established a system of old-age benefits based upon the accumulation of a reserve fund out of which after 1942 persons 65 years and over were to receive monthly benefit or retirement allowances.

In September, 1938, total obligations of \$34,400,000 were incurred for payments to the 1,737,781 aged persons. The average payment for all the jurisdictions in the United States as a whole amounted to \$19.21. The state averages ranged from \$6.37 in Mississippi to \$32.39 in California.

The Aged Pensioners. A survey made by the Social Security Board of the 475,000 aged persons who were placed on the state rolls during the eight months ending June 30, 1937, indicated the following characteristics of the aged pensioner group receiving old-age assistance. The typical new pensioner, according to the Board's findings, was between 70 and 75 years of age, a native-born American in good physical health, living with his spouse or other members of his family, and without any source of income other than his pension. In this last connection, the Board revealed that not less than 81 per cent of the recipients of old-age pensions had no other sources of income. It was also revealed that aged persons hesitated to seek any help other than the pensions granted them by the states, and that only one-fourth of those pensioned during the eight-month period in question had been assisted by private or public agencies in the month immediately preceding acceptance of their applications. Of the aged who were aided, 99,000 had received general relief, 13,000 had been employed on the WPA, and 5000 had been cared for by private

agencies. It was also significant to note that in the eight-month period in question 5123 aged men and women in 38 jurisdictions had been removed from county poorhouses. It was also revealing to learn that the pension grants were meeting the needs of fully 95 per cent of the aged persons. Thus, fully 71 per cent of all the pensioners lived in homes where no other public aid was received, while another 19 per cent were in households in which another member was receiving old-age assistance. The fundamental social value of old-age pensions as a means of keeping families together was further established by the fact that 75 out of every 100 pensioners lived at home, more than half of them with their spouses. The great majority of men and women enjoyed good health, fully 86 per cent of the men and 82 per cent of the women being able-bodied. Despite the fact that 15 of the 39 jurisdictions reporting to the Board extended aid to non-citizens, only 2119 pensioners, or only $\frac{1}{2}$ of 1 per cent of the entire pension group, had not become naturalized. Negroes represented 11 per cent of the persons on the pension rolls, approximately corresponding to the proportion in the general population.

Politics and Old-Age Pensions. It was becoming increasingly evident during the year that the old-age pension systems in a number of states were becoming infected with the virus of party politics. Upon the old-age pensioners were descending political spoilsmen and patronage seekers who were flagrantly using the device for the purposes of building up their machines and obtaining political support in election campaigns. Mr. John T. Flynn openly charged that a "damnable system of political patronage and spoils" was developing in the administration of old-age pensions in a number of states, notably Ohio, Missouri, Colorado, and Oklahoma. Writing in *Collier's*, he declared that the outrageous situation in these states had led him to the conclusion that "our social security system has been poisoned at its very inception by the induction of political elements into the organization and launching" of the program.

Conditions in Oklahoma and Ohio were particularly deplorable. From the start, Oklahoma led the nation in the ratio of pensioners to the total aged population of the state. In February, 1938, for example, Oklahoma had 580 out of every 1000 persons 65 years of age and over on pensions as against only 133 and 104 such pensioners per 1000 aged in the states of New York and New Jersey respectively. Charging that the pension lists were padded with persons who were totally ineligible for aid and that the administration was faulty in that administrators and relief workers were not qualified from a technical standpoint, the Social Security Board, after extensive hearings, in March, 1938, withdrew Federal subsidies for old-age assistance, aid to the blind, and aid to dependent children from the state. On May 27, assured that necessary changes in the pension rolls and administrative machinery would be effected, the Social Security Board announced that Federal subsidies to Oklahoma would be resumed as of April 1. Public criticism, particularly in the state itself, continued to be felt, however, and the result was that the Social Security Board reconsidered its action, and on June 7 decided that "Federal grants to Oklahoma will be made only on the basis of cases for which eligibility has been established by investigation or by reinvestigation by the state agency since March 2nd." How necessary such surveillance was was indicated by the fact that as a result of reinvestigations of but 13,500

cases, no less than 28 per cent had to be dropped from the rolls. Of the 3500 cases dropped, over 1000 were those of persons who, though dead, had still been on the rolls; another 1000 recipients had income or property in excess of the state qualifying standards; and 500 did not meet the age requirements of the state laws. In November, the Social Security Board once again moved against Oklahoma when it stopped funds to the state on the grounds that the State Welfare Commission was not instituting an honest merit system for the selection of pension personnel and that the overloaded pension rolls had not been purged of the ineligible.

A somewhat similar situation developed in Ohio when in September, as a result of prolonged hearings which revealed lax administration of old-age pensions and flagrant manipulation of the system for political purposes in the selection of personnel, in political appeals to pensioners and in blanket increases of grants by Gov. Martin L. Davey seeking re-election, the Social Security Board ordered the cessation of Federal aid to the state of Ohio beginning October 1. The Director of the State Division of Aid for the Aged refused to recognize the validity of the Federal charges and in turn accused the Social Security Board of "violating the Federal law in this effort to interfere in the selection, tenure of office and salaries of state employees." Referring to the Federal charge of improper investigation of pension applicants, the Ohio official told the Federal authorities he doubted "if you have any right to tell Ohio how many people to put on our rolls." Governor Davey failed in his campaign for re-election and because of the continued defiance of his administrators, it seemed likely that Ohio would have to wait until January, 1939, when a new administration was to take over, before the pension controversy could be settled. In the meantime, the Governor, on November 10, ordered the Finance Director to borrow 1,000,000 from the state's general fund in order to pay the full October pension. In issuing the order, Governor Davey accused the Social Security Board of "robbing" the state of the Federal share of funds and declared he would demand a Congressional investigation of the Board's "tyrannical action."

In Colorado, the question of old-age pensions provoked a good deal of acrimonious controversy as a result of the decision of Colorado political leaders to adopt a plan calling for the payment of \$45 a month at the age of 60 to all aged persons. It was becoming increasingly evident that with such a heavy toll taken from the public revenues, the state of Colorado was heading for financial difficulties. Eight months after the writing of the plan into the constitution, that is to say in May, 1938, a petition signed by 40,000 persons called for the repeal of the constitutional amendment on which the present program was based. Under the present arrangement 85 per cent of the sales and legal taxes, as well as several other state levies, were being allocated to pensions. That the financial strain was already making itself felt was revealed by the fact that in January, 1938, despite the constitutional provision requiring the payment of \$45 monthly, the average payment was \$39.60 and in May, 1938, \$26.62. Not only did the citizens of Colorado begin to realize that a reduction in funds was necessary, but most of the state institutions had been without funds for some time and were being compelled to resort to the expedient of buying supplies on credit.

With the approach of the 1938 elections, to quote Mr. Abraham Epstein, Secretary of the American

Association for Social Security, "a frenzied wave of lunacy and old-age pension proposals" spread over the country. California led the parade, although somewhat similar proposals, perhaps a little more modest in character, made their appearance in virtually every section of the country. The California scheme, which had the support of the Democratic candidate for the United States Senate, Mr. Sheridan Downey, promised pensions of \$30 every Thursday to every unemployed Californian who attained the age of 50. Payments were to be made in self-liquidating state warrants. The warrants were to be financed by a 2 per cent tax consisting of two-cent stamps and attached to each dollar warrant each week. The warrants theoretically would be acceptable for transactions within the state as real money. Estimates of the cost of the scheme varied, but the accepted figures were that about 811,000 persons in California could qualify, receiving \$24,300,000 in warrants every week. Before the end of the first year it was estimated there would be in circulation in the State of California warrants of a face value of considerably more than one billion dollars that could be redeemed for currency only if \$1.04 in stamps was affixed to each \$1 warrant.

Somewhat similar devices made their appearance in Oklahoma, Oregon, Arkansas, Washington, and Florida. In most of these states, politicians, seeking to capitalize on the great hold that the Townsend movement had established over the minds of the aged, were promising pension allowances to the aged anywhere from \$50 to \$100 monthly. Republican leaders, notably, were clamoring on what Mr. Epstein called the "utopian bandwagon." In Massachusetts, in Maine, in New Hampshire, in Oregon, and in Illinois, Republicans seeking election either endorsed the Townsend plan or promised to raise pensions to a minimum of from \$30 to \$50 monthly for all aged persons 60 years and over.

Mr. Epstein drew the following conclusions from this new wave of "pension lunacies sweeping the country."

The tide can be stemmed in only one way: the old-age assistance programs must be made more adequate and aid must be paid without red tape to all those in need of assistance under systems which are strictly nonpolitical. The old-age and unemployment insurance programs must be immediately amended, not so much by extending their inadequate provisions to newer groups, but principally by making them adequate and socially constructive measures for meeting the problems which exist today, not those of a generation hence.

The election results indicated that while the American voters on November 8 hesitated to adopt the more absurd plans of the old-age pension advocates, nevertheless they voted into office candidates who promised bigger and better pensions. The California "\$30 every Thursday" scheme was voted down in a popular referendum. Similarly, Oregon voters turned down the plan submitted to them in a referendum for \$100 a month at the age of 65, but the electorate instructed the state legislature to ask Congress for a convention to approve the Townsend plan. On the other hand, the voters of North Dakota approved a referendum calling for a minimum pension of \$40 monthly, and the people of Colorado also turned down the proposal to repeal the constitutional amendment requiring \$45 monthly pensions at the age of 60.

It is interesting to note that no questions of utopianism were involved in the social security referenda in Missouri and New York. In Missouri the voters approved the reduction of the pensionable age from 70 to 65. In New York, the electorate voted overwhelmingly for a constitutional amend-

ment permitting the use of state funds for social security, including old-age, unemployment, and health insurance. A proposal for the legalization of slot machines and the application of such funds to old-age pensions was defeated in Nebraska.

Amendment of the Social Security Act. During the year, increasing attention was being directed to the inadequacies and shortcomings of the Social Security Act, notably as it applied to the questions of the care of the aged and the unemployed. Constructive programs for change, as regards the problem of the aged, emanated from two sources during the year, Mr. Abraham Epstein, Secretary of the American Association for Social Security, and the Advisory Council on Social Security. Mr. Epstein presented the following program for the amendment of the old-age provisions of the Social Security Act. (1) There was no necessity for increasing the present Federal maximum allowance of \$15 a month. Disappointment with this section was due not to the present limit but to the fact that there existed a lack of national uniformity resulting in the great disparity in pensioners and allowances in the different states. Instead of increasing the Federal grant to say \$20 a month, Mr. Epstein proposed that the Federal grant-in-aid be based upon the state average pension for all those aided instead of upon the amount paid to each individual pensioner. By raising the average, the wealthy states would thus be able to increase the present grants of many necessary cases above \$30 monthly without involving the Federal Government in higher costs. To take care of the problem presented at the poorer states, the Federal Government should make the \$15 average for all persons available to any state which contributes at least an average of \$5 for the pensioners it aids.

(2) Mr. Epstein was opposed to the suggestions, currently receiving a good deal of attention, that the present scale of old-age insurance benefits be paid in 1940 instead of 1942. He said in reply to this proposal,

The problems raised by the present provisions are not those of postponed inauguration but of inherent incapacity to meet the existing needs for a long time to come. Under the present scheme, a workman must earn at least \$100 monthly for 20 years before he can receive a pension of about \$30 per month. . . . The mere advancement of the first date of the present benefit payments is thus meaningless since the small benefits under the present set-up would fail to meet the needs of the aged.

(3) Monthly benefits should be increased for those retiring in the early years. However, Mr. Epstein warned that this recommendation could not be applied until the insurance coverage was limited to those earning below \$3000 annually.

(4) Mr. Epstein was in favor of extending old-age insurance benefits to the aged wife of the insured during his life and after his death.

(5) Mr. Epstein pointed out that theoretically there was no defense for excluding those groups now remaining outside of the present Social Security Act, notably seamen, bank employees, and workers in non-profit making organizations. He pointed out, however, that if the present complicated method of administering the Act remained unchanged, its extension to domestic and farm laborers was impossible. In conclusion he referred to the following: (a) The present insurance system was started solely by taxes on workers, which directly reduced the income of the very group supposed to benefit by the legislation, and by taxes on payrolls which because of their transfer to the price of goods and services were in reality direct taxes on the consuming public. From Jan. 1, 1937,

to June 30, 1938, according to Mr. Epstein, the Federal Government collected in old-age insurance taxes \$709,000,000. Up to June 30, 1938, however, it had spent the total insignificant sum of \$5,400,000 in lump sum payments to those insured persons who had reached the age of 65 and to the survivors of insured persons who died. (b) Most of the present evils associated with the Act could be overcome if the Federal Government would assume a share of old-age insurance cases as is done by all other nations.

Such a step would also offer us the best method of scrapping the utterly fantastic and dangerous reserve basis of the old-age insurance program. This reserve, which is to reach \$47,000,000 by 1980, is totally unnecessary and inapplicable to a governmental social insurance program. Reserves held by a government are in effect nothing but a fiction as they constitute liabilities rather than assets.

(c) The program should promptly be put on a pay-as-you-go basis and the increase from the present contribution—1 per cent of wages of workers and 1 per cent of payrolls of employers—should be effectuated only when further funds would be necessary.

Mr. Epstein's position was supported very largely by the report released on December 18 by the Advisory Council on Social Security, appointed jointly by a special Senate Finance Committee and the Social Security Board. After labor for 14 months, the Advisory Council on Social Security, in a thoroughgoing analysis, called for enlarging the scope of the benefits of the Social Security Act's old-age insurance program, for extending the system to cover a larger proportion of the population, and for an improved method of financing the program and handling the necessary funds. The recommendations were divided into three main groups, those on benefits, on coverage, and on finance.

With respect to *benefits*, the council recommended that old-age benefit payments, which are now scheduled to begin on Jan. 1, 1942, begin instead on Jan. 1, 1940, and that the scale of benefits payable in the early years of the program be increased. In addition, it suggested that the system of old-age benefits be broadened to include payments to wives, widows, and dependent children of insured persons. In order to compensate in part for the cost of these additional benefits, it recommended that payments to single individuals after the plan has been in operation for a number of years be reduced below those in the present schedules. The eventual annual cost of the recommended benefits in relation to the covered payroll should, in the opinion of the council, not be increased beyond the eventual annual disbursements under the present act. "We should not," said the report, "commit future generations to a burden larger than we would want to bear ourselves."

The recommendations on *coverage* would, if adopted, greatly increase the number of persons coming within the scope of the act. The council believed, first, that employees of private non-profit religious, charitable, and educational institutions should immediately be brought into coverage; second, that coverage of farm employees and domestic employees is socially desirable and should take effect, if administratively possible, by Jan. 1, 1940; third, that the old-age insurance program should be extended as soon as feasible to include additional groups and that studies should be made of the problems involved in the coverage of self-employed persons and governmental employees.

The recommendations on *finance* included, first, the suggestion that the Federal Government contribute to the old-age insurance system by means of revenues derived from sources other than pay-

roll taxes; second, that the proceeds of payroll taxes for old-age benefits be paid directly into the reserve account instead of the general fund of the Treasury, as at present; third, that the old-age account be specifically made a trust fund with designated trustees; fourth, that provision be made for a reasonable contingency fund to insure the ready payment of benefits at all times. Other financial aspects of the program are recommended for further observation and study, including possible changes in payroll tax schedules and the timing of Government contributions.

Regarding the old-age reserve account, one of the most controversial features of the present act, the council believed that, with the recommended changes in the benefit structure and the introduction of a definite program of governmental contributions, the size of the old-age insurance fund would be kept within much lower limits than are involved in the act as it now stands. "Under social insurance programs," said the report, "it is not necessary to maintain a full invested reserve such as is required in private insurance, provided definite provision is made for governmental support of the system."

Railroad Retirement Benefits. Under the Railroad Retirement Act, from the date of its passage in 1935 to the spring of 1938, pensions were applied for by grant by 97,000 railroad employees, of whom 75,000 were found eligible. The number of pension recipients during these three years equaled more than 60 per cent of the total number of pensions received under all pension plans in the railroad industry during the period 1900 to 1933. The upshot was that retirement of older employees was greatly speeded and employment and promotion opportunities for younger men were increased. The railroad industry, according to Murray W. Latimer, Chairman of the Railroad Retirement Board, was to an unusual degree affected by the older worker problem. This had resulted largely from the practice of the seniority system—one which made the length of service a condition for the employee's right to receive promotion, to be held in service in dull times, or to be recalled after layoff when business improved. This policy of seniority obviously grew out of a need for a trained and experienced personnel. However, some of these same skilled employees became superannuated after long periods of service and their retirement was desirable, for their retention at high salaries tended to prevent the employment of younger men whom the industry needed. The result was a growing demand for the establishment of retirement and pension plans and the private companies sought to cope with this problem by inaugurating individual railroad systems. These systems generally were inadequate to meet the needs of the industry, and the result was the passage of Federal legislation in 1934. Compulsory retirement was not provided for by the Railroad Retirement Act; hence it was necessary, if the older workers were to be induced to leave active service, that the pensions be sufficient in amount to make retirement desirable to the employee. When, under the amended legislation of 1935, the relatively high annuities established for railroad employees became available, according to Mr. Latimer, requisitions for immediate retirement were made with the upshot that there began to appear a greater efficiency in railroad labor and more employment opportunities for younger men.

OLYMPIC GAMES. See SPORTS.

OMAN. See ARABIA.

ONTARIO, ōn-tār'-i-ō. A province of Canada. Area, 412,582 square miles; population (1938 estimate), 3,731,000 compared with 3,431,683 (1931 census). The Indian population was 30,631 in 1934. During 1936 there were 62,451 births (16.9 per 1000), 37,571 deaths (10.2 per 1000), and 27,734 marriages (7.5 per 1000). Chief cities (with 1931 population figures in parentheses): Toronto, the capital (631,207), Hamilton (155,547), Ottawa (126,872), London (71,148), Windsor (63,108), Kitchener (30,793), Brantford (30,107), Fort William (26,277), St. Catharines (24,753), Kingston (23,439), Oshawa (23,439). In 1936 there were 765,397 students enrolled in the schools, including 35,708 students in the colleges and universities. Ontario has five universities (Toronto, Queen's, Western Ontario, McMaster, and Ottawa), an agricultural college at Guelph, and the Royal Military College at Kingston (maintained by the Dominion government).

Production. The estimated gross value of agricultural production for 1937 was \$357,201,000 (\$360,329,000 in 1936) of which field crops accounted for \$150,367,000 (\$166,284,000 in 1936). Other items included in the 1936 agricultural total were dairy products, \$91,282,000; farm animals, \$46,732,000; poultry and eggs, \$22,939,000; fruits and vegetables, \$17,693,000; tobacco, \$8,070,000. Livestock in Ontario (1937): 557,900 horses, 2,454,200 cattle (including 1,278,300 milch cows), 874,700 sheep, 1,487,900 swine, and 18,934,000 poultry. Fur production for the year ended June 30, 1936, totaled 599,710 pelts valued at \$2,649,647. The 1936 output of the forests equaled 558,792 M cu. ft. valued at \$31,570,806. In the fishing industry during 1937, with a total of 4440 men employed, the fish catch was valued at \$3,615,666.

Mineral production (1937) was valued at \$230,042,517 of which gold (2,587,095 fine oz.) represented \$90,522,454; nickel (224,790,974 lb.), \$59,469,423; copper (322,039,208 lb.), \$41,716,364; platinum (139,355 fine oz.), \$6,751,750; natural gas (10,746,334 M cu. ft.), \$6,588,798; silver (4,693,047 fine oz.), \$2,106,286; palladium, rhodium, iridium, etc. (119,829 fine oz.), \$3,179,782; salt (407,701 tons), \$1,539,599. In 1936, from the 9753 manufacturing plants, with a total of 288,992 workers, the net value of products was \$686,470,917 (central electric stations, and dyeing, cleaning, and laundry work ceased to be regarded as "manufacturing" industries for 1936).

Government. For the year ended Mar. 31, 1938, revenue was estimated at \$94,849,324, and expenditure at \$92,566,418. The government is vested in a lieutenant-governor who is advised by an executive council of 10 members who also are members of the legislative assembly of 90 members elected for a term of five years by popular vote of the people. Ontario is represented in the Dominion parliament at Ottawa by 24 members in the Senate and 82 members in the House of Commons. Lieutenant-Governor, Albert Matthews (appointed Nov. 30, 1937); Premier, Mitchell F. Hepburn (Liberal). See CANADA under History.

OPERA. See MUSIC.

OPIUM. See NARCOTICS.

OPTICS. See PHYSICS.

ORANGE FREE STATE. See SOUTH AFRICA, UNION OF.

ORCHESTRAS. See MUSIC.

ORE DRESSING. See METALLURGY.

OREGON. Area and Population. Area, 96,699 square miles; included (1930) water, 1092 square miles. Population: Apr. 1, 1930 (census),

953,786; July 1, 1937 (Federal estimate), 1,027,000; 1920 (census), 783,389. Portland had (1930) 301,815 inhabitants; Salem, the capital, 26,266.

Agriculture. Acreage, production, and value of the chief crops of Oregon, for 1938 and 1937, appear in the accompanying table.

Crop	Year	Acreage	Prod. Bu.	Value
Hay (tame) .	1938	838,000	1,486,000 *	\$12,631,000
	1937	806,000	1,428,000 *	12,852,000
Wheat	1938	1,088,000	23,567,000	12,019,000
	1937	993,000	20,424,000	15,726,000
Potatoes	1938	43,000	7,310,000	4,020,000
	1937	49,000	7,840,000	3,528,000
Oats	1938	269,000	6,725,000	2,421,000
	1937	280,000	10,360,000	3,937,000
Apples	1938	.....	4,142,000	3,314,000
	1937	.....	3,900,000	2,584,000
Hops	1938	19,800	16,434,000	2,590,000
	1937	22,300	24,530,000 *	3,300,000
Barley	1938	136,000	3,400,000	1,496,000
	1937	130,000	4,160,000	2,454,000
Corn	1938	55,000	1,595,000	1,005,000
	1937	66,000	2,178,000	1,416,000
Pears	1938	.....	4,326,000	1,947,000
	1937	.....	3,550,000	2,746,000

* Tons. * Pounds.

Mineral Production. Oregon's yearly production of gold increased to 77,100 oz. (approximate figure of the U.S. Bureau of Mines) for 1938, from 52,662 oz. for 1937; by value, to \$2,698,500 (1938), from \$1,843,170 (1937). These values made up 97 per cent of all the State's production for 1938 and 12 per cent for 1937 of the five metals—gold, silver, copper, lead, and (none mined in 1938) zinc. Mercury also was produced in 1937, to the value of \$384,527, or about one-seventh of the United States' production. The aggregate value of the State's mineral product of 1936, including such items as stone, coal, cement, sand, and gravel, attained \$7,146,732.

Finance. Oregon's State expenditures in the year ended June 30, 1937, as reported by the U.S. Bureau of the Census, were: For maintaining and operating governmental departments, \$19,694,983 (of which \$4,862,256 was for highways and \$329,871 was for local education); for interest on debt, \$2,232,665; for capital outlay, \$13,358,657. Revenues were \$41,412,925. Of these, property taxes furnished \$1,656,308; income taxes, \$3,032,100; sales taxes, \$10,129,461 (including tax on gasoline, \$9,550,149); departmental earnings, \$2,128,179; sale of licenses, \$7,318,047; unemployment compensation, \$2,990,528; Federal or other grants-in-aid, \$9,726,126. Funded debt outstanding on June 30, 1937, totaled \$48,788,601; chiefly, \$22,141,750 for highways and \$22,775,000 for aid to veterans. Net of sinking-fund assets, the debt was \$26,388,583. On an assessed valuation (1936) of \$892,807,998 the State levied, for the fiscal year 1938, ad valorem taxes of \$1,032,324.

Keeping separate accounts, the State's monopoly of alcoholic beverages made, in the year, receipts of \$8,114,175, expenditures of \$6,108,094 for cost of goods and operation, and a contribution of \$1,548,392 to the State's general revenue (included in the total revenue stated in the paragraph above).

Education. The inhabitants of school age (from 4 to 19 years, inclusive) were reckoned at 269,663 for the academic year 1937-38. The enrollments of pupils in public schools totaled 210,219; they comprised 148,156 in elementary study and 62,063 in high schools. In addition, there were 12,344 enrolled in private and parochial schools. Expenditure for public-school education in the State totaled \$17,663,167 for the year. Teachers, supervisors, etc., numbered 7925; their year's pay averaged \$1060.84.

The work of standardizing the scope and operation of the public high schools, in which Oregon made progress in 1938, was based on a previous study of these schools throughout the State.

Charities and Corrections. The majority of the State institutions for the care and custody of individuals were under the government of a branch of the State's administrative government, the Board of Control, having as its executive agent a Secretary (Daniel J. Fry). The 10 institutions under the Board's authority had among them (December 1) 6834 inmates. The institutions and their respective numbers of inmates were: Oregon State School for the Blind, at Salem, 96; Oregon State School for the Deaf, Salem, 133; Fairview Home, 1000 (feeble-minded); Eastern Oregon State Hospital, Pendleton, 1286 (insane); Oregon State Hospital, Salem, 2622 (insane); Industrial School for Girls, Salem, 49; State Penitentiary, Salem, 1053; Training School for Boys, Woodburn, 86; State Tuberculosis Hospital, Salem, 327; Eastern Oregon State Tuberculosis Hospital, The Dalles, 182. The Oregon Blind Trade School, at Portland, was under a separate Commission for the Blind.

Political and Other Events. Opposition between the liberal and conservative social elements became more sharply drawn during the year. The advocates of more generous dispensations of public money among the population brought forward, by route of the popular initiative, a citizens' retirement annuity bill. Its purpose was to support elderly citizens of the State, in retirement from active life, on pensions at the maximum rate of \$100 a month. The method of doing this involved the taxation, at 2 per cent, of every transaction in values, except those in interstate commerce, or made by governmental agencies, and exclusive of the payment of wages. Features of the plan were designed to compel the prompt expenditure of pensions and the continued retirement of the recipients from gainful occupation. The measure was presented for popular disposal on the November ballot.

On the conservative side, four organizations of farmers, displeased with labor unions' restrictions on the movement of agricultural products to market, offered by initiative a bill to forbid interference with the marketing of products, agricultural and other, and picketing and boycotting, save in case of a genuine labor dispute. The measure also regulated labor unions' dues and accounts. Governor Martin continued his opposition to both the C.I.O. and the A.F.L., regarding their persistent and economically costly struggle for the domination of labor in the lumber industry and other lines of activity. See STRIKES AND LOCKOUTS.

Senator Steiwer, a conservative Republican, resigned unexpectedly (January 27), throwing a seat in the U.S. Senate into the year's political campaign. Alfred E. R. Medford (Dem.) was appointed by the Governor to succeed Steiwer *ad interim*.

Elections. At the general election (November 8), Charles A. Sprague (Rep.) was elected Governor by a substantial majority over Henry L. Hess (Dem.), who had been favored by the Federal Administration. For U.S. Senator, Rufus C. Holman (Rep.) defeated Willis Mahoney (Dem.), who had championed the New Deal. The conservative initiated measure to restrict unions' picketing and boycotting and forbid their interference with marketing was adopted by popular vote; the liberal initiated measure to pension the elderly at \$100 a month was defeated. Hess, the Democratic candidate for Governor, had won the nomination

from Governor Martin, so that the conservative vote for Governor had to concentrate on the Republican candidate.

Officers. Oregon's chief officers, serving in 1938, were: Governor, Charles H. Martin (Dem.); Secretary of State and Auditor, Earl Snell; Treasurer, Rufus C. Holman; Attorney-General, I. H. Van Winkle; Superintendent of Public Instruction, Rex Putnam.

Judiciary. Supreme Court: Chief Justice, Henry J. Bean; Associate Justices, Harry H. Belt, J. O. Bailey, Percy R. Kelly, Hall S. Lusk, John L. Rand, George Rossman.

OREGON, UNIVERSITY OF. A coeducational institution under State control and support at Eugene, founded in 1872. The total enrollment for the fall term of 1938 was 3333. The attendance at the 1938 summer sessions was 940. The instructional staff for the fall term numbered 248. The total income for the year ending June 30, 1938, was \$981,604, exclusive of gifts. The library contained 289,859 volumes. President, Donald M. Erb, Ph.D.

OREGON STATE COLLEGE. The Federal land-grant college of Oregon, established under Federal and State support at Corvallis in 1868. Oregon State College is one of the six institutions constituting the Oregon State System of Higher Education. In the reorganization of Oregon higher education, inaugurated in 1932, the State College has been made the center of science, and of the professional and technical schools based upon the natural sciences. The enrollment for the autumn term of 1938 was 4406. The 1938 summer-sessions enrollment was 785. There were 308 members on the resident teaching faculty. Income is from millage levy plus varying supplemental appropriations. The library contained 160,180 catalogued volumes. During the fall of 1938, in addition to various improvements in campus walks, landscaping, and drainage under WPA projects, a new nursery-school building was being constructed for the school of home economics and a new chemistry building was under way for the school of science, to cost \$500,000. President, George Wilcox Peavy, M.S.F., Sc.D., LL.D.

ORGANIC COMPOUNDS. See CHEMISTRY.

ORT, WOMEN'S AMERICAN. A society organized in America in 1927 for constructive relief for the Jews of Central and Eastern Europe. It is an autonomous group functioning in conjunction with the American Ort Federation.

The name Ort is derived from the initial letters of three Russian words meaning Organization for the Promotion of Trades and Agriculture. The Ort was founded in 1880 by prominent Russian Jews, among whom were Baron Ginsburg, S. Poliakov, and Prof. N. Bakst. Today it is a world organization giving agricultural and industrial training in eight countries of Europe: Poland, U.S.S.R., Rumania, Latvia, Lithuania, Bulgaria, Germany, and France. It is supported both by groups in these countries and by groups in other countries of the world. Among Ort's activities in 1938 were the support of technical and vocational schools for youths and adults of both sexes, organization of industrial co-operatives, the purchase of agricultural implements, seeds, livestock for Ort colonies, supplying of tools and machinery to artisans, technical and legal advice to artisans and farmers, vocational training of German refugees. The Ort has a guardians' bureau to finance orphans through a three-year course in its schools in Poland and Rumania. A number of individuals in various chapters of the

Women's American Ort undertook adoption of children to provide for the maintenance and training of orphans under the Ort Guardianship Plan. Ort was granted permission to undertake a reclaiming of land project in Austria during the spring of 1938.

The Women's American Ort has 25 chapters in the United States and Canada. Headquarters of the World Ort Union are in Paris. The national headquarters of the American Ort Federation and of the Women's American Ort are at 212 Fifth Avenue, New York City.

OSLO BLOC. A bloc of small states of northern and western Europe formed for the purpose of restoring international trade through mutual reductions of tariffs, quotas, and other restrictions. It comprises Belgium, Luxembourg, Denmark, Finland, The Netherlands, Norway, and Sweden, all signatories of the Oslo Convention of 1931 from which the bloc takes its name. For developments in 1938, see each of these countries under *History*.

OSSIETZKY, CARL VON. A German writer, pacifist, and Nobel Prize winner, died in Berlin, May 4, 1938. Born in Hamburg, Germany, Oct. 3, 1889, as a young man he was a member of the peace movement of Alfred Hermann Fried, but with the outbreak of war in 1914 he joined the German Army and served throughout the War.

Subsequently he joined the staff of the *Berliner Volke-Zeitung*, and in 1928 he became editor of *Weltbuehne (The World Stage)* and used that paper for an expression of his anti-militaristic views. In 1931 he was found guilty of the betrayal of military secrets by the Federal Supreme Court. A plea for pardon was denied him, but in December, 1932, he was released in the general amnesty. With the coming into power of Hitler in January, 1933, Ossietzky was advised to leave the country but he refused, and in March, 1933, was arrested as an "enemy of the state." Although no charges were brought against him and he was refused a trial, he was sent to a concentration camp. When released in November, 1936, his health was permanently impaired.

On Dec. 10, 1936, he was awarded the Nobel Peace Prize for 1935, totaling \$39,303, which raised a storm of protest in official Germany as a "challenge and an insult." Thereafter Germans were forbidden to accept such awards.

OUTER MONGOLIA. See MONGOLIA.

PACIFIC RELATIONS, INSTITUTE OF. An organization formed in Honolulu in 1925 as an unofficial body for the study of the peoples of the Pacific and their mutual relations. It is governed by a Pacific Council composed of representatives of similar unofficial bodies in Australia, Canada, China, France, Great Britain, Japan, the Netherlands and Netherlands Indies, New Zealand, the Philippines, the Union of Soviet Socialist Republics, and the United States. In addition to carrying on a regular international conference and research program covering such subjects as land utilization, population, migration, economic development, trade, colonial problems, cultural relations, and diplomatic relations, the Institute is at present conducting an Inquiry into the background of the present Sino-Japanese conflict. Offices of the International Secretariat are now at 129 East 52d St., New York City.

The American Council, in addition to its participation in the international program, carries on its own extensive research and educational activities. Research projects now under way, and shortly to be published, treat such questions as American

shipping in the Pacific, the economic and legal aspects of North Pacific fisheries, America's trade and credit relations with China and Japan, Far Eastern news in the American press, American policy in the Orient, the effect of the war on American philanthropic and educational institutions in China, and a variety of similar problems. Appearing in its new publication series *Studies of the Pacific* are "American Far Eastern Policy and the Sino-Japanese War" by Miriam S. Farley, reporting the findings of the American Regional conferences described below, and "Rural Australia and New Zealand" by Edmund DeS. Brunner. Other new publications include: *Propaganda from China and Japan* by Bruno Lasker and Agnes Roman, a case study in propaganda analysis, and two pamphlets, "America's Stake in the Far East" by M. S. Farley, and "British and American Relations in the Far East" by William W. Lockwood, Jr.

As part of its educational program, the American Council has arranged a series of regional conferences throughout the country on American Far Eastern policy and the Sino-Japanese war with the aim of aiding the development of an informed and intelligent public opinion on foreign policy. Experimental language schools in Chinese and Russian have been developed to facilitate the acquisition of these language tools by American scholars. The Council has also participated in the editing of educational material in connection with the release of educational motion pictures on Pacific subjects, taken part in radio and conference programs, published reading lists and bibliographies, provided library facilities for students and writers, sent out bibliographical exhibits and news releases for news and editorial use, and engaged in a variety of activities aimed at stimulating interest and research in the problems of the Pacific Area.

Its fortnightly organ, *Far Eastern Survey*, covers significant economic developments in the Far East, and more especially at the present time the economic aspects of the Sino-Japanese war and American policy in relation to that war.

The officers of the American Council of the Institute of Pacific Relations are Dr. Carl L. Alsberg, chairman, Francis S. Harmon, treasurer, and Frederick V. Field, secretary. It maintains offices at 1795 California St., San Francisco, 129 East 52d St., New York, and the Dillingham Building, Honolulu.

PACIFISM. See PEACE.

PAHANG. See FEDERATED MALAY STATES.

PAINTING. Probably never before was the art of painting practiced so widely as in the United States in 1938. All over the country persons on their own initiative, and frequently with little instruction, turned to painting seriously as a possible medium of individual expression, and in some instances did, under the circumstances, surprisingly well. Exhibitions of paintings on which the paint was still scarcely dry were held without number, and the press of the country heralded each newcomer as a potential genius—at least until toward the latter part of the year, when the weakness and excesses along this line ceased to amuse and began to annoy.

In part, this orgy of painting was occasioned by the extensive employment given by the WPA Art Project, to the prominence given it by the news writers, and to the letting down of standards which reduced competition in this field and diminished the necessity of technical proficiency. Economically, there was no relation at all between production and demand, no recognition of the fact that long before

1938 opened, the saturation point for mediocre paintings had already been long passed.

These conditions furthermore caused great confusion in the ranks of the artists academically trained, who, in many instances, striving to bring their work up-to-date, lost their sincerity of expression. Also, it tended to discourage patronage on the part of the public, engendering fear of instability in value.

Despite all this, however, the U.S. Government continued to commission mural paintings for permanent placement in Federal buildings throughout the country, and the WPA Art Project but slightly reduced the support of artists producing easel paintings and murals.

Between the first of January, 1938, and June 30th, no less than 243 commissions (chiefly for mural paintings) given by the Painting and Sculpture Section of the Procurement Division of the Treasury Department were completed. This brought the number of such works executed under these auspices, to 429.

In most instances these commissions were given through competitions, a few of which were national in scope, but the majority regional and limited. Thirteen additional competitions for mural paintings were announced in Bulletin 17, issued by the Painting and Sculpture Section of the Treasury Department in September. These ranged in value from \$650 to \$1600, according to size. Evidence of the spread of activity was to be found in the fact that many of these regional competitions were in States and sections of the country where a few years ago there were no local artists capable of executing such commissions.

Doubtless this distribution of enterprise and development of capability will eventually bring forth good results, in fact it is already doing so, the merit of the murals produced in 1938 being very much greater than those in the years immediately preceding.

The World's Fairs, to be held in 1939 in New York and San Francisco, respectively, kept many of the best painters busy in 1938. In June, the Golden Gate Exposition announced that contracts for \$40,000 worth of mural paintings had been let. Earlier in the year 32 artists were commissioned by the New York Fair to execute murals, some of which, it was stated, would cover great areas of from 4000 to 8000 square feet—the largest program of exterior mural painting ever undertaken.

Due to the insistence of the Mural Artists' Guild that all wall paintings in buildings in New York must be executed by union painters, the Fair authorities agreed that competitions should be merely for designs, in color, to scale, to be executed by union painters under the supervision of the designer; in other words, that unless the winner was a member of a union he could not render, full-size on the wall, his own work. This agreement was reached after 80 mechanics, representing 10 different trades, had walked out on strike because Winold Reiss (non-unionist) was painting a decoration on the wall of the Longchamps Restaurant, New York. Mr. Reiss, in order to complete the work, was forced to join the union.

George Biddle, as president, and Rockwell Kent, as vice-president, of the Mural Artists' Guild were leaders in this new movement toward unionization. Later in the year Mr. Kent was elected president of the United American Artists, Local 60 of the United Office and Professional Workers of America, which in turn is affiliated with the C.I.O.

The artists won a victory in their fight to have

contemporary art represented at the New York World's Fair by a large exhibition to be shown in a building especially designed and set apart for the purpose. This building will accommodate 800 exhibits—paintings, sculpture, and prints by living American artists—to be selected by regional juries throughout the country. A. Conger Goodyear, president of the Museum of Modern Art, was named chairman of the organizing committee, and Holger Cahill, head of the WPA Art Project, director of the Exhibition.

The final chapter of the story of the rejected mural by the Mexican, Rivera, in the R.C.A. Building, Rockefeller Center, was written in the summer of 1938, when the space from which it had been removed was covered by a great canvas by José María Sert, a Spanish artist, painted in his Paris studio, representing the development of America during the past 300 years.

Painting in 1938 seemed to concern itself much more with social conditions and problems than ever before. The keynote of an exhibition of paintings by Jon Corbino held at a conservative dealer's gallery in New York was said to be "violence"; a group of paintings sent to Washington for display (late in the year) by a gallery in New York with radical leanings was described as epitomizing "anger and class hatred." A growing tendency toward vulgarity of expression was remarked, and stringent criticism was called forth from critics by works shown in the annual exhibition of contemporary art held by the Whitney Museum of American Art, from mid-November to mid-December.

The exhibition of American Art assembled by the Museum of Modern Art, by invitation of the French Government, and shown during the summer in the Jeu de Paume, Paris, met with small favor at the hands of the French critics, save in its film and architectural sections. The charges brought against the section of contemporary paintings were that it was not in any sense nationalistic and that the examples of the advanced school of today "betrayed the germ of academic death" rather than new life.

John Whorf, the well-known water colorist, was given an honorary degree by Harvard University in June, the first ever bestowed by this institution on a professional artist. At the same time Edward Bruce was likewise honored by Harvard, on account of service rendered as organizer and head, first of the Public Works Art Project and later of the Painting and Sculpture Section (now the Fine Arts Division) of the Treasury Department. Incidentally, Mr. Bruce is both painter and executive.

Georgia O'Keeffe, painter, who spent her childhood in Williamsburg, Virginia, was given the honorary degree of Doctor of Fine Arts by William and Mary College, Williamsburg, Va., in May.

In 1938 Dartmouth College followed the example of the University of Wisconsin by installing an artist-in-residence, not to teach but to promulgate an art atmosphere, to create contact between scholastic education and the arts which are cultural. Paul Sample, of California, a Dartmouth graduate, was appointed to this position.

Extravagance in the art of painting was carried from surrealism one step further into the unknown. André Smith, the distinguished etcher, who in 1938 was in charge of the Research Studio, privately supported, in Maitland, Florida, published, in book form under the title "Art and the Subconscious" a series in full color of automatic paintings made under extraordinary circumstances beyond his control. Similar experiments along these lines were made by other painters adventuring into

the realms of the occult, but, as in his instance, without apparent tangible reason or gain.

The regular exhibitions by established institutions such as the National Academy of Design, the Pennsylvania Academy of the Fine Arts, and the several Museums were held as usual, featured, in most instances, by the generous award of prizes in money, medals, and honors, but were comparatively poorly patronized. The same was true of exhibitions by other professional organizations of painters in water color, oil, etc.

In the Carnegie International Exhibition held in Pittsburgh in the autumn of 1938, the highest award, \$1000, went for the first time in the history of the Institution to a German, Karl Hofer of Berlin, for a figure painting, "The Wind." The third prize, \$500, and the third honorable mention both went to Americans, the former to Arnold Blanch for a painting, "The People," and the latter to Rockwell Kent for a landscape, "Storm Clouds, Greenland." All of the other awards were carried off by Frenchmen—Maurice de Vlaminck, Albert Marquet, Maurice Utrillo, Edmund Ceria, and Roger Chapelain-Midy. For the fifth successive year the Popular Prize, voted by visitors to the exhibition, went to Frederick J. Waugh, for a marine painting, "Pounding Surf"—a realistic transcription of waves and rocks. This exhibition comprised 253 paintings by European and 165 by American artists.

Among the losses by death occasioned in the field of painting during 1938 were those of Edmund C. Tarbell, Thomas W. Dewing, Horatio Walker, Wm. Sargeant Kendall, William Glackens, W. L. Lathrop, Elizabeth Nourse, Yarnell Abbott, George Walter Dawson, Bancel LaFarge, Granville Smith, Paul L. Gill, George R. Barse, Eric Pape, and Kimon Nicolaides. Lathrop was drowned during the great September hurricane, while endeavoring to get from his sailboat to land. George R. Barse, National Academician, earlier in the year took his own life, because of discouragement and loneliness. A memorial exhibition of Mr. Tarbell's works was held in the Museum of Fine Arts, Boston, and one of the works of Glackens was presented by the Whitney Museum of American Art late in the season.

PALACIO VALDÉS, pá-lă'thé-ō vâl-däs', ARMANDO. A Spanish novelist, died in Madrid, Feb. 2, 1938. Born in Entralgo in Asturias, Oct. 4, 1853, he was educated at Oviedo and in 1870 studied jurisprudence and political economy at Madrid. He became the editor of *La Revista Europea*, the leading scientific review of Madrid, in 1875, resigning in 1878 to devote all his time to writing.

His first works were of a critical nature, but in 1881 the novel, *El Señorito Octavio* appeared, which marked him as one who excelled in psychological analysis as well as in descriptions of nature. His second book, considered by many his finest work, was *Marta y María* (1883). This, together with *José* (1885), *La Hermana San Sulpicio* (1889), and *La Aldea Perdida* (1902), were his best-known works. Of his later works, *La Hija de Natalia* (1924) was outstanding. He was elected to the Royal Academy in 1920.

Other of his writings included *Riverita* (1886) and its sequel, *Maximina* (1887); *El Maestrante* (1899); *Tristan, ó el Pesimismo* (1906); *Papeles del Doctor Angélico* (1911); *Años de juventud del Doctor Angélico* (1918); *La Novela de un Novelista* (1922), the most autobiographical of all his works; *Santa Rozelia* (1926); *Los Carmenes de Granada* (1928); *Testamento Literario* (1929);

Sinfonia Pastoral (1930); *El Gobierno de las mujeres* (1931), and *Tiempos felices* (1933).

PALAU. See JAPANESE PACIFIC ISLANDS.

PALESTINE. A territory on the east coast of the Mediterranean, administered by Great Britain under a mandate of the League of Nations since Sept. 29, 1923. Capital, Jerusalem.

Area and Population. With an area of about 10,429 square miles, Palestine had a population estimated at 1,416,000 on Mar. 31, 1938. On June 30, 1937, there were 1,383,320 inhabitants, including 876,947 Moslems, 386,084 Jews, and 109,769 Christians. The birth rate per 1000 of population in 1937 was 41.6 (44.9 in 1936); death rate, 18.9 (16.1 in 1936). During 1937 immigrants into Palestine numbered 12,475 as against 31,671 in 1936 and 64,147 in 1935; practically all were Jews. Estimated populations of the principal towns in 1937 were: Tel Aviv, 140,000 (all Jews); Jerusalem, 125,000; Haifa, 99,000; Jaffa, 71,000; Gaza, 20,500; Hebron, 20,400; Nablus, 19,200; Lydda, 12,750; Ramleh, 11,950; Nazareth, 9900; Safed, 9900; Tiberias, 9700; Acre, 8800; Bethlehem, 7250.

Education and Religion. In 1936-37 there were 382 public schools for Arabs, with 42,713 pupils (mostly Moslems); 581 Jewish schools, with 7,273 pupils, including 19 training colleges, 19 secondary schools, 13 technical schools, and 7 agricultural schools; 180 Christian schools (25 Orthodox, 105 Catholic, 41 Protestant, 9 others), with 12,650 pupils; and 175 private Moslem schools, with 12,537 pupils. Jerusalem is a holy city for Christians, Jews, and Moslems alike. Stationed here are the Orthodox, Latin, and Armenian Christian patriarchs, an Anglican, a Jacobite, and a Coptic bishop, two joint Chief Rabbis, and the Moslem Grand Mufti, who is president of the Moslem Supreme Council. See *History*.

Production. Agriculture and stock raising are the chief industries, and oranges and grapefruit are the principal export crops. Exports of citrus fruit in the 1937-38 season totaled nearly 11,500,000 cases, mainly oranges—the largest on record. Production of other leading crops in 1937 was (in metric tons): Wheat, 127,400; barley, 75,400; potatoes, 9500; tobacco, 2400; olive oil, 2800 (1936). The wine yield in 1937 was 25,000 hectoliters (hectoliter equals 26.42 U.S. gal.). The grape harvest in 1936 was 49,359 tons; melons and watermelons, 1,335 tons; durra, 22,112 tons; kersenneh, 7378 tons; figs, 16,421 tons; tomatoes, 19,027 tons; ananas, 7609 tons. The number of poultry in 1937 was 2,473,612, or double the 1930 total. The 1936 wool clip was 400 metric tons.

The chief minerals produced are salt (1200 metric tons in 1937), potash in the form of pure K_2O (1500 metric tons in 1937), and bromine (478 metric tons in 1936). The potash and bromine is extracted from the mineral-laden waters of the Dead Sea. The chief manufacturing industries have been wine-making, soap-making, and olive oil pressing. But industrial development has been speeded in recent years by Jewish capital. The Jewish industrial census of August, 1937, showed 6300 industrial enterprises, with a personnel of 27,300, and £P12,700,000 of invested capital. The principal branches of Jewish industry were metals and machinery, foodstuffs, stone and cement, wood, and chemicals. Construction of a £4,500,000 oil refinery at Haifa was begun in October, 1938, by the Anglo-Iranian Oil Co. The estimated income of the Jewish population in Palestine in 1937 was £P18,000,000, derived as follows: Industry,

£P4,100,000; services, £P3,900,000; rental, £P2,700,000; trade, £P2,500,000; agriculture, £P2,000,000; building, £P1,500,000; transport, £P1,300,000.

Foreign Trade. Imports for consumption amounted to £P15,904,608 in 1937 (£P13,979,023 in 1936) and exports of Palestine products to £P5,819,675 (£P3,625,233 in 1936). Re-exports in 1937 were £P635,841 (£P642,293 in 1936); transit trade, £P827,470 (£P513,252). Imports in 1937 came mainly from: Germany, £P2,628,229; United Kingdom, £P2,518,779; Syria, £P1,374,444; Rumania, £P1,372,091; United States, £P1,099,067. Exports were distributed principally as follows: United Kingdom, £P625,264; the Netherlands, £P324,819; Belgium, £P177,344; Sweden, £P155,445; United States, £P35,216. Crude oil delivered at Haifa by pipe line from the Iraq fields and shipped abroad totaled 2,048,178 tons in 1937.

Finance. For the fiscal year ended Mar. 31, 1938, governmental revenues totaled £P4,897,000 (£P4,640,000 in 1936-37) and expenditures were £P7,298,000 (£P6,074,000 in 1936-37). The large deficit reduced the Treasury surplus, which stood at £P4,800,000 on Mar. 31, 1937, to £P2,400,000 on Mar. 31, 1938. One Palestine pound (£P) was equal to one pound sterling.

Transportation, etc. In 1937 there were 328 miles of railway line, about 850 miles of all-weather motor highways, 1045 miles of other roads, 10,675 automobiles, and air connections from Gaza, Lydda, and Haifa to the principal cities of the world. Gross railway revenues in 1937 were £P808,140; working expenses, £P730,058. Extension of the Haifa-Samakh asphalt highway to Baghdad in Iraq was begun in June, 1938. A new daily commercial air service between Tel Aviv and Haifa, with service on to Beyrouth, Syria, three times weekly, was started Sept. 22, 1938. Jaffa, Haifa, Gaza, and Acre are the chief ports. The new lighter-port of Tel Aviv, construction of which was begun in 1936, was opened to passenger traffic on Feb. 23, 1938.

Government. The Constitution of Sept. 1, 1922, vested executive authority in a High Commissioner and Commander-in-Chief and an executive council. It provided also for an elective legislative council including representatives of the various religious communities, but due to lack of co-operation among the religious groups this council was not established. In the meantime its functions were performed by an advisory council appointed by the High Commissioner. The Jewish, Moslem, and Christian communities enjoyed complete autonomy in their religious, cultural, and communal affairs. English, Arabic, and Hebrew are official languages. Lieutenant Gen. Sir Arthur Grenfell Waichope was succeeded as British High Commissioner on Mar. 1, 1938, by Sir Harold Alfred MacMichael.

HISTORY

The Arab Revolt. Guerrilla warfare by Arab bands against Jews and British officials and troops had broken out again late in 1937 in protest against the British proposals for partition of Palestine into separate Arab and Jewish states (see 1937 YEAR BOOK, pp. 568 f.). In 1938 this guerrilla struggle gradually developed into a large-scale Arab revolt, directed by the Grand Mufti of Jerusalem, Haj Amin el Huseini, from his refuge in Beyrouth, Syria. The Mufti's adherents established a provisional government ruling over many villages, towns, and outlying districts. They launched a campaign of assassination and terrorism against Arabs who were hostile or unsympathetic to the

rebellion and its leaders. Meanwhile a faction of intransigent Jews perpetrated a series of bombing outrages in retaliation against Arab attacks. The British were forced to rush more and more reinforcements to Palestine. Toward the year-end some 25,000 troops and an enlarged police force were making headway in stamping out Arab resistance.

Arab bands began operations on a larger scale immediately after the inauguration of Sir Harold MacMichael as the new British High Commissioner on March 3. The following day a battle between 1000 British troops and over 500 Arabs took place near Nablus. In May the growing number of murders of Arab villagers loyal to the British administration led British troops and police to occupy villages in the Haifa, Samaria, and Galilee districts. Since many of the raiders were Syrian Arabs and the rebel bands were obtaining arms and ammunition through Syria and Trans-Jordan, the British soon afterwards commenced the erection of a barbed-wire barricade to end illegal traffic across the Syrian and Trans-Jordan frontiers. The barricade—known as Tegart's Wall, after Sir Charles Tegart, who suggested it—was completed in a little over three months at a cost of £P100,000. It extended from the Mediterranean at Ras en Nakura on the Palestine-Syrian boundary eastward along the military road to Nebi Yusha and on to the Huleh marshes. From there it was carried southward to the north end of the Sea of Galilee. Another section linked the south end of the sea with the Trans-Jordan frontier near Yarmuk. Equipped with an electric-alarm system and reinforced by occasional blockhouses and sentry pill-boxes, the barricade was effective in reducing the arms traffic and preventing reinforcement of the Palestine guerrillas by Arabs from neighboring countries. But Arab bands within Palestine nevertheless increased their activities.

On June 29 the British authorities hanged Solomon ben Yosef, a Revisionist Jew convicted by a military court of firing at an Arab bus. His execution, despite Jewish protest demonstrations and appeals for clemency, was followed within a few days by the inauguration of terroristic attacks upon Arabs, attributed to ben Yosef's Revisionist comrades. Although this retaliation was condemned by all other Jewish groups, it continued throughout the year. On July 15 a bomb exploded in an Arab market in Jerusalem, killing 10 and wounding some 30 occupants. On July 25, 45 Arabs were killed in a similar outrage in a Haifa market. On August 26 an explosion in a Jaffa market killed 24 Arabs and wounded 70. This latter outrage, however, was attributed to Arab terrorists desirous of inflaming their fellow Arabs against the Jews. There were numerous less important cases of Jewish terrorism. These tragedies provoked Arab reprisals upon the Jews. Only the presence of British troops prevented more large-scale massacres, like that at Tiberias on the night of October 2, when Arab raiders slaughtered 20 Jews, half of them children.

Autumn found the situation going from bad to worse. Arab bands, supported by sympathizers in the villages and towns, had disrupted the mails and the communication and transportation systems. They had occupied Bethlehem and other towns and destroyed police stations, post offices, and other public buildings in communities. In the middle of October the Arabs even ventured to seize control of the Old City in Jerusalem. They were dislodged by British troops a few days later with the loss of 22 killed and 25 wounded as against 4 British

wounded. In the frequent clashes between British troops and Arab bands, the Arabs invariably suffered heavy casualties. But it was not until the end of the year that British military pressure appeared to be eliminating guerrilla operations. To achieve this the British were obliged to enroll 7500 Jews in the police forces, to introduce an identification card system (October 13), and to enforce modified martial law (October 18).

In the five months ending in November, Arab rebel casualties were reported at 1100. During November alone the rebels suffered 170 casualties; British forces, 11 killed and 42 wounded; Jews, 13 killed and 39 wounded; Arabs, other than rebels, 35 killed and 19 wounded. In the 30 months ending in November, 135 Arabs had been murdered by Arab terrorists. Practically all of those attacked were enemies of the Mufti and his followers. Among them were the mayors of Hebron and Lydda, 34 village officials and other notables, 27 policemen, and many others who resisted the establishment of Arab rule in regions from which British officials and police were forced to withdraw. Despite the violent terrorism employed by the Mufti's supporters to crush all Arab opposition to his leadership, the Arab National Defense party, under Fakhri Bey Nashashibi, continued to contest the Mufti's right to speak for all Palestine Arabs. There were indications, also, that many Arab villagers were growing weary of guerrilla exactions and oppressions.

The Woodhead Commission. While civil strife raged throughout Palestine, the British authorities made another attempt to evolve a plan for the settlement of Arab-Jewish differences that would permit restoration of peace. On April 27 a British technical commission headed by Sir John Woodhead arrived in Palestine to draw up a detailed plan for carrying into effect the partition proposals made by the Peel Commission in 1937. The Arabs boycotted the Woodhead Commission in protest against the partition proposals. Nevertheless, it toured the country, held hearings in Jerusalem and other cities from April to August, and then returned to England previous to issuing its report on November 9.

The commissioners, in their report, unanimously advised against adoption of the partition scheme proposed by the Peel Commission. They considered also two other partition schemes and a majority of the four commissioners decided that the most feasible of these would divide Palestine into three parts, as follows: (1) A northern part to be retained under mandate, (2) a southern part (the Negeb) to be retained under mandate, and (3) a central part to be divided into an Arab state, a Jewish state, and a Jerusalem enclave under British mandate. The Commission concluded, however, that none of the three plans would give a reasonable prospect of the eventual establishment of self-supporting Arab and Jewish states. It therefore proposed a modified form of partition on the basis of their preferred scheme. Both the Arab and Jewish states would be required, as a condition of the surrender of the British mandate, to enter a customs union with the remaining mandated areas in which Britain would determine the fiscal policy after consulting with both states. The British mandatory authorities would collect the customs and distribute the net surplus, after meeting certain common charges, among the Arab, Jewish, and mandated areas in accordance with a prearranged formula.

Partition Abandoned. Simultaneously with the

publication of the Woodhead Commission's report, the British Government announced that the commission's investigation had shown that "the political, administrative, and financial difficulties involved in the proposal to create independent Arab and Jewish states inside Palestine are so great that this solution of the problem is impracticable." It therefore stated that Britain would continue its responsibility for the government of the whole of Palestine.

In an effort to find a solution consistent with British obligations to both Arabs and Jews, the government announced that it would "immediately invite representatives of the Palestinian Arabs and of neighboring states on the one hand and of the Jewish Agency on the other, to confer with them as soon as possible in London regarding future policy, including the question of immigration into Palestine." The government's statement reserved the right to bar from the negotiations Palestine Arab leaders "responsible for the campaign of assassination and violence." This referred especially to the Mufti. It also declared that "if the London discussions should not produce agreement within a reasonable period of time, they (the government) will take their own decision in the light of their examination of the problem and of the discussions in London, and announce the policy which they propose to pursue." The discussions in London were expected to open early in 1939.

Reaction of Arabs and Jews. However, neither the Jews nor the Arabs viewed the government's proposals for further discussions with favor. The Jewish press in the Holy Land objected to the inclusion of representatives of neighboring Arab states in the conference and declared the Jewish demand for further immigration into Palestine would not be sacrificed under any circumstances. Arab partisans of the Mufti and his associates denounced the proposal to exclude them from the discussions. They also objected to any negotiations unless the Zionist Jews and the British Government first repudiated the Balfour Declaration.

Some of the opposition Arab leaders approved of the conference proposal, although upholding the Arab demands set forth by the Grand Mufti on October 18. These included immediate cessation of Jewish immigration into Palestine; complete independence and a national government for the Palestine Arabs; abandonment of the Balfour Declaration's pledge of a Jewish national home in Palestine; immediate termination of the British mandate; prohibition of the further sale of Palestine land to Jews; and conclusion of a treaty of alliance between the British Government and the Palestine Arabs similar to the Anglo-Egyptian, Anglo-Iraqi, and Franco-Syrian treaties, establishing a sovereign Arab state in which the Jews would be granted minority rights.

Foreign Intervention. The Mufti's position was supported by Arab groups in Egypt, Iraq, and Syria (q.v.), where demonstrations protesting against British and Jewish policy in Palestine were organized. In August Moslem leaders in Iraq adopted a resolution favoring a holy war against the Jews in Palestine and Britishers everywhere. In October a resolution against the Balfour Declaration, partition, and Jewish immigration into Palestine was adopted at Cairo by delegates from eight Moslem countries.

The Jews, on the other hand, brought pressure upon the United States Government through American Zionist leaders to exert its influence in preserving the Balfour Declaration and the right of

Jewish immigration into Palestine. On October 14, Secretary of State Hull agreed to watch the Palestine situation and take necessary measures to protect American rights, including those of some 9000 American Jews in Palestine, in accordance with the Anglo-American treaty of Dec. 3, 1924. Under this treaty the United States had no power to obstruct revision of the mandate, but it could refuse to recognize the new administration if it were not established with American consent. President Roosevelt, on October 22, indicated that he was "for the maintenance of Palestine as a Jewish national home without limitation," and that the influence of the Washington Government would be exerted in favor of continued Jewish immigration.

This intervention of high United States officials in the Palestine dispute provoked bitter protests from Arab Christians in Palestine and aroused indignation throughout the Moslem countries. A boycott of American goods was threatened.

See also ARABIA, GREAT BRITAIN, ITALY, and TRANS-JORDAN under *History*; JEWS.

Consult David H. Popper, *The Puzzle of Palestine*, Foreign Policy Association Headline Book No. 14 (1938).

PALMYRA, pāl-mi'ra (**CORNWALLIS**) ISLAND. A central Pacific island (5° 40' W.; some 850 miles S. by W. of Hawaii) belonging to the U.S.A. It was annexed to Hawaii in 1862. Area, 1½ square miles.

PANAMA. A republic of Central America, bisected by the Panama Canal Zone (q.v.). Capital, Panamá.

Area and Population. The area is 32,380 square miles and the population on Dec. 31, 1937, was estimated at 548,000 (467,459 at the 1930 census), excluding the Canal Zone. The urban population, in towns of 1000 or over, was 153,248 in 1930. The racial division of the population in 1930 was: Whites, 78,813; Negroes, 69,583; Indians, 42,897; Orientals, 4138; mixed, 249,583. Estimated populations of the chief cities are: Panamá, 82,827; Colón, 33,460; David, 8000.

Education and Religion. About 50 per cent of the adult inhabitants are estimated to be illiterate. The school enrollment in 1934-35 was: Primary, 53,147; secondary, 2823; National University, 978. In 1938 modifications were introduced to make the primary school curriculum more effective. A General Inspection Section was established for secondary schools and matriculation fees for secondary students were abolished. Roman Catholicism is the dominant religion but other faiths have a considerable following.

Production. The chief occupations are agriculture, cattle raising, lumbering, pearl fishing, commerce, and the tourist business. In 1937 Panama exported 5,838,000 bunches of bananas, 7,797,000 coconuts, 12,637,000 lb. of cacao beans, 8,506,000 lb. of fresh beef, 11,000 cattle hides, and 418,000 lb. of mother-of-pearl shells. Coffee, vegetables, chicle, ivory nuts, balata, hardwoods, and tortoise shell are other products. Some gold and salt is mined. Manufacturing is confined to the production of beverages, sugar, hard candy, shoes, cheap clothing, and furniture for local use. During 1936-37 (fiscal year) about 38,000 tourists and other passengers disembarked at Canal Zone ports and an additional 136,000 transient passengers, most of whom spent a few hours ashore, passed through these ports. In 1938 the number of tourists visiting the Isthmus and the amount spent per capita were the lowest of any year since 1932, with the result that

retail and wholesale business in Panama declined about 20 per cent.

Foreign Trade. Preliminary official statistics placed imports into Panama in 1938 (calendar year) at \$17,548,678 (\$21,828,175 in 1937) and exports from Panama at \$3,769,651 (\$4,069,727 in 1937). Imports from the United States were \$10,139,378 (57 per cent of the total) for 1938 and \$11,357,000 (52 per cent) in 1937; exports to the United States were \$3,339,871 (88.6 per cent) in 1938 and \$4,069,727 (90 per cent) in 1937. Silk and rayon piece goods, meats, perfumery and cosmetics, and automobiles were leading imports. The chief 1937 exports were: Bananas, \$2,578,000; cacao beans, \$759,000; re-exports, \$4,599,000.

Finance. Budget estimates for the biennium Jan. 1, 1939-Dec. 31, 1940, as passed by the National Assembly on first reading, balanced at 22,380,000 balboas (19,207,000 balboas for the 1937-38 biennium). Actual receipts for the period Jan. 1, 1937, to June 30, 1938, were 14,702,000 balboas; expenditures, 15,488,000 balboas. The public debt on June 30, 1938, stood at 22,346,000 balboas (external, 17,838,000; internal, 2,616,000; guaranteed, 1,892,000), as against 20,144,000 balboas on June 30, 1936. The balboa (nominal parity, \$1.693 U.S. currency) exchanged at \$1 in 1936 and 1937.

Transportation. Railways in 1937 comprised 230 miles of line, including the Canal Zone. Roads and highways extended 977 miles in 1937, including Canal Zone (number of automobiles, 11,749). The surfacing of the Panamanian section of the Pan American Highway was in progress during 1938. For the construction of strategic highways in the vicinity of the Canal, see *History*. There were 270 miles of airlines under the Panamanian flag in 1938. For shipping statistics, see PANAMA CANAL.

Government. The Constitution of Feb. 13, 1904, as amended in 1918 and 1928, vests executive power in a President elected by direct popular vote for four years and ineligible for re-election. Legislative power rests in a National Assembly of 32 members elected for four years, which meets biennially on September 1. President in 1938, Dr. Juan Demóstenes Arosemena, who assumed office Oct. 1, 1936. Dr. Arosemena was elected by a coalition of the National Revolutionary, National Liberal, and Conservative parties, which captured 18 out of the 32 seats in the National Assembly. In September, 1937, he was designated "Supreme Chief" of these parties but the representatives of each party continued to function as a separate group in the National Assembly.

History. In his message of Sept. 1, 1938, to the new session of the National Assembly, President Arosemena announced that he had drafted an entirely new Constitution for its consideration and that proposed amendments to the existing Constitution would also be submitted. The assembly had not completed its study of the proposed new organic law by the end of the year.

The President also stated that the work of reorganizing the municipal courts had begun. He recommended reorganization of the administrative structure through elimination of some unnecessary municipalities and a modification of Panama's drastic immigration laws. In the field of education, he reported the modification of the primary school curriculum to make it more effective and the abolition of matriculation fees for secondary schools.

Responding to protests by native fishermen that Japanese fishing vessels were dynamiting fish and to charges that Japanese fishermen were spying on the defenses of the Panama Canal, the President,

on January 12, signed a decree reserving fishing grounds in Panama's territorial waters to citizens of the republic.

The National Assembly on October 24 passed a banking law, effective early in December, that forbade private banks to accept deposits of residents under the jurisdiction of Panama unless they agreed to purchase Guarantee Bonds (from a \$6,000,000 internal bond issue) in an amount equal to 20 per cent of their deposits. Following the President's signature of the law on October 25, the three foreign banks in Panama ceased granting new credits, either by loan, discount, or other means, but continued to make collections and sell New York drafts and foreign exchange. They announced that they would cease accepting deposits on the date the law went into effect and repay all existing deposits within six months rather than purchase the bonds. As 85 to 90 per cent of all commercial discounting was done through the three foreign banks, their action seriously depressed wholesale and other business. The only other bank in Panama was the government-owned Banco Nacional, which was not in a position to meet the country's credit requirements. Consequently President Arosemena late in November issued a decree exempting the foreign banks from the purchase of the Guarantee Bonds. Subsequently (December 9) a new banking bill, superseding the measure passed October 24 and eliminating the bond purchase provision, was enacted.

The long delay by the U.S. Senate in acting upon the treaty with Panama signed Mar. 2, 1936 (see 1936 YEAR BOOK, p. 572), aroused growing criticism in Panama during 1938. President Arosemena on January 20 again gave assurances that Panama was ready to co-operate with the United States forces in defense of the canal. On May 24 he announced that the government would pay no interest on Panama's 5½ per cent bonds of 1923 until the United States paid the arrears due on canal annuities. Under the 1936 treaty, these annuities were to be paid in the equivalent of former gold dollars instead of in depreciated United States dollars, which Panama had refused to accept. In his message of September 1 to Congress, President Arosemena, intimated that relations with the United States would be more cordial once the treaty was ratified. He said that Panama would then receive 2,150,000 balboas from the United States, which would be applied to paying the interest in arrears on the foreign debt. President Roosevelt visited Panama on August 5 en route home in the cruiser *Houston* from his fishing trip to the Galapagos Islands. He toured Canal Zone defense projects and neighboring Panamanian territory in company with President Arosemena and other officials. In a press interview he indicated that the United States would aid Panama in the construction of strategic highways in Panamanian territory which would strengthen the canal defenses.

A new effort to settle Panama's old boundary dispute with Costa Rica failed when the Costa Rican Government was forced by demonstrations of protest to withdraw the treaty from the Congress, where it awaited ratification (see COSTA RICA under *History*). Panama had already ratified the agreement. In view of the possibility of a renewal of border clashes over the disputed territory, President Arosemena on October 13 asked the National Assembly for a \$1,000,000 appropriation for the purchase of arms and munitions. The bill was passed October 18.

See PANAMA CANAL ZONE.

PANAMA CANAL. According to the annual report of the Governor of the Panama Canal, C. S. Ridley, for the fiscal year ending June 30, 1938, the number of ocean-going commercial vessels making transit of the Panama Canal in 1938 aggregated 5524 in comparison with 5387 in 1937, an increase of 137 or 2.5 per cent. This represents a daily average of 15.13, as compared with 14.76 in 1937, 14.70 in 1936, 14.19 in 1935, and 14.34 in 1934. With respect to the number of transits, the fiscal year 1938 was the fourth highest in the history of the Canal, being exceeded only by a total of 6289 in 1929 (the peak year), 6253 in 1928, and 6027 in 1930. Tolls on the 5524 transits in 1938 totaled \$23,169,888, in comparison with \$23,102,137 in 1937, an increase of \$67,751 or 0.29 per cent. Cargo tonnage amounted to 27,385,924 in 1938 in comparison with 28,108,375 in 1937, a decrease of 722,451 tons, or 2.6 per cent. The tonnage figure for 1938 indicates the net tonnage as determined under the rules of measurement in effect prior to Mar. 1, 1938. In accordance with the prescribed legislation and Presidential proclamations, new rules and toll rates were placed in effect on that date. In the new measurement rules certain exemptions are made which have the effect of reducing tonnage on which tolls are paid as compared with the tonnage under the measurement rules which were in effect prior to March 1. Figures for the four months, March to June, indicate that the Panama Canal net tonnage, as determined under the new rules, is about 7.5 per cent less than if determined under the old rules, and that tolls are about 3.5 per cent less. While traffic for 1938 made a slight increase in comparison with 1937 (with the exception of the tonnage of cargo carried), the traffic in 1937 had been seriously affected by a maritime strike in the United States for a period of over three months. Had there been no strike, traffic for 1938 would have been substantially lower than for the previous year. A decline in the movement of cargo in both directions contributed to the decrease in cargo tonnage in 1938 as compared with 1937. West-bound shipments declined 207,072 tons, or 2.1 per cent, while those in the opposite direction fell off 515,379 tons, or 2.8 per cent. Segregating the traffic through the Canal by nationality of vessels, the following table shows the aggregate cargo carried by ships of the leading maritime nations during the past three fiscal years. For the year 1938 the percentage of total cargo carried by ships of each nationality is also shown:

Nationality	1936 Tons	1937 Tons	1938 Tons	Percent- age
United States .	10,700,535	9,844,254	9,892,619	36.1
British	6,181,571	7,179,136	6,417,016	23.4
Norwegian	2,717,860	3,506,109	3,433,571	12.5
Japanese	1,697,880	1,789,178	1,877,502	6.9
German	1,305,090	1,496,084	1,518,593	5.5
Danish	627,407	757,379	865,235	3.2
Swedish	855,409	775,800	763,049	2.8
Netherlands . . .	511,620	700,725	749,642	2.7
French	544,343	542,539	567,288	2.1
All remaining . .	1,364,228	1,517,171	1,301,409	4.8
Total	26,505,943	28,108,375	27,385,924	100.0

PANAMA CANAL ZONE. A strip of territory extending for five miles on each side of the Panama Canal, the use of which was granted to the United States in perpetuity by the Panama-United States Treaty of 1903. Area, 552.8 square miles (land area, 361.86 square miles). The civil population on June 30, 1938, excluding only commissioned, warrant, and enlisted personnel, was 29,063, of whom 7146 were employed by the Pan-

ama Canal and Panama Railroad Co. Of these employees, 2601 were United States citizens and 4545 were aliens. About 700 Americans and approximately 5000 aliens employed by the Panama Canal and the Panama Railroad Co. live outside the Canal Zone in the Republic of Panama. The death rate per 1000 of population in the Canal Zone in the calendar year 1938 was 6.24. The live birth rate per 1000 white residents was 7.18; Negro residents, 15.88. The enrollment in public elementary schools for white children at the end of February, 1938, was 3061; in schools for colored children, 3099. The enrollment in colored schools had declined steadily from the peak of 4149 in 1932. The junior college enrolled 117 pupils in 1938. The La Boca normal training school for colored teachers, established in January, 1935, graduated its first class of 37 on July 2, 1938, and was then closed until more teachers were required.

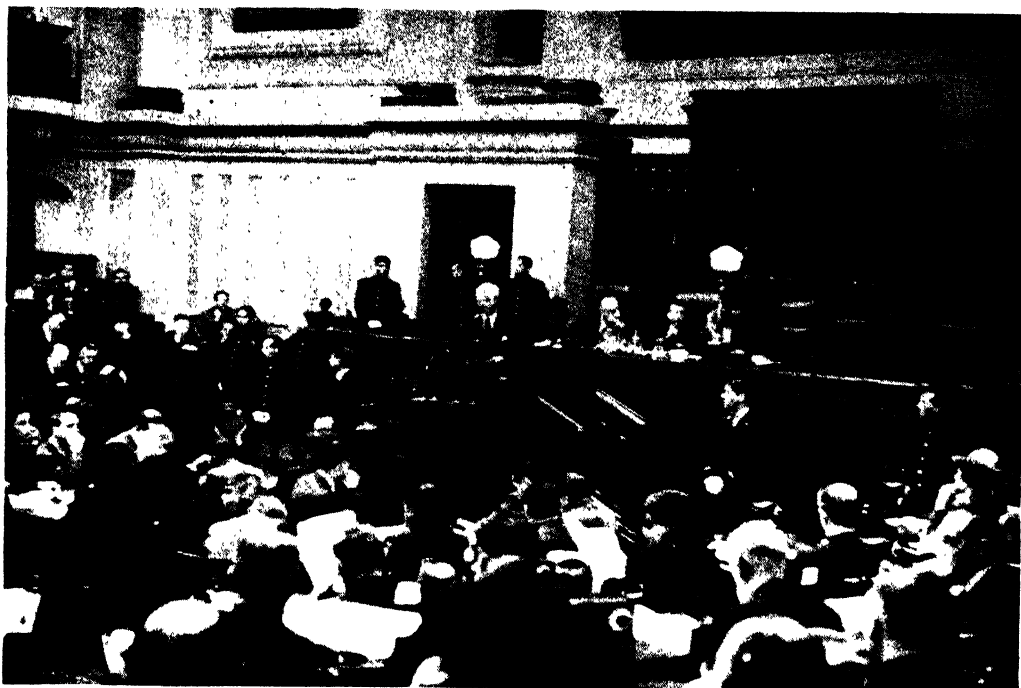
The net revenues from Canal operations proper were \$13,909,903 in 1937-38 as compared with \$13,136,585 in 1936-37. Net revenues from business operations under the Panama Canal for 1937-38 were \$824,612, as compared with \$917,360 in 1936-37. The combined net revenues accruing from the Canal and its business units totaled \$14,734,515, as compared with \$14,053,945 in 1936-37. The gross capital investment as of the beginning of the 1937-38 fiscal year was \$538,160,473 and the net investment \$507,666,409. Net revenue for the year 1937-38 produced a return of 2.90 per cent on this net investment as against 2.77 for the previous year.

The foregoing figures do not include the Isthmian operations carried on by the Panama Railroad Co., which yielded a net profit of \$1,183,453 for 1937-38, as compared with \$1,358,596 for the previous fiscal year, a decrease of \$175,142, or 12.9 per cent.

For transits through the Canal, see PANAMA CANAL.

The status of the Canal Zone is that of a military reservation under a Governor appointed by the President of the United States. In his capacity as Governor of the Panama Canal and as President of the Panama Railroad Co., a government-owned adjunct of the Canal, the governor supervises the operation and maintenance of the Canal itself, the operation of the auxiliary enterprises necessary to provide for the needs of shipping and of the Canal operating forces, and the government of the Canal Zone. In this he is assisted by the heads of nine major departments and divisions. The Canal administration controls sanitation and quarantine in the cities and harbors of Panamá and Colón, although they remain within the political jurisdiction of the Government of Panama. The U.S. Army maintains airports at France Field, at the Atlantic entrance to the Canal, and at Albrook Field on the Pacific side. There is a Pan American Airways marine base at Folks River inlet, Cristóbal. Airlines touching the Canal Zone carried 3660 incoming and 4274 outgoing passengers during the fiscal year 1937-38, exclusive of inter-Canal Zone passengers numbering 4947. Air express and mail carried totaled 242,948 lb. Governor in 1938, Col. C. S. Ridley, who assumed charge Aug. 27, 1936.

History. The Munich accord and other developments in world politics during 1938 strongly emphasized the strategic importance of the Panama Canal in the naval defense of both coasts of the United States with a single fleet. The Annual Report of Secretary of War Woodring for 1938 declared that the Canal "must be made impregnable." It called for the bombproofing of all locks and



Interphoto

THE LIMA CONFERENCE

Secretary of State Cordell Hull urging inter-American defense against overseas military and ideological threats before the Eighth Pan American Conference, which met in Lima, Peru, Dec. 9-27, 1938



Acme

MEXICO EXPROPRIATES FOREIGN OIL PROPERTIES

A section of a Mexico City parade of 250,000 workers celebrating the nationalization (Mar. 18, 1938) of Mexican properties of foreign oil companies

LATIN AMERICA



Acme

DR. AURELIO MOSQUERA NARVAEZ

Provisional President of Ecuador, elected Dec. 2, 1938



Brozen Brothers

PEDRO AGUIRRE CERDA

President of Chile, assumed office, Dec. 24, 1938



Acme

GEN. ALFREDO BALDOMIR

President of Uruguay, assumed office June 19, 1938



Acme

DR. EDUARDO SANTOS

President of Colombia, assumed office Aug. 7, 1938

dams, complete elimination of the possibility of sabotage by crews of ships transiting the canal, and the strengthening of air forces and anti-aircraft equipment. It was announced late in 1938 that legislation to carry out these recommendations would be introduced into the U.S. Congress in 1939 with administration support.

Meanwhile military measures for the protection of the Canal were tightened in October following the arrest of four Germans at Fort Randolph for attempted espionage. One of the prisoners, Hans Heinrich Schackow, was convicted by a jury of American employees of the Panama Canal and Panama Railroad Co. at Cristóbal on December 14. He was charged specifically with unlawfully photographing the Canal coast defenses. Trials of the three remaining defendants, including one woman, were set for January, 1939. Immediately after the arrests, army post commanders in the Canal Zone began to dismiss civilian employees of German and Italian nationality. See PANAMA under *History* for curb on Japanese activities in Panamanian territorial waters.

Testifying before a House sub-committee in Washington in April, Governor Ridley declared that studies indicated that the Canal would need enlarging to handle the larger volume of shipping traffic expected between 1950 and 1960. He asked for special appropriations to carry forward the engineering and other studies preparatory to increasing the Canal's capacity. In his Annual Report for 1937-38, issued later in the year, Governor Ridley reported:

Studies have progressed to the point where it is clear that this project (enlargement of the Canal's capacity) is closely related to the defense of the Canal. Consequently, it is of the upmost importance that a determination be made as early as possible, as to whether it is feasible to construct additional locks at a much greater distance from the present locks than has heretofore been contemplated.

As a possible alternative to enlargement of the Panama Canal's capacity, legislators and officials at Washington were studying the project for construction of another inter-oceanic canal across Nicaragua (see NICARAGUA under *History*). Legislation affecting the Canal Zone passed by the U.S. Congress in 1938 included a law extending the term of the judge of the U.S. District Court from four to eight years, and a measure increasing to \$160,000 the amount authorized to be spent for a memorial to Maj. Gen. George W. Goethals within the Canal Zone.

The first lawsuit involving the personal responsibility of Canal employees in connection with their official duties was filed in the Canal Zone District Court in November by the *Compagnie Générale Transatlantique* against George V. Hawes, pilot in charge of the freighter *Wisconsin*, which grounded in the Canal in 1935.

PAN AMERICAN CONFERENCE. The Eighth International Conference of American States was held at Lima, Peru, Dec. 9-27, 1938, with representatives of all 21 American republics in attendance. Among the delegates were the Foreign Ministers of ten countries—Bolivia, Colombia, Costa Rica, Cuba, Ecuador, Guatemala, Nicaragua, Panama, Peru and the United States. The first plenary session was addressed by Foreign Minister José María Cantilo of Argentina, who was in Lima on an official visit to the Peruvian Government when the Conference opened. The United States delegation was headed by Secretary of State Hull and included former Gov. Alfred M. Landon, Republican candidate for President in 1936.

Background of Conference. Most of the fac-

tors that had led President Franklin D. Roosevelt to suggest the Inter-American Conference for the Maintenance of Peace, held in Buenos Aires in 1936 (see 1936 YEAR BOOK, p. 574), had assumed an even more menacing aspect when the Lima Conference convened. The sensational triumph registered by the Nazi-Fascist states of Europe at Munich and the impending victory of the Insurgent cause in Spain appeared likely to extend the influence of Fascist and totalitarian principles in the Americas. Earlier in 1938 there had been abortive Fascist revolts in Brazil and Chile (q.v.) while friction between the United States and Mexico over the Cárdenas Government's expropriation policy had caused a rift among the anti-Fascist forces in the New World. The final settlement of the Chaco dispute between Bolivia and Paraguay on July 21 (see CHACO DISPUTE, SETTLEMENT OF) had eliminated a dangerous irritant to inter-American relations, but the boundary controversy between Ecuador and Peru had inflamed opinion in both countries and only the friendly persuasion of a group of states led by Colombia and the United States induced the Government of Ecuador to send a delegation to the Lima Conference. The importance of the Conference was emphasized by President Roosevelt's proposal of November 15 for a continental defense program.

The Agenda. The program of the Conference, drawn up on the basis of measures and resolutions passed by previous Pan American Conferences and of observations made by the various governments, was finally approved by the Governing Board of the Pan American Union at Washington on June 1, as follows:

I. ORGANIZATION OF PEACE

1. Perfecting and co-ordination of inter-American peace instruments. (Including topics on investigation, conciliation and arbitration, and the Code of Peace; definition of the aggressor, sanctions, and the strengthening of means for the prevention of war.)
2. Creation of an Inter-American Court of International Justice.
3. Creation of a League or Association of American Nations.
4. Declaration with respect to the American doctrine of nonrecognition of territory acquired by force, embodying the declaration made at the Second and Sixth International Conferences of American States, the Inter-American Conference for the Maintenance of Peace, and in the Declaration signed at Washington on Aug. 3, 1932.

II. INTERNATIONAL LAW

5. Consideration of rules relative to the codification of international law in America.
6. Consideration of reports and projects formulated by the Committee of Experts on the Codification of International Law, on the following subjects:
 - (a) Pecuniary Claims.
 - (b) Nationality.
 - (c) Immunity of Government Vessels.
7. Nationality of Juristic Persons.
8. Uniformity and perfection of the methods of drafting multilateral treaties, including the form of the instruments, adherence, accession, deposit of ratifications, etc., and means to facilitate ratifications.
9. Principles relative to the recognition of belligerency.

III. ECONOMIC PROBLEMS

10. Inter-American commercial policy.
 - (a) Elimination of restrictions and limitations on international trade.
 - (b) Application of the most favored nation clause.
11. Creation of an Inter-American Institute of Economics and Finance.
12. Inter-American communication facilities.
 - (a) Continental and insular maritime communications and port facilities.
 - (b) The Pan American Highway.
 - (c) Other measures.
13. Appointment of a commission of jurists to study and formulate a plan to bring about uniformity of commercial law and, as far as it may be possible, of civil law.
14. Immigration.
15. Consideration of the status of the Indian and rural populations, and the adoption of labor regulations.

IV. POLITICAL AND CIVIL RIGHTS OF WOMEN

16. Report of the Inter-American Commission of Women.

V. INTELLECTUAL CO-OPERATION AND MORAL DISARMAMENT

17. Means of promoting inter-American intellectual and technical co-operation, and the spirit of moral disarmament.

18. Consideration of the project of convention on intellectual property drafted by the Inter-American Commission on Intellectual Property of Montevideo.

19. Conservation and preservation of natural regions and historic sites.

VI. THE PAN AMERICAN UNION AND THE INTERNATIONAL CONFERENCES OF AMERICAN STATES

20. Functions of the Pan American Union and co-operation of the Union and the International Conferences of American States with other international entities.

21. Future International Conferences of American States.

VII. REPORTS

22. Consideration of the report on the status of treaties and conventions signed at previous conferences.

23. Consideration of the results of inter-American conferences held since the Seventh International Conference of American States.

Declaration of Solidarity. The United States delegation at Lima proposed a definite commitment for united opposition to political and cultural penetration and possible armed aggression by the totalitarian states. In his opening address Secretary Hull declared that "there must not be a shadow of a doubt anywhere as to the determination of the American nations not to permit the invasion of this hemisphere by the armed forces of any power or any possible combination of powers." He also urged common action against totalitarian doctrines and activities "utilized for the purpose of undermining and destroying in other nations established institutions of government and basic social order." His proposal was supported by a bloc of Caribbean states, including Mexico, the Central American countries, Panama, Colombia, Venezuela, Cuba, Haiti and the Dominican Republic.

However a bloc of South American states led by Argentina refused to accept specific commitments to oppose aggression from overseas. In an address before the Conference on December 10 the Argentine Foreign Minister declared that American solidarity "is a fact which no one does or can place in doubt. All and each one of us are disposed to sustain and to prove such solidarity in the face of any danger, come whence it may, which might threaten the independence or the sovereignty of any state in this part of the world. For that we do not need special pacts. The pact is already made in our history."

The viewpoints of the two groups of states were reconciled after extended negotiation and on December 24 all 21 delegations signed the "Declaration of Lima," which follows, with the preamble omitted:

The governments of the American States declare:

First, that they reaffirm their continental solidarity and their purpose to collaborate in the maintenance of principles upon which said solidarity is based;

Second, that faithful to the above-mentioned principles and to their absolute sovereignty they reaffirm their decision to maintain them and defend them against all foreign intervention or activity that may threaten them;

Third, and in case the peace, security or territorial integrity of any American republic is thus threatened by acts of any nature that may impair them, they proclaim their common concern and their determination to make effective their solidarity, co-ordinating their respective sovereign wills by means of the procedure of consultation established by the conventions in force and by declarations of inter-American conferences, using measures that in each case circumstances may make advisable.

It is understood that the governments of the American republics will act independently in their individual capacities, recognizing fully their juridical equality as sovereign states.

Fourth, that in order to facilitate the consultations established in this and other American peace instruments, the Ministers of Foreign Affairs of the American republics,

when deemed desirable and at the initiative of any one of them, will meet in their several capitals by rotation and without protocolary character.

Each government may, under special circumstances or for special reasons, designate a representative as a substitute for its Minister of Foreign Affairs.

Fifth, this declaration shall be known as the Declaration of Lima.

This most significant achievement of the Conference amplified and implemented the Declaration of Principles of Inter-American Solidarity and Co-operation, adopted at the Buenos Aires Conference in 1936. Another project approved at Lima provided that consultations among the American governments might take place to deal with economic, cultural and other questions, as well as political issues. Still other resolutions and declarations were adopted to check the organization of political minorities in the Western Hemisphere by the totalitarian states of Europe. On the initiative of Brazil, the Conference resolved that "residents who, according to domestic law, are considered aliens, cannot claim collectively the condition of minorities." Prohibition by the American states of the collective exercise by aliens of political rights conferred by the laws of their respective countries was recommended by another resolution, initiated by Argentina and Uruguay. Both countries had been aroused by the formal participation of German residents in the plebiscite on Austro-German *Anschluss* held in April, 1938. At the request of Cuba, the Conference formally declared "that, in accordance with the fundamental principle of equality before the Law, any persecution on account of racial or religious motives which makes it impossible for a group of human beings to live decently, is contrary to the political and juridical systems of America." Another resolution on immigration urged that no distinction be made on the basis of "nationality, creed or race."

Declaration of American Principles. On December 24 the Conference also adopted unanimously the following Declaration of American Principles:

WHEREAS, The need for keeping alive the fundamental principles of relations among nations was never greater than today; and

Each state is interested in the preservation of world order under law, in peace with justice, and in the social and economic welfare of mankind,

The Governments of the American Republics

RESOLVE:

To proclaim, support, and recommend, once again, the following principles, as essential to the achievement of the aforesaid objectives:

1. The intervention of any state in the internal or external affairs of another is inadmissible.

2. All differences of international character should be settled by peaceful means.

3. The use of force as an instrument of national or international policy is proscribed.

4. Relations between states should be governed by the precepts of international law.

5. Respect for and the faithful observance of treaties constitute the indispensable rule for the development of peaceful relations between states, and treaties can only be revised by agreement of the contracting parties.

6. Peaceful collaboration between representatives of the various states and the development of intellectual interchange among their peoples is conducive to an understanding by each of the problems of the other as well as of problems common to all, and makes more readily possible the peaceful adjustment of international controversies.

7. Economic reconstruction contributes to national and international well-being, as well as to peace among nations.

8. International co-operation is a necessary condition to the maintenance of the aforementioned principles.

Organization of Peace. Contrary to expectations, little progress was made in the considerations of the subjects listed under this heading in the Conference agenda. The delegates had before them the Mexican Peace Code which drew together in a single document provisions in existing treaties for

investigation, conciliation and arbitration of disputes, adding to them a definition of the aggressor, a procedure for the application of sanctions, and a statute for an Inter-American Court of Justice. This had been first presented at the Montevideo Conference in 1933 and, in revised form, to the Buenos Aires Conference, so that the governments had had much time to study it. The United States also presented at Lima a draft treaty consolidating and integrating the existing inter-American peace treaties—Gondra Conciliation Treaty of 1923, the Kellogg-Briand Pact, the 1929 Pan American Conciliation and Arbitration Treaties, the Argentine Anti-War Treaty of 1933, the Convention on Rights and Duties of States signed at Montevideo in 1933, and the treaties on Prevention of Conflicts and on Good Offices and Mediation signed at Buenos Aires in 1936.

The Conference postponed consideration of these and other projects for the consolidation of inter-American peace machinery, referring them to the International Conference of American Jurists, which was charged with the task of formulating a comprehensive Peace Code for the consideration of the Ninth Pan American Conference, to be held at Bogotá, Colombia, within five years. Proposals for defining aggressor states and applying sanctions against them were likewise referred to the Conference of Jurists for study in relation to "a general plan for continental juridical organization." The same disposition was made of the project jointly presented by Colombia and the Dominican Republic for the establishment of a League of American Nations. The project for an Inter-American Court of Justice, first introduced at the Santiago (Chile) Conference in 1923, again failed to win the unanimous approval necessary to its adoption.

The only positive action of the Lima Conference with regard to the further organization of peace among the American states was the adoption of a declaration reaffirming that "as a fundamental principle of the Public Law of America, the occupation or acquisition of territory or any other modification or territorial or boundary arrangement obtained through conquest by force or by non-pacific means shall not be valid or have legal effect. The pledge of non-recognition of situations arising from the foregoing conditions is an obligation which cannot be avoided either unilaterally or collectively."

Codification of International Law. The Conference took steps to co-ordinate the work of the various agencies at work on the codification of American international law. To avoid a threatened controversy between the United States, Chilean, Mexican and other delegations on the issue of pecuniary claims, projects for the codification of the law on this and other specified topics were referred by the Conference back to the Commission of Experts for further study. Discussion of the project on pecuniary claims had indicated substantial agreement among most of the delegations against the use of force or diplomatic intervention for the collection of debts, provided arbitration could be invoked to settle cases of alleged denial of justice and bad faith.

Economic Problems. At the instance of Secretary Hull, the Conference unanimously approved a resolution recommending "reasonable tariffs in lieu of other forms of trade restrictions" and "the negotiation of trade agreements, embodying the principle of non-discrimination." The resolution was largely an affirmation of similar declarations approved by the Montevideo and Buenos Aires Conferences, and was aimed especially at German trade

methods in Latin America. The Conference also recommended periodic meetings of Treasury representatives of the American republics, adopted a program for unification of civil and mercantile law, and instructed the Pan American Union to study the feasibility of convening a World Economic Conference.

Rights of Women. In the Declaration on Women's Rights, the Conference adopted a policy that sought to reconcile the advocates of "equal rights" and those favoring special protective legislation for women. It declared that women were entitled not only to equal political and civil status with men, but also to the "most ample opportunities for work and to be protected therein." Special safeguards for mothers were recommended. The Inter-American Commission of Women, established by the Havana Conference in 1928 as an autonomous agency, was transformed into an official consultative body, to which each of the American governments was to name one representative. The chairman was to be chosen from this group by the Pan American Union.

In all, the Conference approved 110 resolutions, recommendations and agreements, while failing to conclude a single treaty or convention. While the gathering was declared a failure by the anti-democratic world press and was widely criticized for its lack of more definite accomplishment, authorities on inter-American relations generally considered it "a definite step forward on the road to more effective inter-American co-operation." All of the resolutions and projects approved had the support of all 21 delegations. It was generally considered that the great gains made at the Montevideo and Buenos Aires Conferences in the development of mutual comprehension and friendly collaboration were conserved and advanced at Lima.

Consult Charles A. Thomson, "Results of the Lima Conference," *Foreign Policy Reports*, Mar. 15, 1939.

PAN AMERICAN UNION. The Pan American Union is an official international organization founded in 1890 as the International Bureau of American Republics and maintained by the 21 republics of the Western Hemisphere for the development among them of good understanding, friendly intercourse, commerce, and peace. It is controlled by a Governing Board, composed of the Secretary of State of the United States and the diplomatic representatives in Washington of the other republics, and is administered by a Director General and an Assistant Director chosen by the Board.

The Union published a monthly *Bulletin* which is issued in three editions, English, Spanish, and Portuguese, as well as numerous special reports on the countries which are members of the Union. These are widely distributed in all the republics of the American continent and are intended to make available information on the various aspects of inter-American activity.

The Pan American Union acts as the permanent organ of the International Conferences of American States which meet at intervals of five years. The last or Eighth of these Conferences was held at Lima, Peru, Dec. 9-27, 1938. The program and regulations of each Conference are prepared by the Governing Board of the Union, and in the interval between the Conferences the organization is engaged in giving effect to the resolutions adopted and also co-operates in securing the ratification of the treaties and conventions signed at each Conference.

During 1938 the Pan American Union was also

engaged in drawing up the program and regulations and in making preparations for the Eighth International Conference of American States, which assembled at Lima, on December 9, and continued in session until December 27. All the American Republics were represented at the Conference, which made important contributions in strengthening the spirit of continental solidarity and in formulating a comprehensive program of co-operative action in the economic, juridical, cultural, and social fields. See **PAN AMERICAN CONFERENCE**.

Immediately prior to the Lima Conference the Committee of Experts on the Codification of International Law met at Lima and formulated reports and projects on a number of topics appearing in the agenda. These were submitted to the Conference and served as a basis of discussion. The Conference also adopted a comprehensive resolution reorganizing the future methods for carrying on the work of codification.

From Sept. 4 to 14, 1938, the Tenth Pan American Sanitary Conference met in Bogotá, Colombia, with 19 countries in attendance. The Conference approved a series of resolutions on various subjects of public health and sanitation and also provided for an enlargement of the scope and activities of the Pan American Sanitary Bureau.

As in previous years, Pan American Day was again observed on April 14, and reflecting the general increase in interest in Pan American relations, the eighth anniversary of the celebration of the Day was observed more widely than on any previous occasion. In all countries of the Continent government officials took an active part in the celebration of the Day, while schools and colleges, commercial organizations, and study groups presented programs appropriate to the occasion. The number of requests received by the Pan American Union for Pan American Day material was greater than ever before, and it is evident that the annual celebration of this Day has become one of the outstanding events in all the countries of the Continent. As a feature of the observance of Pan American Day in Washington a special session of the Governing Board was held at the Union at which President Roosevelt delivered an address. A concert of Latin American music was also presented at the Union in the evening by the United Service Orchestra at which time a brief address was delivered by the Chairman of the Board, Hon. Cordell Hull. The program, in addition to being broadcast in the United States over a nation-wide chain of stations, was also sent by short wave to Latin America.

At the meeting of the Governing Board of the Pan American Union held on Nov. 2, 1938, Cordell Hull, Secretary of State of the United States, was re-elected Chairman of the Board for the ensuing year. J. Richling, Minister of Uruguay, was at the same time elected Vice-Chairman to succeed Manuel Trucco, Ambassador of Chile. Headquarters of the Union are at the Pan American Building, Washington, D. C.; L. S. Rowe, Director General; Pedro de Alba, Assistant Director.

PAN-PACIFIC UNION, THE. An organization founded in 1907 for the purpose of bettering relations among Pacific peoples, chiefly through the calling of frequent conferences in all lines of thought and action in the Pacific area. It has been supported in part by appropriations from the governments of the Pacific—the United States, Canada, Australia, New Zealand, Japan, China, Siam, the Netherlands East Indies, French Indo-China, and Mexico. It is now urged that these governments take over the machinery of the Pan-Pacific

Union, financing it as their official mouthpiece, and that the Union's honorary heads, the presidents, premiers, and governors of Pacific lands, gather periodically in Honolulu for a friendly conference on Pacific affairs.

During 1938 the director of the Union, Alexander Hume Ford, continued his travels in China, Japan, and the Philippines, organizing student and adult Pan-Pacific clubs which function as open forums for the peoples themselves. Early in 1939 the Pan-Pacific Union is preparing to send a Goodwill Tour through the United States. Included in the party will be a distinguished race biologist presenting an illustrated lecture on the happy racial combinations in Hawaii, and a group of entertainers (all American citizens) of Chinese, Filipino, Japanese, Korean, Portuguese, and Samoan parentage, all of whom are prepared to present their own national folk dance and music and, at the same time, join with the Hawaiian members in presenting a short pageant of Hawaii, past and present.

During Sept. 15–28, 1938, there will be held in Honolulu the 3d Pan-Pacific Surgical Conference, and in January, 1940, at Wellington, N. Z., the 5th Pan-Pacific Women's Conference, the first conferences in both cases having been called and financed by the Pan-Pacific Union. Members of the Union receive its magazine or official publication, *Pan-Pacific*, the last two issues of which, the Philippines and Indo-China, were given financial assistance by these respective governments. Oren E. Long, Superintendent of Schools for the Territory of Hawaii, is president. The central executive office is in Honolulu at 1023 Alakea Street.

PANTELLARIA, pan-tél'lá-r'è'a. An Italian island (area, 32 sq. miles; population, 9082) situated in the Mediterranean 45 miles from the coast of Tunis and 62 miles from the Sicilian coast. Strategically situated to dominate the only shipping route between the eastern and western Mediterranean, it was fortified by Italy during the crisis of 1935–37 in Anglo-Italian relations. It thus served as a counterweight to the British base at Malta (q.v.). The island has two small ports said to be suitable for use as auxiliary submarine bases.

PAPER AND PULP. Based upon paper production reports to the American Paper and Pulp Association, the yearly monthly average for 1938 was 72.3 per cent of mill capacity, against 80.6 per cent in 1937. Comparative production and consumption in the United States of various grades in 1937 and 1938 (estimated), in tons of 2000 lb., are shown in the accompanying table.

	Production	
	1937 ^a	1938 ^b
Newsprint, standard	960,663	832,895
Book paper (uncoated)	1,561,074	1,295,691
Cover paper	24,437	23,166
Writing paper	578,147	500,675
Wrapping paper	2,053,387	1,896,988
Tissue paper	540,152	499,641
Paperboards	5,802,036	5,384,289
All other paper	1,317,107	1,132,795
Total	12,837,003	11,566,140
Consumption		
All paper and paperboard	16,035,365	13,727,440

^a Bureau of the Census figures for 1937.

^b American Paper and Pulp Association estimate for 1938.

The U.S. Bureau of Foreign and Domestic Commerce reported for 1938 (1937 figures in parentheses), exports of paper and manufactures valued at \$25,913,234 (\$31,088,199) and paper base stocks, \$11,654,690 (\$22,987,498); U.S. imports of paper

and manufactures, \$112,978,458 (\$137,069,991) and paper base stocks, \$86,254,332 (\$117,852,607).

Wood-pulp production in the United States in 1938 was estimated at 6,000,000 tons of 2000 lb., against 6,664,100 tons in 1937. Exports in 1938 were 140,484 tons, and imports largely from Sweden and Canada amounted to 1,722,346 tons compared to 2,394,539 tons in 1937.

PAPUA, pāp'ū-a; pā'pōō-ā, TERRITORY OF. A territory (formerly called British New Guinea) of Australia, comprising the southeastern part of the island of New Guinea (87,786 sq. mi.) and the Woodlark, Louisiade, Trobriand, and D'Entrecasteaux groups of islands (2754 sq. mi.). Total area, 90,540 square miles; total population (1938), 277,401 including 1488 whites and some 275,000 Papuans. Capital, Port Moresby.

Production and Trade. Coconuts and rubber are the main agricultural crops. Sisal hemp, coffee, kapok, and Mauritius beans were also grown. Pearl fishing is an important industry. Many minerals exist but gold, silver, and osmiridium are the only minerals exported. The copper mines suspended operations in 1927 because of the low price of copper. Gold produced in 1936-37 was valued at £A91,775 (£A was valued at \$3.9394 for 1937). In 1937-38 imports were valued at £A631,497 (£A452,056 for 1936-37); exports, £A435,593 (£A524,001).

Government. For 1937-38 revenue totaled £A182,808; expenditure, £A183,403; 1936-37, revenue, £A171,791; expenditure, £A171,959. The territory is administered by a lieutenant-governor, aided by an executive council, 9 members, and a legislative council composed of the 9 councilors and 5 nonofficial members. Lieutenant-Governor, Sir J. H. P. Murray.

PARAGUAY, pār'a-gwā. An inland republic of South America. Capital, Asunción.

Area and Population. The area of Paraguay proper (east of the Paraguay River) is 61,647 square miles; the area of the Chaco territory (west of the river) awarded to Paraguay by the arbitral decision of Oct. 10, 1938, was estimated at 91,120 square miles, making a total area of 152,767 square miles. The population, estimated at about 900,000, is predominantly of mixed Spanish and Guarani Indian blood, but the small ruling class is mainly white. Spanish and Guarani are the spoken languages; Spanish is the language of government and commerce. Estimated populations of the chief cities are: Asunción, 95,000; Villarrica, 30,000; Encarnación, 15,000; Concepción, 12,000. About 30 per cent of the inhabitants reside in urban communities. A total of 2484 immigrants arrived in 1936.

Education and Religion. Illiteracy is widespread. The school enrollment in 1937 was 139,466; there were in 1936, 830 government and 56 private elementary schools, with 115,349 pupils, and 1690 pupils in secondary schools. The National University had 445 students in 1935. The Roman Catholic faith is recognized as the official religion, but freedom of worship is granted other faiths.

Production. Agriculture, stock raising, and the exploitation of forests are the chief occupations. About 550,000 acres are under cultivation. Estimated production of the chief crops in 1937 was: Mandioca, 1,100,000,000 lb.; sugar cane, 689,250,000 lb.; sweet potatoes, 198,900,000 lb.; corn, 144,300,000 lb.; cotton, 90,160,000 lb.; yerba maté (native tea), 38,400,000 lb.; peanuts, 19,000,000 lb.; beans, 44,100,000 lb.; tobacco, 19,500,000 lb.; rice, 18,300,000 lb.; castor seed, 21,100,000 lb. Oranges and bananas are widely grown. The Dec. 31, 1936,

livestock estimates showed 3,750,000 cattle, 25,000 swine, 140,000 sheep, 125,000 horses, and (1935), 11,000 goats. The forests yield about 55,000 metric tons of quebracho extract annually as well as petitgrain oil and hardwoods. Export industry is confined to plants for the production of quebracho extract, meat-packing, cotton ginning, and preparation of yerba maté. Sugar refining, flour and rice milling, and the production of cheap textiles, shoes, leather goods, soap, furniture, matches, cigarettes, foodstuffs, and beverages are carried on for the domestic market.

Foreign Trade. Total imports in 1937 were valued at 12,401,000 Paraguayan gold pesos (\$8,500,000 in U.S. currency) and exports at 12,066,000 gold pesos (\$8,270,000). Leading 1937 imports were: Foodstuffs, beverages, and tobacco, \$2,096,000; cotton and manufactures thereof, \$1,466,000; metals, manufactures, and jewelry, \$1,190,000. Leading exports were: Cotton, ginned, \$3,040,000; quebracho extract, \$1,579,000; cattle hides, \$771,000; meat extracts and concentrates, \$552,000. Argentina supplied 39.7 per cent of the 1937 imports; Germany, 14; Japan, 13.7; United Kingdom, 8.9; United States, 7.6. Of the exports, Argentina took 19.1 per cent; Germany, 17.5; United Kingdom, 10.7; United States, 7.9.

Finance. Up to the end of 1938, no complete report on public finances had been made public since the outbreak of the Chaco War with Bolivia in 1932. The external debt on Dec. 31, 1936, was 7,301,743 gold pesos while the consolidated internal debt was 3,217,972 gold and 35,804,550 paper pesos. Figures on the floating debt were not available. The net cost of the war with Bolivia (1932-35) was estimated at \$10,000,000 U.S. currency. In 1937 the average official selling rate evaluated the Paraguayan paper peso at \$0.005 U.S. currency (\$0.0058 in 1936) and the average free rate was \$0.004 (\$0.0038 in 1936).

Transportation. There were, in 1937, 309 miles of common carrier railways and 440 miles of private lines (mostly lumbering railways). Highways and roads in 1937 extended 3728 miles (number of automobiles, 2000). The first regular air services in Paraguay were opened in 1938. In February Pan American Airways opened a weekly two-way service between Rio de Janeiro and Buenos Aires via Asunción. In June the Aero Club of Paraguay inaugurated its own airport at Campo Grande, just outside Asunción, and started a charter service operating throughout the republic. In September the Aero Club launched a special tourist service between Asunción and San Bernardino. Asunción, 950 miles from the sea, is accessible to vessels of 12 foot draft at all times of the year. In 1936, 4568 vessels of 298,827 tons entered the port.

Government. Following the military revolt of Feb. 17, 1936, the Constitution of 1870 was suspended and on Mar. 10, 1936, Provisional President Rafael Franco, who assumed office February 19, issued a decree establishing a "totalitarian state." Military pressure overthrew Franco's cabinet on Aug. 13, 1937, and on August 15 he resigned and was succeeded by Dr. Felix Paiva (see 1937 YEAR BOOK, p. 574). A member of the Liberal party that had ruled Paraguay from 1904 to 1936, Dr. Paiva promised early restoration of the Constitution of 1870 and to call elections within six months. For developments in 1938, see *History*.

HISTORY

Political Developments. The outstanding development in Paraguayan history during 1938 was

the final settlement of the Chaco dispute with Bolivia by the peace treaty signed July 21 in Buenos Aires (see CHACO DISPUTE, SETTLEMENT OF, for the peace negotiations and terms of the treaty). The critical nature of the Chaco negotiations, the threat of a renewal of the Chaco War, and the persistence of revolutionary agitation within Paraguayan military circles caused the Paiva Government to postpone the Congressional elections beyond the six months' limit fixed upon its assumption of power. Nevertheless, popular unrest at the continuance of the military dictatorship exercised by Lieut. Col. Arturo Bray, commander-in-chief of the army, naval, and police forces, on behalf of the Paiva regime convinced the dominant military clique of the necessity of restoring civilian government.

Accordingly, Congressional elections were called for Sept. 25, 1938, with the understanding that Geronimo Zubizarreta, chief of the Paraguayan delegation at the Chaco Peace Conference, would be the next President. Zubizarreta was elected president of the dominant Liberal party at its national convention on May 31. But his subsequent opposition to the Chaco peace agreement reached at Buenos Aires and his quarrel with Gen. José Felix Estigarribia on this issue upset these arrangements. General Estigarribia, the commander-in-chief of Paraguay's armies during the Chaco War, was imprisoned and then exiled by Provisional President Franco. Under an amnesty decreed by the Paiva Government Estigarribia returned to Asunción amid the cheers of the populace on Feb. 9, 1938. On March 9 President Paiva appointed him Minister to the United States.

The following June General Estigarribia prevented the collapse of the Chaco peace negotiations by flying from Washington to Buenos Aires and inducing the Paraguayan military and governmental leaders to compromise their Chaco claims. Dr. Zubizarreta resigned as chairman of the Paraguayan Chaco delegation in protest against both Estigarribia's intervention and the final terms of the peace treaty. The treaty was supported by the Liberal party, however, and was approved by a vote of 113,309 to 11,825 in a plebiscite held in Paraguay August 10. On August 17 Zubizarreta resigned the presidency of the Liberals. A special convention of the party on August 22 refused to accept his resignation and he was named a candidate for senator on the party's electoral list.

Meanwhile, the only organized opposition to the Liberals, the National Republican (Colorado) party, had voted on August 2 to oppose ratification of the Chaco peace treaty. Later it decided to boycott the elections. Consequently, an overwhelmingly Liberal Congress of 20 senators and 40 deputies was elected on September 25 by the 167,000 registered voters. It was announced September 22 that election of a constitutional President would take place the following March and that he would assume office on Aug. 15, 1939. However, when the new Congress assembled on October 11, it immediately elected Provisional President Paiva as constitutional President to serve until a new general election was called by Congress.

Upon Dr. Paiva's inauguration October 12 the cabinet resigned to give him a free hand to reorganize it. He invited the Liberal party to participate in the new government but on October 14 it voted to refuse the offer of representation in the cabinet while collaborating with the regime in Congress in order to speed the early restoration of full constitutional government. In accordance with this resolution, Dr. Justo Pastor Benítez, Liberal lead-

er in the Senate, withdrew his prior acceptance of the post of Minister to Bolivia. A political crisis threatening internal peace resulted, but this was ended on November 1 when President Paiva reached an agreement with the Liberals under which they agreed to participate in the government. A new cabinet was announced on the same date with Col. Arturo Bray and Dr. Enrique Bordenave, former Minister to the United States, holding the key posts of Interior and Hacienda. Dr. Pastor Benítez then agreed to accept the post as Minister to Bolivia and the restoration of diplomatic relations took place on November 26 when he presented his credentials at La Paz and Dr. Fabián Vaca Chávez presented his credentials as Minister to Paraguay.

The press censorship in Paraguay was relaxed somewhat with the opening of the first business session of Congress since the Chaco War on October 17. However, the state of siege, in effect almost continuously since the outbreak of the Chaco conflict in 1932, was maintained and in November was extended for an additional four months at President Paiva's request.

Other Events. Signs multiplied during the year that Paraguay was seeking to counter the Bolivian-Argentine rapprochement (see BOLIVIA under *History*), which threatened to deprive her of Argentine diplomatic and moral support, by establishing closer political and economic relations with Brazil. Despite its straitened finances, the Paiva Government on January 9 authorized a North American engineering firm to make surveys for the proposed automobile highway linking Asunción with an extension of the Brazilian highway system at the Iguazu Falls. This would provide Paraguay for the first time with an overland outlet to the Atlantic, through Curitiba.

The mixed Brazilian-Paraguayan commission for the promotion of cultural and economic relations, authorized by notes exchanged Apr. 17, 1937, was constituted early in 1938. It was engaged during the remainder of the year in studying projects for a commercial treaty, improved transportation facilities, etc., between the two countries. On August 17 the Asunción Government made the teaching of Portuguese compulsory in all primary schools. On the other hand, Paraguay was adversely affected and further alienated from Argentina by Argentine monetary developments and a regulation prohibiting European immigrants into Paraguay from crossing Argentine territory en route to their new home. With the settlement of the Chaco dispute, Paraguay's controversy with Argentina over the Pilcomayo boundary was revived.

In the economic field the Paiva Government returned to orthodox methods to restore trade, set its war-strained finances in order, and check the flight of capital. In March it resumed payments on the foreign debt, suspended since July 1, 1933. In April steps were taken to resume payment of interest and amortization on the gold bonds issued in 1935.

The Paiva Government also sought to mollify the discontented working masses by the decree of Jan. 6, 1938. This established a maximum 8-hour day and 48-hour week for salaried and wage-earning employees of both sexes in industry, commerce, banking, state and municipal public works, construction, transportation, dock work, lumbering, and in the quebracho (tannin) and yerba maté enterprises.

A French military mission of five officers arrived

in Asunción April 13 to train the Paraguayan army.

PARAPSYCHOLOGY, or EXPERIMENTAL PSYCHICAL RESEARCH. Investigations in this field assumed, in 1938, the proportions of a definite research movement, a movement growing out of the work in extra-sensory perception first reported from Duke University in 1934 and still in progress there in the Parapsychology Laboratory. Many psychological laboratories have reported research in ESP, as extra-sensory perception is called for brevity. (See the *Journal of Parapsychology*, Vol. II, 1938.)

The general case for the occurrence of ESP was strengthened by several bodies of new evidence. Martin and Stribic (University of Colorado) reported highly significant results from 50,000 trials with ESP cards in tests carefully guarded against sensory cues and clerical errors. Humphrey and Clark (Earlham College) presented the work of a subject who averaged nearly twice chance expectation in a series of 50 consecutive ESP packs with the cards completely removed from sight and touch. Other reports which were primarily concerned with some special problem about ESP incidentally strengthened the evidence that ESP occurs.

That the experimenter may unwittingly be a factor making for or against the subject's success in an ESP test has been the impression of several investigators. The first clear-cut experimental demonstration of this effect was made by Pratt and Price (Duke University) and this evidence was strengthened by the report of MacFarland (Tarkio College).

Preliminary investigations dealing with the hypothesis of precognition, an hypothesis logically suggested by the apparent freedom of ESP from spatial limitations, were reported during the year. Rhine (Duke University) found that subjects could register more than the chance number of successes in "pre-shuffle calling" tests when the shuffling was done by hand. This raised the question: Was the extra-chance factor in the calling or in the shuffling? In a report dealing with this question, Rhine, Smith, and Woodruff (Duke University) found that ESP may be a factor in card shuffling. With the requirements for an adequate test of precognition thus clearly demonstrated by these preliminary experiments, the year ended without producing a crucial experiment on this important hypothesis.

Possible ways in which ESP is related to better-known psychological functions were suggested by the work of several investigators. Stuart (Duke University) found that ESP occurs if the subject responds to the test items at his "normal" rate, and is inhibited if he is forced to adopt an unnatural frequency. Shulman (Bard College) suggested as a highly tentative conclusion that ESP may occur among psychotic patients of one class (manic-depressive depressed) and not among others. Drake (Wesleyan College, Ga.) studied an 11-year-old feeble-minded child who appeared to "receive" impressions from his mother as "sender."

A number of investigators reported failure to find extra-chance scoring in tests for ESP. These reports, appearing in the *Journal of Parapsychology* and elsewhere, recognizably are of great importance in charting our ignorance of the *modus operandi* of this function but do not discredit the positive evidence.

On the statistical side of the research, it was clear at the close of 1937 that the best mathematical authority had approved in general the numerical foot-
rules used in measuring the results. However, in

1938, several contributions were made in the direction of refining further the general evaluative technique, particularly such refinements as might influence the interpretation to be placed upon borderline cases. Greenwood (Duke University) constructed a "chance" series of 500,000 trials, making it similar in every respect to the actual experiments except that ESP was carefully ruled out, and found that the average was insignificantly different from the most probable number (five) and the frequency of run scores approximated most closely the binomial distribution. This mammoth series lent full support to the use of the statistical practices actually followed in the research since 1934. For the first time, the exact probabilities for scores from 0 to 25 matching one shuffled ESP pack against another were calculated by Greville (University of Michigan). Bubbs (Washington University, St. Louis) evolved a formula for the combination of critical ratios for a series of experiments.

The work of René Warcollier, translated from the French, was published in America by the Boston Society for Psychic Research (*Experimental Telepathy*) and in an abbreviated edition by Harpers (*Experiments in Telepathy*). In England, G. N. M. Tyrrell published an important survey of the field (*Science and Psychical Phenomena*, Methuen).

The controversy over ESP continued, marked in particular during 1938 by the attention given to this subject at psychological conventions. In the United States, a number of the regional conventions each had at least one paper on the subject, and the interest shown by the psychologists is inferable from the public press accounts of these discussions. True to the controversial atmosphere now prevailing, both favorable and critical points of view were represented.

The annual meeting of the American Psychological Association was the occasion for the first national symposium on ESP. The speakers discussed, *pro* and *con*, the evidence as it bears upon the hypotheses of sensory cues, on the one hand, and errors in recording, on the other. Furthermore, the recent progress on the statistical side, which, it was agreed, had removed that part of the ESP research methods from legitimate controversy, was reviewed impartially by a professional mathematician.

If students of the subject were in the least inclined too quickly to take these happenings as evidence of a general acceptance of ESP into the body of established scientific fact, the results of two questionnaires (Warner, New York City, and Crumbaugh, Southern Methodist University) sent out to representative psychologists should have a sobering effect. The answers given show that more psychologists are becoming aware of the research and are keeping open minds to the results. Few, however, put themselves on record as convinced that ESP occurs, and many actually deride such investigations altogether. As far as comparisons are possible, definite progress has been made in the last few years toward getting a hearing for the evidence that ESP occurs.

PARK COLLEGE. A nonsectarian institution for the higher education of men and women at Parkville, Mo., founded in 1875 and co-operating with the Presbyterian Church in the United States of America. The enrollment for 1938-39 totaled 529; the faculty numbered 45. Endowment funds totaled \$1,728,000, from which the income was \$49,000. Tuition and fees amounted to \$120,000, donations to \$58,900, and the grounds, buildings,

and equipment were valued at \$1,491,000. The library contained 30,000 volumes. President, William Lindsay Young, D.D., LL.D.

PARKS, NATIONAL. Tourist travel to the numerous units of the Federal park system mounted to more than sixteen and a quarter million during the travel year ended Sept. 30, 1938, the National Park Service reported. This represents an increase of more than a million over the preceding travel year. As the mood of the American tourist changes from year to year so do the attendance figures show a shifting from one national park to another, or from one type of area to another. These are reflected in the record of visitors to the federally administered areas. The great increase of travel this year over last was represented largely in the number of visitors going to the national military parks scattered chiefly over the eastern seaboard and east of the Mississippi. These parks showed an increase of more than one million.

Travel to the 27 national parks, the scenic wonderlands which formed the nucleus for the present Federal park system, fell off a few thousand from the previous travel year. Withal, tourist travel was just under the seven million mark, or slightly less than half of the total for all types of areas dedicated to the public. In 1938, 6,976,296 visitors went to the national parks proper, compared with 7,012,803 during the 1937 travel year. The figures for the 19,000,000 and more acres in the system showed a total of 16,233,688 as against 15,133,432 in 1937. Shenandoah National Park, in Virginia's Blue Ridge, led the country in the number of visitors to the national parks with 954,967; this figure was below that of 1937 when 1,041,204 visitors entered the park's gateways. Great Smoky Mountains National Park, North Carolina-Tennessee, was second, with 694,634 compared with 727,243 for 1937.

The 61 national monuments of the Federal park system reporting, set a travel record of 2,029,808 compared with 1,770,486 for 1937, but the greatest increase was in the number of visitors to the national military parks and cemeteries, where tribute was paid to the soldier dead.

Military parks and cemeteries had 2,877,655 visitors, a jump of more than a million from 1937 when 1,692,237 were recorded. To Gettysburg, Penn., where the decisive battle of the Civil War was fought, went 1,554,234 visitors compared to 622,384 in 1937. Much of this increase was on the occasion of the five-day celebration of the 75th anniversary of the battle held in early July, 1938.

Boulder Dam Recreational Area reported 564,800 visitors during the 1938 travel year as compared with the 389,294 persons who visited there the last six months in the 1937 season.

Proclamations issued by the President in 1938 established national monument areas at Fort Laramie, Wyo., and near Tupelo, Miss. The one at Fort Laramie covers about 214 acres, and includes an old fort and other buildings which formed an outpost for fur traders and miners on the Oregon Trail during the California gold-rush days. The Ackia Battleground National Monument near Tupelo, Miss., covers approximately 50 acres, and the site of the battle for the palisaded Indian village of the Chickasaws of Ackia. Here was fought, May 26, 1736, a battle between the French and the English, each with their Indian allies, which checked the French movement to control what is now the Southeastern United States from the Mississippi River to the Appalachian Mountains (see *MISSISSIPPI*). An act passed in the closing hours of the 75th Congress gave the nation the new Olympic

National Park of approximately 624,000 acres, including the former Mount Olympus National Monument, Wash. The measure, approved by the President June 29, 1938, authorized him to add to the park a maximum of 262,292 acres so that the final boundaries may include a total of 886,292 acres.

PAROLE SYSTEM. See *CRIME*.

PEABODY, GEORGE FOSTER. An American banker and philanthropist, died at Warm Springs, Ga., Mar. 4, 1938. Born in Columbus, Ga., July 27, 1852, he was educated privately and at Deerhill Institute, Danbury, Conn. (1865-66). Entering a wholesale drygoods commission firm as a clerk in 1866, in 1880 he joined Spencer Trask, the banker, and in the following year they formed Spencer Trask & Co. Subsequently Mr. Peabody became active in the development of railroad properties and electricity and was vice-president and director of many railroads and business corporations, including the St. Louis, Alton & Terre Haute R.R., the Mexican National R.R. Co., the Rio Grande-Western R.R., the Edison Electrical Illuminating Co., and the General Electric Co. At one time he held membership in the New York Stock Exchange. In 1906 at the peak of his career he retired from business and devoted himself thereafter to the various philanthropies and activities in which he was interested.

An advocate of the single tax; a free trader, serving as treasurer of the American Free Trade League in 1880; a believer in government ownership of railroads, Mr. Peabody favored also woman suffrage and opposed national prohibition. A Democrat in his political belief, he was treasurer of the Democratic National Committee in 1904-05, and upon the establishment of the Federal Reserve Bank in 1914 was appointed chairman and government director of the New York bank, from which he resigned in 1921. He supported Franklin D. Roosevelt's candidacy for the presidency in 1932 and in the campaign of 1936 aided in the formation of the Good Neighbor League. On Feb. 3, 1934, he was appointed a member of the advisory council on the Virgin Islands.

Long interested in the conservation of natural resources, Governor Hughes of New York appointed him, in 1910, chairman of the State Reservation Commission at Saratoga Springs, his duties being to supervise the purchase, restoration, and utilization of the springs at Saratoga. When the reservation was placed under the direction of the State Conservation Commission in 1915, he retired. It was at his suggestion that a large State forest nursery was established on the Saratoga reservation, and the dedication of the State's \$10,000,000 spa there in 1936 was a culmination of his efforts to save the place from commercial exploitation. In 1925 he donated valuable land, including Prospect Mountain, near Lake George, for a State park.

Other of Mr. Peabody's interests included the Negro, in the improvement of whose conditions he was a pioneer, and he was a trustee of the American Church Institute for Negroes and of the Hampton Normal and Agricultural Institute. He was generous in his support of the Penn Normal and Industrial School, the Fort Valley High and Industrial School, Colorado College, and Skidmore College, of all of which he was a trustee. One of the earliest enthusiasts for Warm Springs, Ga., as a health resort for poliomyelitis victims, he was instrumental in bringing the spa to the attention of Franklin D. Roosevelt, and with the establishment of the Warm Springs Foundation, was ap-

pointed a trustee. Also, he established at his estate, Yaddo, at Saratoga, a retreat for artists and literateurs, and gave his home in that city as a memorial to his wife, Katrina Trask. From 1901 to 1910 he was treasurer of the General Education Board.

PEACE. On the initiative of the Department of International Justice and Goodwill of the Federal Council of Churches, the moderators or other heads of 21 of the leading religious bodies of the nation united in an appeal to the President of the United States to take the leadership in convening an international conference "looking toward the removal of the causes of war, the facilitating of economic intercourse between nations, the building of agencies to maintain order and promote peaceful change, and the reduction and limitation of armaments." This statement was presented at the White House on November 17 by a delegation of four persons representing the signatories. The group which held the conference with the President consisted of Dr. Edgar DeWitt Jones, of Detroit, President of the Federal Council; Dr. Albert W. Palmer, President of the Chicago Theological Seminary; Dr. James H. Franklin, President of Croser Seminary, and Rev. Roswell P. Barnes, of the Federal Council's staff.

The letter, as presented to President Roosevelt, was as follows:

We desire to express our deep appreciation for the timely and tactful leadership initiated by you and Secretary of State Hull in exercising the moral influence of the United States on the side of peace during the recent international crisis. The people of our churches have experienced a sense of profound relief that a general European war was averted. Differences of opinion may exist with respect to the precise terms and ultimate results of the Munich agreement. But a breathing spell has been provided during which time, if ever, the foundation should be laid for an enduring peace with justice.

If, however, the Munich agreement is made the occasion for a renewed race of armaments and an acceleration of war preparations in our own and other countries, the future can result only in recurring threats to the world's peace.

We believe, Mr. President, that the time has come for the world's statesmen to make a supreme effort to initiate negotiations looking toward the removal of the causes of war, the facilitating of economic intercourse between nations, the building of agencies to maintain order and promote peaceful change, and the reduction and limitation of armaments.

We, therefore, respectfully urge you to collaborate with the heads of other States to the end that there may be convened at the earliest possible moment a world conference designed to achieve these objectives.

We are aware of the difficulties which stand in the way. We are convinced that these difficulties can and will be overcome if the leaders of our own and other countries will but implement the known desire for peace which exists among all peoples.

A Committee of experts, set up to make practical suggestions on the use of broadcasting in the cause of peace, met from June 17 to 18 at Geneva. It was composed of representatives of the national broadcasting companies and of persons especially interested in the intellectual and educational aspects of broadcasting.

In 1936 the Assembly of the League of Nations, on a proposal by the British and Danish delegations, had instructed the International Committee on Intellectual Co-operation to study the use of modern means of spreading information utilized in the cause of peace. This investigation was intended to bring out chiefly the means by which, and the conditions in which, these new methods of propagation might encourage between nations a mutual exchange of information on their culture and institutions. The work was to be completely free from political consideration or propagandist tendencies.

Preliminary investigation led to a meeting of experts in July, 1937, at which a skeleton program

was drawn up. This program was laid before the Assembly in September, 1937, and the latter considered that, if the Intellectual Co-operation Organization were to be able to put it into practice, the opinion of an ad hoc Committee should be obtained whose duty would be to complete the suggested program. The Committee's agenda followed the lines laid down by the Eighteenth Assembly and dealt chiefly with information and documentary material on the work of the League and its various bodies for the use of the national broadcasting companies. This Committee of Experts reported to the Intellectual Co-operation Committee at its July meeting as follows:

The Committee took the view that the most effective way of obtaining new adhesions or ratifications to the Convention was for the official bodies of the League to approach the Governments, such action being supported by the press, the large international associations, the national Intellectual Co-operation Committees, etc. The Committee considered that the broadcasting stations of those countries in which the Convention had already entered into force might perhaps point out to the public the basic principles of its application. In this connection it drew attention to the South American regional broadcasting Agreement signed at Buenos Aires, in 1935, and revised in 1937 at Rio de Janeiro.

The Committee sought out ways of improving this information service and considered it advisable to ask the national broadcasting undertakings for their requirements and to send to them and to the other great private undertakings a periodical information bulletin on the work of the League and the Intellectual Co-operation Organization.

Washington Conference on Cause and Cure of War. The thirteenth national conference on the cause and cure of war was held at Washington, D. C., January 18-21. Over a thousand delegates, representing 11 national organizations of women, were in attendance, Miss Josephine Schain, active head of the conference, making the opening address. Others who spoke before the conference included: Dr. Henry A. Atkinson, of Atlantic Theological Seminary; Dr. Isaiah Bowman, president of Johns Hopkins University; Clark M. Eichelberger, National Director of the League of Nations Association; Prof. Harry G. Gideons, of the University of Chicago; Henry F. Grady, chairman of the Tariff Commission; Dr. Manley O. Hudson, of the Harvard Law School; James G. McDonald, of the *New York Times*; Felix Morley, Editor of the *Washington Post*; Prof. James T. Shotwell, of Columbia University; Prof. Eugene Staley, of the Fletcher School of Law; and Sen. Elbert D. Thomas of Utah. The following program was approved at the final session:

1. More adequate appropriations for the Department of State.
2. Support of the reciprocal trade agreement program.
3. Adoption of a permanent policy of consultation with other signatory States in the event of the violation of the Pact of Paris.
4. Provision for co-operation with other nations in financial and economic measures, not including war, designed to withhold aid to a treaty-breaking nation.
5. Legislation to give effect to the present policy of the United States to withhold recognition of any situation brought about by means contrary to the Kellogg-Briand pact, through placing conditions upon or prohibiting financial transactions with the violating State.

Washington Economic Conference. The Washington Conference on World Economic Co-operation was sponsored by many of the organizations represented in the National Peace Conference and several others. The Conference was based upon the idea that world peace is dependent, in part, upon the renunciation of economic warfare and the development of policies of international economic co-operation.

In preparation for the Washington gathering, a Committee of Experts was appointed by the National Peace Conference to draft a report on the general subject of world economic co-operation. The Chairman of this Committee was James T. Shotwell, Director, Division of Economics and History of the Carnegie Endowment for International Peace, and the Rapporteur was Eugene Staley, Associate Professor of International Economic Relations, Fletcher School of Law and Diplomacy.

More than 600 delegates attended the Washington Conference. These delegates were drawn from all parts of the country. They represented all shades of opinion within the American peace movement. A large number of local peace councils were also represented. Despite differences of opinion regarding political insecurity, a remarkable degree of unanimity prevailed throughout the Conference, with respect to the economic requirements of a peaceful world order.

Included in this report of the proceedings of the Conference are the following: (1) The findings of the Conference, (2) the report of the Committee of experts, (3) a statement drafted by the Steering Committee of the National Peace Conference, (4) statements prepared by representatives of the groups having opposing views on the problem of political security, and (5) a selected bibliography on materials for world economic co-operation.

Clark M. Eichelberger of the League of Nations Association served as the Director of the first phase of the Campaign for World Economic Co-operation which came to an end with the Washington Conference. Recognition was also made of the service rendered by the Assistant Director, Richard R. Wood, of the Friends' Peace Committee of Philadelphia. The second phase of the Campaign is now in progress and will continue until January, 1939.

Bristol Peace Conference. The 28th National Peace Congress (British) met in Bristol—after an interval of 13 years. Delegates to the Congress were appointed by 69 national and 405 local organizations—the total number of representatives of organizations amounting to 700. In addition, 100 persons attended as observers and a considerable number of visitors attended individual sessions. Among the national organizations represented were the Co-operative Party, the Co-operative Union, the Civil Service Clerical Association, the Independent Labour Party, the International Peace Campaign, the Liberal Party Organization, National Adult School Union, National Union of Clerks, the National Association of School-masters, National Council for Civil Liberties, the National Free Church Council, National Union of Distributive and Allied Workers, National Union of Journalists, National Union of Students, National Union of Women Teachers, Peace Pledge Union, the Railway Clerks' Association, The South Wales Miners' Federation, the Union of Post Office Workers, and the Women's International League.

Sessions of the Congress were devoted to an international economic and social policy, the Colonial question, the current international situation, the problem of Minorities as an aspect of social justice, the future of the League of Nations, the effect of war preparation on social welfare and civil liberties, the teachers' contribution to peace, the local peace movement and political action, the local peace movement and Air Raid Precautions, and other questions.

At the final session the Congress rejected, by 105 votes to 73, a general statement of policy in relation

to the current situation which the representative General Purposes Committee had, by majority, decided to offer and commend to the Congress, as a statement likely to reflect the greatest common measure of agreement within the Congress. The statement dealt both with the problems of social justice in relation to peace and the question of "aggression." The main reason for the rejection of the statement lay in the dissatisfaction of a considerable section of the Congress at the refusal of the General Purposes Committee to divide the Congress on the issue of pacifism versus collective security or to incorporate in the "agreed" statement the full current interpretation of the "collective security" position. Following the rejection of the general statement, the Congress adopted with small dissentient minorities four resolutions relating to Spain and China, Abyssinia, Czecho-Slovakia, and Refugees, which had been intended to supplement the more comprehensive manifesto, and unanimously adopted two resolutions dealing with the West Indies and International Voluntary Service for Peace.

Catholic Association for Peace. The following statement was released October 6, by the Rt. Rev. John A. Ryan, D.D., Charles G. Fenwick, Ph.D., and the Rev. R. A. McGowan, as chairmen of the Ethics, the International Law and Organization, and the Joint Policy Committees, respectively, of the Roman Catholic Association for International Peace. Twenty-four other members of these committees and of the Executive Committee signed the statement.

In the presence of the grave crisis through which Europe has been passing, the undersigned members of the Ethics, the International Law and Organization, and the Joint Policy Committees of the Catholic Association for International Peace, and of its Executive Committee, believe that it is imperative to affirm certain principles upon which the future peace of the world must necessarily rest.

(1) The moral unity of mankind should be reaffirmed. An injustice done to one nation is an injustice done to all. No nation may assume an attitude of indifference toward the fate of another nation on the ground that its own national interests are not directly affected. The national interests of each country comprehend the welfare of every other country. While it may not, in all cases, be practically feasible to take steps to prevent international injustices from being done in other parts of the world, in principle those injustices are a violation of the moral order of the world; and, in consequence, they constitute a challenge to the whole family of nations to consider possible ways and means of redressing them.

(2) Nations are bound by the moral law no less than individuals. There is no exemption of any group, or class, or community, or state from the fundamental principles of justice and fair dealing. The suggestion that nations have certain duties to their national development which justify them in pursuing their national interests at the price of a wrong to their neighbors is condemned no less by reason than by repeated teaching of the doctors of the Church and recent Papal encyclicals.

(3) It is wrong for a nation to resort to violence to attain its objects when there are peaceful methods of settlement available. The use of intimidation, the threat of armed force, the issuance of ultimatums are to be condemned in the strongest terms when one side offers arbitration, mediation, or other method of conference and conciliation. A nation has no more right to take the law into its own hands than an individual has. Even if its cause appears to it unmistakably just, it may not force its will upon another State which offers to submit the controversy to the whole family of nations or to a smaller international conference or commission. The conduct of any Government is to be condemned if it employs unjust methods, and that is so quite apart from the merits of its claim that a minority group of another State wishes to unite with it.

(4) The desire for racial unity is not an end that may be used to justify ways and means of any kind to attain it. Yet such is the cruel and evil practice of the new "racism." Assuming that the entire body of a minority group desired to be annexed to another country and to be subjected to its authority, nevertheless, that would not, of itself, be justification for the economic injury that might be inflicted upon the State in which the minority resides if, in consequence of the partition, the latter were reduced to a condition of economic servitude. A minority

is entitled to the full protection of its rights as a minority; it is also entitled to leave the area and settle elsewhere; it is not entitled to demand the economic disruption of another minority with which it has constituted a unit of work and livelihood over a long period of time.

(5) The proper solution for such a controversy should be found in an international conference in which neutral States may contribute plans for a just settlement. As reason proclaims and the Church teaches, all nations are collectively responsible to promote peace to the full extent of practical possibilities. There is every reason to have the light of neutral opinion thrown upon the dispute. The machinery for peaceful settlement is available. Consultation and conference, not by two or three nations thinking in the terms of their own national interest, but by the whole family of nations, will in all probability find a solution that will do justice to both sides. Certainly, greater justice is likely to result from conference and agreement than from surrender to the threats of force coming from a single powerful State.

(6) In considering the claims of a State to the annexation of a neighboring minority, account must be taken of the character of its own domestic government. When freedom of speech is denied and religion is persecuted by a State, it loses in large degree the rights which it might otherwise claim, apart from the extravagant and false assumptions of "racism," to take under its rule its racial elements in another State. The demands of such a State lose much of their moral value by reason of the fact that each accession of territory puts the Government in a stronger position to enforce its will upon other States in the future. The open avowal of a belief in the use of force and in the right of a particular State to take the law into its own hands weakens its claim to what might otherwise be fairly granted to it.

(7) During these past years it seems to us that the United States has failed to assume the responsibility incumbent upon it as a member of the family of nations. We have denounced acts of lawlessness and aggression, but we have not enacted legislation which would enable us to take part effectively in the councils of the nations. Our neutrality legislation, now in force, requires us to treat both parties alike, irrespective of the fact that one may commit acts of violence and the other be its innocent victim. It is not conducive to international morality to make no distinction between right and wrong, to apply the same rule to the treaty-breaking State and to the State observing its obligations. Such an attitude of isolation and indifference does not keep us out of war; it encourages the lawbreaker and makes it almost certain that the spread of lawlessness will in the end touch our own shores. The best way to keep out of war is to help prevent it. It is a narrow conception of national defense to be indifferent to acts of lawlessness in other parts of the world and hope that the attack will not be directed against us.

(8) We must look beyond the immediate problems to the danger of war in the future. More and more it becomes clear that if permanent peace is to be obtained, the machinery of international co-operation must be developed so as to remove the causes of war. Greater efforts must be made to build up a body of common interests which may offset the present tendency toward intensified nationalism. The economic barriers between nations must be lowered and access given to the raw materials of industrial life and to the markets for manufactured products. In thus helping to remove the causes of war, the United States can make a most effective contribution to peace. We must not only pray for peace but must in every practical way work to restrain violence and to promote justice between nations as the condition of peace.

Peace Programs. Walter W. Van Kirk, Director of the National Peace Conference, summarized the results of the first year of the conference's organized activity. Membership now includes 34 national organizations in a new unifying agency prepared to speak and act at appropriate times for the peace forces of the nation. Programs were cleared among the 34 co-operating organizations, to aid each in contributing its maximum in influence. Speakers were made available for mass meetings in strategic centers. Radio presentations of the peace issues were broadcast to the nation. Seven hundred prominent speakers were mobilized to protest greatly increased appropriations for military purposes. The conference is now appraising the peace resources of the country, with a view to putting them into action in accumulating force.

"By the united front," Dr. Van Kirk declared, "the national peace organizations form a single cause that will appeal with greater force to local individuals to organize by groups, to share facts

and interpretations with their neighbors, and to arouse for action peace-loving Americans who are now too seldom informed on militarism's tactics."

Special committees of experienced observers of world affairs are preparing reports for the conference. Subjects first chosen for study and interpretation include: Neutrality, economics and peace, the Far East, military training in schools and colleges, and national defense policies. The conference will issue a series of eight small books a year, dealing with such topics as the economic necessity for an orderly world, and the case for and against war as a "biological necessity."

The Canadian Government will contribute to the international peace gesture which has its expression in the Peace Garden on the boundary of Manitoba and North Dakota to the extent of \$10,000, according to the supplementary estimates of the House. This area is in the Turtle Mountain Forest Reserve, with the international frontier traversing it. The site was selected some years ago by a committee of members of the National Association of Gardeners of America.

The World Conference for Action on the Bombardment of Open Towns and the Restoration of Peace, held in Paris, July 23-24, 1938, was called by the International Peace Campaign, a private group with headquarters at Geneva, Switzerland. Viscount Cecil of Chelwood, winner of the 1937 Nobel Peace Prize, and Pierre Cot, former Air Minister of France, presided over the Conference, which was attended by 1000 delegates from 34 countries. Dr. Henry A. Atkinson, president of the United States section of the International Peace Campaign, headed the group from this country. The Conference implored the great States to safeguard peace while there is still time and thus to assure their own security.

It noted that world policy is more and more departing from the four principles on which the International Peace Campaign was based—respect for treaties, universal limitation of armaments, collective security, and machinery to allow of the peaceful solution of all international problems—and that this departure had resulted in wars of aggression, the barbarity of which increased daily and which it would be in vain to attempt to humanize.

The Conference was of opinion that the weakness of acquiescence of certain great States with regard to the aggressor States had made these States stronger, both in the eyes of international public opinion and of their own people; it felt that this weakness had created the illusion that the real strength of the great democracies was unequal to that of the aggressor States.

The commission to investigate measures to be taken against the bombardment of open towns recommended that organizations and individuals should press their governments to:

- (1) Remove immediately every ban on the supply of weapons and apparatus of defense against air attacks,
- (2) grant financial aid to countries victims of aggression to enable them to purchase supplies of weapons and apparatus to defend their civilian populations from bombardment,
- (3) place an embargo on the supply of gasoline, metal, and other material, and also on financial aid to the aggressors responsible for bombardments,
- (4) organize the evacuation, in agreement with the governments of Spain and China, of their populations menaced by bombardments, using for this purpose their own mercantile marine and rail services and affording the refugee transports protection by their own armed forces.

The Board of Trustees of the Church Peace Union adopted a resolution at its semi-annual meeting on May 25-26 to the following effect:

In view of the chaotic conditions which exist throughout the world today, with the general breakdown of international morality, the staggering burden of increasing armaments, and the threat of war and revolution: We sincerely believe that the only way out is for all the nations to meet and confer on their essential problems and difficulties in a spirit of conciliation and willingness to co-operate, in framing measures for the elimination of the causes of conflict and lay anew the foundations of a more effective international community of nations; We therefore appeal to our Government to take advantage of the precedent created by the Hague Conferences and under the provisions voted at the Second Conference held in 1907 join with other member States in calling the Third Hague Conference to convene at an early date.

It was felt by the Board that the Third Hague Conference which was to have been called in 1914, but which was postponed by the outbreak of the World War, would offer a convenient, timely, and hopeful occasion for a general conference on eliminating causes of international conflict. A conference at The Hague would lack some of the handicaps of a conference at Geneva because of the post-war history of the League. Moreover, there would not be the same barriers to American participation in the Third Hague Conference that there would be to a conference convened by the League of Nations, since the United States attended the two previous Hague Conventions.

Secretary of State Hull, at Nashville on June 3d, said that the United States was "prepared to join with other nations in resuming and vigorously carrying forward the work so auspiciously begun at The Hague two generations ago, of humanizing by common agreement the rules and practices of warfare." This is a short step in the direction of international collaboration, for such a conference would mean little in the present crisis. War may be abolished, but the World War and the present wars have proved that it cannot be humanized.

Mr. Hull's reference to The Hague, however, suggests the possibility that the American Government would be willing to participate in a thoroughgoing conference to eliminate the causes of conflict. Premier Eamon de Valera, of Ireland, said before the Assembly of the League of Nations: "Why cannot the peace conference which will meet in Europe when the next conflict has decimated the nations, and disaster and exhaustion have tamed some of them into temporary submission—why cannot this conference be convened now when calm reason might have a chance to bring the nations into friendly cooperation and a lasting association of mutual help?"

PELLAGRA. See MEDICINE AND SURGERY under *Brief Notices*.

PEMBA. See ZANZIBAR PROTECTORATE.

PENANG. See STRAITS SETTLEMENTS.

PENNSYLVANIA. Area and Population. Area, 45,126 square miles, exclusive of State's waters in Lake Erie, but including (1930) other waters, 294 square miles. Population: Apr. 1, 1930 (census), 9,631,350; July 1, 1937 (Federal estimate), 10,176,000; 1920 (census), 8,720,017. Philadelphia (1930) had 1,950,961 inhabitants; Pittsburgh, 669,817; Scranton, 143,433; Reading, 111,171; Harrisburg, the capital, 80,339.

Agriculture. Acreage, production, and value of the chief crops of Pennsylvania, for 1938 and 1937, appear in the table in next column.

Mineral Production. Pennsylvania again ran a close second to Texas in the yearly total value of the States' production of native minerals; its total for 1936 was \$617,138,041, to which anthracite and bituminous coal, in almost equal shares, contributed more than two-thirds, while petroleum, natural gas, and cement made up the greater part of the

<i>Crop</i>	<i>Year</i>	<i>Acreage</i>	<i>Prod. Bu.</i>	<i>Value</i>
Hay (tame) .	1938	2,418,000	3,283,000 ^a	\$31,517,000
	1937	2,465,000	3,251,000 ^a	35,436,000
Corn	1938	1,368,000	59,508,000	36,300,000
	1937	1,368,000	62,928,000	40,274,000
Potatoes	1938	193,000	22,002,000	15,401,000
	1937	205,000	25,215,000	16,390,000
Wheat	1938	1,050,000	22,032,000	14,100,000
	1937	1,073,000	23,573,000	22,866,000
Oats	1938	915,000	30,652,000	10,115,000
	1937	915,000	24,705,000	10,623,000
Apples	1938	.....	9,338,000	7,470,000
	1937	.....	16,728,000	10,535,000
Tobacco	1938	24,200	32,690,000 ^b	3,269,000
	1937	23,700	28,990,000 ^b	3,016,000
Buckwheat ..	1938	140,000	2,170,000	1,172,000
	1937	130,000	2,275,000	1,456,000

^a Tons. ^b Pounds.

remainder. The output of anthracite diminished to 51,856,000 net tons for 1937, from 54,579,535 for 1936 (in value, \$227,003,538). Except for an aggregate of about half a million tons a year mined in Arkansas, Virginia, and three other States, Pennsylvania produced all the anthracite mined in the Union. The so-called unauthorized or bootleg mining (abstraction of coal from the owners' ground by individuals) continued in 1937 and 1938; it was supposed that two or three million tons of anthracite, not in the totals above, were thus produced in 1937. The production of bituminous coal rose slightly to 110,160,000 net tons for 1937, from 109,887,450 tons (value, \$207,548,000) for 1936. The State led the Union in the value of bituminous coal produced in 1936, but West Virginia produced a somewhat greater tonnage.

Natural gas produced in the State in 1936 totaled 110,362 million cu. ft. in quantity and \$42,-874,000 in value. The quantity of petroleum produced yearly continued its rise, to 19,155,000 bbl. for 1937, from 17,070,000 bbl. (value, \$41,450,000) for 1936. The producers' shipments of cement increased to 22,952,603 bbl. (1937), from 22,527,491 (1936), but diminished in yearly value to \$31,917,-831 (1937), from \$33,235,017 (1936). Clay products (1936) totaled \$29,975,442.

The production of coke rose to 16,140,501 net tons for 1937, from 13,784,110 tons (value, \$54,209,549) for 1936. Blast furnaces' shipments of pig iron increased to 11,036,467 gross tons for 1937, from 9,379,615 tons for 1936; by value, to \$239,838,942, from \$176,552,170. The output of open-hearth steel mounted to 14,561,700 gross tons (1937), from 12,913,903 tons (1936).

Education. For the academic year 1936-37, the latest for which totals were supplied, inhabitants of school age (from 6 to 16 years) numbered 1,936,-046. The enrollments of pupils in public schools totaled 1,945,901; they comprised 1,306,798 in elementary study and 639,103 in high schools. In addition, kindergartens had an enrollment of 36,814. The year's expenditures for public-school education totaled \$219,587,669. The public-school system had 63,309 teachers.

Charities and Corrections. Under legislation changing the assignment of functions relating to the public support, care, and custody of persons, in effect in 1938, the Department of Public Assistance administered the dispensation of public support under the system of Social Security, to the needy blind, aged, and children. It also handled general poor-relief, dispensed by the State on a great scale. Political occurrences, as noted under *Events*, below, affected this Department. Supervision over State-maintained institutions for the care and custody of persons was exercised by the Department of Welfare, which also supervised the care of per-

sons in county institutions. The State-owned institutions contained, as reported about the end of 1938, 35,178 inmates. Of these persons, 20,788 were in nine mental hospitals, at Allentown, Danville, Farview, Harrisburg, Norristown, Torrance, Warren, Wernersville, and Philadelphia (added in 1938). The penal and correctional institutions, containing 7531 inmates, were: Eastern State Penitentiary, Philadelphia; New Eastern State Penitentiary, Graterford; Western State Penitentiary, Pittsburgh; New Western State Penitentiary, Bellefonte; Industrial School, Huntingdon; Training School, Morgantown; and State Industrial Home for Women, Muncy. Institutions for the feeble-minded and epileptic, containing 5915 inmates, were: Laurelton State Village, Laurelton; Pennhurst State School, Pennhurst; Polk State School, Polk; and State Colony for Epileptics, Selinsgrove. Ten State medical and surgical hospitals had among them 944 patients; these hospitals were at Ashland, Blossburg, Coaldale, Connellsville, Hazleton, Shenandoah, Nanticoke, Philipsburg, Scranton, and Shamokin.

Legislation. Convening in special session on July 25 at the summons of Governor Earle, the Legislature rapidly passed a group of acts by which he designed to change the course of proceedings on charges that had been brought against his administration by former Attorney-General Charles J. Margiotti and others (see *Events*, below). These bills, four in number, gave the lower house of the Legislature sole jurisdiction as to charges against State officers, forbidding any court to hold an inquiry unless the Governor had failed to convene the Legislature within 90 days after the appearance of charges, or unless the Legislature, if sitting, had failed to act or had completed its inquiry; permitted the lower house of the Legislature to investigate through a committee and required that hearings be public; allowed the Attorney-General to supersede any district attorney in conducting an investigation of a State officer before a grand jury; and suspended any grand jury's inquiry that had already begun. A committee of the House was commissioned to hear Margiotti's and other charges.

Toward the cost of supplying the State's poor-relief after October 1, \$25,000,000 additional was appropriated.

Political and Other Events. Governor Earle, throughout the months of his candidacy for the U.S. Senate, was beset with criticism and accusations as to his official conduct. On January 5 Secretary of Public Assistance de Schweinitz resigned and charged that Earle was using the State's poor-relief administration to further his own political advancement. Mayor Wilson of Philadelphia called upon Attorney-General Margiotti (April 18) to investigate an assertion that Earle had borrowed \$30,000 from Matthew H. McCloskey, who held contracts for construction for the State amounting to millions of dollars. Wilson, at the time when he brought this matter up, was seeking the Democratic nomination for Senator, and he had been at odds with Earle in 1937. Margiotti acted promptly on Wilson's request by starting to investigate the General State Authority, a body that had assigned to McCloskey State contracts said to total more than \$9,000,000. The Governor declared without delay (April 23) that while he had borrowed from McCloskey, the loans had been made in 1935 and 1936, before the possibility of contracts for "McCloskey or any one else" had arisen, and he exhibited 35 checks, by which he said that he had repaid all the borrowed money except about \$6000.

Margiotti, almost simultaneously with the Wilson revelation, uttered charges (April 21) of venality among Legislators in the session of 1937. Margiotti, who at the time sought the Democratic nomination for Governor, proceeded (April 25) to declare that architects engaged by the General State Authority had been solicited to turn in \$1,200,000, for the benefit of leading Democrats, out of the commissions paid them at 6 per cent of the cost of buildings designed; he also accused specified members of the same political group (April 26) of having received \$20,000 from brewing interests for the enactment of favorable legislation in 1935.

Earle thereupon removed Margiotti from office (April 27), for the alleged reason that Margiotti had refused to submit to him the evidence to support the charges, which Margiotti intended to put before a grand jury. The Dauphin County Court directed a grand jury (April 29) to investigate Margiotti's accusations and any evidence of other charges against State officials. Earle's new appointee, Attorney-General Bard, brought proceedings in the State Supreme Court to stop the grand jury's investigation. The Court suspended the inquiry until May 18, the day succeeding the primary elections, and thereafter ordered further temporary suspension; but it decided (June 20) to allow the grand jury to go on and put an outside Judge, Paul N. Schaeffer of Reading, in charge of it. Schaeffer refused (June 27) a petition of Attorney-General Bard, to be allowed to supersede the county's District Attorney, Carl B. Shelley, in the conduct of the investigation.

Failing in further efforts to halt or control this investigation through court action, Governor Earle summoned a special session (see *Legislation*, above), which hurriedly passed laws to remove the whole matter from the judicial field and substitute a friendly legislative investigation. The new acts were contested in the courts, as unconstitutional; while the contests went on, both investigations—that before Judge Schaeffer and likewise that which had started before a legislative committee—were suspended by court orders for a time, so that little progress was made by either before the general election in November.

Unemployment. The dependence of great numbers on steel-making, coal-mining, and other industries sensitive to bad times caused the number of the destitute unemployed to rise sharply early in the year. In January, 1,454,000 persons, housewives and children included, or virtually 15 per cent of the population, depended on public support, whether from the State or through the jobs supplied for the purpose by the WPA. The new post of Secretary of Public Assistance, held by Karl de Schweinitz, carried the duty of administering the distribution of a great sum of State money among a considerable part of the voters. Pressure brought on de Schweinitz to resign and leave his post to be filled by some other person more thoroughly in sympathy with the political considerations of the group in power was alleged in the press around the opening of the year. Charges were brought against him, but the proceeding stirred up opposition in the State and was abandoned. De Schweinitz, however, resigned (January 6), blaming Governor Earle for lack of support. Arthur W. Howe, Jr., a personal friend of Earle, took the post. The payment of unemployment compensation, or sums for the support of persons losing employment, was begun in January. As the money came from a special fund that had accumulated from a tax on payrolls, such payment helped keep down the number

of those dependent on other kinds of public assistance, without draining the State's treasury.

Nothing definite resulted in 1938 from the efforts of Governor Earle to effect the re-employment of many thousands of idle and partly idle workers in the anthracite mining industry. The final report of the Governor's commission of inquiry into the anthracite industry suggested legislation to subject the mines' operations to public authority by giving them the status of public utilities, but Earle did not ask the Legislature to carry out the plan.

Other State Matters. The State's act of 1937 limiting the time of industrial employment for hire to 44 hours a week and to 5½ 8-hour days as maxima was declared (June 30) by the State Supreme Court to be unconstitutional. Its application had previously been impeded by the need to grant, at the discretion of the State's Department of Labor and Industry, a great number of exceptions. The Court found that the statutory bestowal of the authority to grant such exceptions violated the prohibition against the delegation of the legislative power. An act of Congress, signed June 27, gave permission for the Delaware River Tunnel Corporation to construct a tunnel under the Delaware River between the New Jersey shore and Hog Island. See CHILD LABOR; TUNNELS.

Municipal Affairs of Philadelphia. Running short of means in January, Philadelphia was unable to pay its employees for nearly two weeks. The trouble was brought to a head by a decision of the State Supreme Court (January 5) holding the sinking-fund-consolidation act of 1937 invalid. The savings in charges for sinking funds had helped balance the budget for 1938. The decision had the effect of preventing these savings, amounting to \$7,343,000, and the budget was made invalid. The means for paying 19,000 employees of the city their semi-monthly salaries were thus removed, and it became needful to impose new taxation immediately in order to make up the needed revenue and render the budget effective. The State Supreme Court ordered (January 24) that the budget be balanced and adopted within a week. This impelled the City Council to enact in haste (January 27) a municipal sales tax of 2 per cent, amid uproarious protest from thousands of persons about the City Hall. The Supreme Court then issued an order releasing funds for the payroll. Mayor Wilson vetoed (February 1) the ordinance for the sales tax, but the Council repassed it over his veto (February 8), and it remained in force thereafter. Toward the close of the year the Council had to prepare a budget for 1939 in which it was necessary to make good a considerable part of a deficit of some \$40,000,000 that had accumulated in the course of several years. An income tax at a flat rate of 2 per cent, applying to all persons gainfully employed in the city, servants of the State and of the Federal Government excepted, was enacted (November 26).

The draft of a new municipal charter for Philadelphia, prepared by a committee appointed by Governor Earle in accordance with a legislative act of 1937, was completed and delivered (September 1) to the Governor for submission to the Legislature in 1939. It provided for a City Council of 11 members to be elected by proportional representation, and for a city manager; it extended civil-service status to all departments of the city and county authority; to some degree it unified the functions of city and county.

A grand jury of Philadelphia County indicted Mayor Wilson (September 9) on charges of failure to suppress gambling, misbehavior in office,

dissuading witnesses called by a legislative commission, and demotion and removal of policemen and firemen. Wilson, who had prevented the renewal of the lease of the municipal gas works to the Philadelphia Gas Company, made charges of mismanagement in that company; the charges were dismissed (May 4) by Judge Finletter, who declared the old lease still provisionally in effect. Proceedings for the reorganization of the Philadelphia Rapid Transit Company were marked by the Public Utility Commission's putting a current value of \$4,217,438 on the original properties of the underlying lines (lines that had existed separately before the consolidation of 1902). The figure contrasted with a total of \$18,266,038 of their bonds, issued before the consolidation. The underlying interests endeavored to have their 999-year leases confirmed as a condition of reorganization and as an alternative to foreclosure. An extension of the Broad Street subway from South Street to Snyder Avenue, begun in the easier times of 1931, was at last finished, at a cost of \$8,000,000, and opened (September 18).

Two Philadelphia institutions, the Hospital for Mental Diseases at Byberry and the County Prison at Holmesburg, were subjects of evil revelations: A legislative committee submitted to Governor Earle (July 21) a report indicating mismanagement, harsh measures, and insufficient treatment of inmates at Byberry; at Holmesburg, the deaths (August 22) of four prisoners, among 23 locked in a special set of cells after a hunger-strike, were investigated, and the men were found to have been subjected to intense heat from steam radiators turned on in warm weather; two prison guards were charged with homicide, and accusations were made against the warden and other officials of the prison.

Elections. At the general election (November 8) Arthur H. James (Rep.) was elected Governor by a margin of not far from 300,000 votes over Charles Alvin Jones (Dem.). James J. Davis (Rep.) won re-election to the U.S. Senate, receiving some 400,000 votes more than his opponent, Gov. George H. Earle (Dem.). Samuel S. Lewis (Rep.) was elected Lieutenant-Governor; William S. Livengood (Rep.) was elected Secretary of Internal Affairs. Twenty Republicans and 14 Democrats were elected to the U.S. House of Representatives; this made a net gain of 13 seats on the Republican side. In the Legislature, the Republicans elected an ample majority to the lower house and about half of the members of the State Senate.

The sweeping Republican victory in November followed a campaign in which the Democratic party was handicapped by discord, discredit brought upon it by numerous charges of official misconduct (see above), and the injection of the C.I.O. into the situation by John L. Lewis's unsuccessful effort to name the candidate for Governor, followed by discontent with the Democratic ticket in the C.I.O.

Officers. The chief officers of Pennsylvania, serving in 1938, were: Governor, George H. Earle (Dem.); Lieutenant-Governor, Thomas Kennedy; Secretary of Internal Affairs, Thomas A. Logue; Secretary of the Commonwealth, David L. Lawrence; Auditor-General, Warren R. Roberts; Treasurer, F. Clair Ross; Attorney-General, Charles J. Margiotti and (succeeding him) Guy K. Bard; Superintendent of Public Instruction, Lester K. Ade.

Judiciary. Supreme Court: Chief Justice, John W. Kephart; Associate Judges, William I. Schaf-

fer, George W. Maxey, James B. Drew, William B. Linn, Horace Stern, H. Edgar Barnes.

PENNSYLVANIA, UNIVERSITY OF. A non-sectarian institution of higher education in Philadelphia, founded in 1740. It is composed of the college of arts and sciences, the college of liberal arts for women, the Towne Scientific School (engineering and chemistry), the Moore School of Electrical Engineering, the Wharton School of Finance and Commerce, the school of fine arts (architecture, fine arts, music), the school of education, the graduate school, and the professional schools of medicine, graduate medicine, law, dentistry, veterinary medicine. An affiliation exists with the Pennsylvania School of Social Work under which students in that School may, under certain conditions, receive University certificates and degrees. The 1937 autumn enrollment was 16,230, including all schools and departments. Of those enrolled 7058 were registered in the undergraduate schools, 3235 were registered in the graduate and professional schools, 6670 were registered in the evening, extension, and summer schools. The enrollment of the 1938 summer school was 1901. The faculty numbered 1530. The productive funds amounted to \$20,758,094. The income for the year from all sources, exclusive of hospitals and museums, was \$6,569,896. The library contained 881,781 bound volumes and 199,000 pamphlets. President, Thomas S. Gates, Ph.B., LL.B., LL.D.

PENNSYLVANIA STATE COLLEGE, THE. A State-supported nonsectarian institution for the higher education of men and women at State College, Pa., founded in 1855. On Nov. 1, 1938, the undergraduate enrollment totaled 6282 and the graduate and special enrollments, 707. The 1938 summer-session enrollment was 3503 (net). The resident faculty numbered 763; the extension faculty numbered 677, of whom 302 were full-time instructors. The productive funds amounted to approximately \$517,000, and the income for operation for the previous fiscal year was \$5,393,894. The library contained 184,836 volumes. Resident instruction is supervised by the following seven undergraduate schools and the Graduate School. The undergraduate schools are: Agriculture, Chemistry and Physics, Education, Engineering, Liberal Arts, Mineral Industries, and Physical Education and Athletics. During the academic year 1937-38, Frances Atherton Hall, a new women's dormitory, and Mary Beaver White Hall, a new women's gymnasium, were completed. The General State Authority of Pennsylvania and the Public Works Administration are constructing 10 new buildings and additions to major buildings on the campus at a cost of \$5,000,000. President, Ralph D. Hetzel, LL.D.

PENROSE MEDAL. See GEOLOGY.

PERAK. See FEDERATED MALAY STATES.

PERIM. See ADEN under ARABIA.

PERLEY, SIR GEORGE HALSEY. A Canadian statesman, died at Ottawa, Jan. 4, 1938. Born in Lebanon, N. H., Sept. 12, 1857, the son of William G. Perley, M.P., he was educated at St. Paul's School, Concord, N. H., and at Harvard University (A.B., 1878). Upon graduation he returned to Ottawa and became associated with his father's lumber interests. About this time he became a naturalized Canadian citizen to allay all doubts as to his nationality. Subsequently he became president of The Hull Lumber Co., G. H. Perley & Co., Arundel Lumber Co., Argenteuil Lumber Co., and vice-president of the Riordon Pulp and Paper Co., and a director of the Bank of Ottawa.

Entering politics as a Conservative, he was defeated in his efforts to become a member of the House in 1900 and 1902, but in 1904 he was elected as a member from Argenteuil Co., and was re-elected again in 1908 and 1911, and after 1925. Appointed chief whip of the Conservative party in 1910, during 1911-12 he accompanied Premier Borden on a tour throughout the West, and on the defeat of the Laurier government by Borden in 1912, was appointed Minister without Portfolio in the Canadian Privy Council. During 1912 and 1913 he was Acting Premier. He served without portfolio until 1916, when on October 31 he was made first minister of overseas forces in the United Kingdom in the cabinet, serving until November, 1917. Previously he was given charge of the Office of High Commissioner for Canada in London in June, 1914, and in October, 1917, was himself appointed High Commissioner, an office he held until 1922. In 1915 he was knighted. Also, Perley was a member of the First Imperial War Cabinet in 1917 and of the Imperial Conference (1917), and was one of Canada's plenipotentiaries for signing treaties at the conclusion of the World War, and in 1921 was a Canadian delegate to the Assembly of the League of Nations at Geneva.

In the Conservative government of Arthur Meighen in 1926, Sir George served as Secretary of State from July to September. On Aug. 7, 1930, he was appointed to the Bennett cabinet as Minister without Portfolio, and in Premier Bennett's absence at the World Economic Congress in 1933, was Acting Premier as well as holding the offices of Minister of External Affairs and Minister of Finance. He served in this cabinet until 1935 when the Liberal Party came into power. He was a member of the Imperial Privy Council in 1931 and a delegate to the disarmament conference at Geneva in 1932.

One of Canada's leading philanthropists, Sir George, in association with other members of his family, assisted in the formation of the Perley Home for Incurables (1897) by giving the family homestead and property to them in memory of his father. In 1912 he donated to the city of Ottawa a Tuberculosis Hospital building, and in 1920, with Lady Perley, gave the May Court Club a building for their Convalescent home. He was chairman of the Prescott and Russell Fire Relief Fund in 1897 and president of the Ottawa and Hull Fire Relief which distributed about \$1,900,000 among the sufferers from the fire of Apr. 29, 1900. Sir George was made a Knight Grand Cross of St. Michael and St. George in 1933 and received the Order of the Couronne from the Belgian government.

PERLIS. See UNFEDERATED MALAY STATES.

PERSIA. See IRAN.

PERU. A republic on the west central coast of South America, comprising 23 departments. Capital, Lima.

Area and Population. The boundary with Ecuador remains in dispute. Official estimates based upon Peruvian claims as against Ecuador placed the total area at 482,258 square miles. The Peruvian Geographical Society estimated the population at 6,500,000 in 1936. With the exception of about 600,000 whites and a few Asiatics, the population is of Indian and mixed Indian and white blood. Registered living births in 1936 numbered 155,000; deaths, 80,000; marriages, 19,000. In August, 1936, there were 48,317 foreigners in Peru (22,560 Japanese, 5852 Italians, 4900 Chinese, 3229 United States citizens, 2242 Germans, 2031 British, and 1584 Spaniards). During 1937, 294 Japanese

entered the country and 940 departed. The population of Lima at the municipal census of Dec. 31, 1935, was 284,839; of other cities (estimated in 1934): Arequipa, 70,000; Cusco, 40,000; Chiclayo, 35,000; Trujillo, 30,000; Iquitos, 25,000; Huanayo, 25,000; Ica, 20,000; Ayacucho, 20,000; Huáras, 20,000; Piura, 18,354.

Education and Religion. About 50 per cent of the adult population is estimated to be illiterate. The appropriation for education in 1937 was 16,835,000 soles, a 60 per cent increase over 1933. There were in 1937 4697 primary schools, with 471,304 pupils and 9104 teachers. In 1936 there were 47 state secondary schools with 12,474 pupils and about 100 religious secondary schools with some 10,000 pupils. The five universities (four state and one private) have about 2000 students. The Roman Catholic religion is protected by the state and only Catholic religious instruction is permitted in the state and private schools. In other respects there is freedom of worship.

Production. Agriculture, stock raising, and mining are the principal occupations. Yields of the chief crops in 1936-37 were: Wheat, 3,029,000 bu.; rough rice, 5,152,000 bu.; sugar cane, 3,321,000 metric tons; raw sugar, 410,000 metric tons; cotton, 184,342,000 lb. valued at 94,487,000 soles (198,483,000 lb. valued at 98,330,000 soles in 1937-38). Livestock statistics for 1937 showed 2,310,000 cattle, 12,000,000 sheep, 934,000 swine, 1,500,000 llamas, alpacas, vicuñas, and huarizos; 965,000 horses, mules, and asses. Production of sheep's wool in 1936-37 was about 7,352,000 lb.; llama, alpaca, etc., 8,082,000 lb. Guano production for the year ended Mar. 31, 1938, was 159,138 metric tons (136,056 in 1936-37).

Mineral output in 1936 was valued at 265,756,000 soles. Production of the chief minerals in 1937 was (preliminary, in metric tons): Copper (metal content), 36,649 valued at 29,819,000 soles; lead (metal content), 38,731; zinc (metal content), 15,999; coal, 90,000 (1936); vanadium ore, 1041 valued at 2,214,000 soles. The output of gold was 168,665 troy oz., worth 23,614,000 soles; silver, 36,094,000 troy oz.; petroleum, 16,569,000 bbl. (16,707,000 bbl. worth 137,433,000 soles in 1936). The principal industrial establishments, besides petroleum and ore refining plants, produce wool and cotton textiles, knit goods, hats, food products, beverages, furniture, leather, shoes, glass, soap, candles, cement.

Foreign Trade. Preliminary 1938 trade figures placed imports at 260,159,000 soles (235,206,000 in 1937) and exports at 342,129,000 soles (365,440,000 in 1937). In U.S. currency, the 1937 imports totaled \$59,271,000; exports, \$92,091,000. The chief 1937 imports were machinery and vehicles, foodstuffs and spices, metals and their manufactures, cotton and manufactures, lumber and manufactures. The value of the leading 1937 exports was: Raw cotton, \$22,387,000; crude petroleum, \$21,009,000; copper bars, \$12,818,000; raw sugar, \$8,003,000; gasoline, \$6,930,000. Of the 1937 imports, the United States supplied 35.3 per cent; Germany, 19.7; United Kingdom, 10.2; Argentina, 8.1. Of the exports, the United Kingdom took 22.7 per cent; United States, 22.1; Germany, 13.4; France and Canada, 7.2 each. Excluding gold and silver, United States merchandise exports to Peru in 1938 were \$16,892,803 (\$19,001,492 in 1937); imports from Peru, \$12,813,297 (\$16,524,501 in 1937).

Finance. The budget for the calendar year 1939 estimated revenues and expenditures at 174,701,-

000 soles (165,546,000 in 1938). According to preliminary returns budgetary collections in 1938 were 174,300,000 soles. The public debt on June 30, 1938, totaled 749,074,000 soles (external, 493,261,000; internal funded, 72,945,000; floating and short-term, 182,868,000), as against 706,963,000 on Dec. 31, 1936. The sol (nominal value, \$0.474 U.S. currency) exchanged at an average of 3.96 pesos to the U.S. dollar in 1937 and 4.46 to the dollar in 1938.

Transportation. Peru in 1936 had 2624 miles of railway line of which 579 miles were government owned. In 1936 all lines carried 4,218,000 passengers and 2,986,000 metric tons of freight, excluding 37,999,753 passengers and 6431 tons of freight representing short-distance traffic on electric lines. Gross receipts were 30,070,000 soles. Highways and roads extended 14,074 miles in October, 1938 (number of automobiles on Jan. 1, 1938, 20,682). For highway and port construction during 1938, see *History*. There were 6041 miles of airlines under the national flag in 1938 in addition to the international Panagra and Condor lines. Operating statistics for all five air systems (Faucett, Aerovías, Panagra, Nacional, and Condor) in 1937 were: Miles flown, 2,136,830; passengers, 34,571; freight, 871 tons; mail, 108,775 lb.; parcel post, 16,450 lb. The German-owned Condor system opened a weekly air-mail and passenger service linking Lima and Arequipa with Rio de Janeiro and the transatlantic Lufthansa service via La Paz, Bolivia, in May, 1938. The Faucett system and Aerovías Peruanas were merged in May, 1938, and their existing routes combined. The Peruvian merchant marine in 1938 comprised 33 vessels of 40,943 gross tons. The capacity of vessels entering Peruvian ports (including Lake Titicaca and the Amazon) was 17,285,214 net registered tons in 1936.

Government. The Constitution of Apr. 9, 1933, vested executive power in a President elected for five years and ineligible for re-election. Legislative power was to rest in a Congress of two chambers—a Chamber of Deputies of 120 members elected for five years and a Senate of 40 members elected for six years, with one-third of the Senate renewed every two years. The suffrage was restricted to literate males 21 years or more of age. The Constituent Assembly elected Oct. 11, 1931, continued in session until the Congressional and Presidential elections of Oct. 11, 1936. On October 22, when the partly completed electoral count showed the government's candidate for President trailing the Social Democratic candidate supported by the outlawed radical Apra movement, the government suspended further computation of the votes and convoked the old Constituent Assembly in special session. On Nov. 3, 1936, the Constituent Assembly nullified the election of October 11. On November 14 it extended President Oscar R. Benavides' term of office for three years to Dec. 8, 1939. On Dec. 8, 1936, the Constituent Assembly was permanently dissolved, leaving President Benavides with dictatorial powers. General Benavides had been elected President by the Constituent Assembly on Apr. 30, 1933, to complete the term of his predecessor, Col. Luis M. Sánchez Cerro, who assumed office Dec. 8, 1931, for five years and was assassinated Apr. 30, 1933.

HISTORY

Internal Affairs. The internal situation in Peru remained relatively quiet during 1938 and the military dictatorship of President Benavides maintained unquestioned control. Members of the outlawed Apra party made an effort to seize the

cavalry barracks at San Pedro de Lloc about 350 miles north of Lima on October 22, apparently in an attempt to capture arms and ammunition. Loyal troops frustrated the coup, killing two Apristas and wounding one. According to the Apristas, more than 5000 of their adherents were being held in jails and jungle concentration camps.

Public Works Program. During the year the government accelerated its extensive public works program that served as a check upon the growth of political unrest. A contract was signed with a United States corporation for the construction of a new port at Matarani to replace Mollendo as the terminus of the Southern Railway of Peru and for the extension of existing port works at Callao. About \$4,000,000 was appropriated for the Matarani project, which was designed to provide a sheltered harbor where ships could dock in place of the open roadstead at Mollendo where all passengers and freight were handled by lighters. The project, including warehouses, customs offices, etc., was to be completed in three years. An additional \$1,500,000 was allotted to the Callao dock works, on which \$8,750,000 had been spent in the preceding 10 years. This later project did not include the new \$1,500,000 graving dock and naval arsenal at Callao opened by President Benavides on July 31, the 107th anniversary of Peru's independence. With these improvements, Callao became one of the best-equipped harbors on the west coast of South America.

The government's three-year road construction program, estimated to cost 50,000,000 soles, was amplified so as to cost about 75,000,000 soles, of which about 28,000,000 soles were expended in 1938. On April 3, the sum of 1,550,000 soles was appropriated for an avenue linking the port of Callao with the business center of that city and with Lima, and for the completion of street projects in the capital. More than 36,000 laborers were engaged on 63 different sections of road projects in both the coastal and mountain zones in August, 1938. Important progress was made on the Pan American Highway. The section from Lima southward to Ica (212 miles) was asphalted and opened to traffic early in June. The section between Ica and Arequipa was scheduled for completion early in 1939. On November 20, President Benavides opened the 100-mile section of the Pan American Highway northward from Lima to Huacho, which opened up a large farming section in Lima and Ancachs Provinces. The trans-Andean highway was being pushed eastward from Huanuco to Pucallpa on the lower Ucayali River to connect with the Amazon waterways system.

The Benavides Government secured aid in financing its highway program in July through an agreement with the International Petroleum Co., a Standard Oil subsidiary, whereby the company granted two loans to the government, one for 33,600,000 soles (about \$7,813,950 U.S.) and the other for \$850,000, both sums to be utilized exclusively for road building during 1938 and 1939. Interest was fixed at 3 per cent annually and the maximum term for amortization was set at eight years. The loans were to be repaid from taxes on oil products, the royalty on crude petroleum produced by the subsidiary *Compañía Petrolera Lobitos*, and the petroleum export tax. The government agreed not to change the export tax or raise other taxes on the petroleum industry until the loans were repaid in full. To stimulate tourist travel along the new highway network, a decree of July 21 allotted

4,000,000 soles for the construction of tourist hotels and cabins.

On November 6 President Benavides left the capital on an air tour of Arequipa, Tacna, and the new port project at Matarani to inaugurate an 18,000-acre irrigation project, an airport, and other public works. A building for the newly established National Institute of Hygiene and Public Health was opened in Lima on February 12.

The Economic Slump. Despite heavy expenditures on public works, the economic prosperity on which the stability of the Benavides regime was largely based slumped badly during 1938. The key cotton and sugar industries were adversely affected by lower world prices. In addition the cotton crop was short and of unusually poor quality, reducing the nation's normal income from this important source by about 20,000,000 soles, or 20 per cent. The delayed movement of cotton, sugar, and other exports drained the country of its foreign exchange reserves and caused the sol to depreciate. In April Finance Minister Benjamin Roca urged Peru's foreign creditors to scale down outstanding foreign debts in proportion to the depreciation of her currency. In August the exchange situation became so critical that government control of exchange transactions was narrowly averted.

The government took various other steps designed to stabilize economic conditions. Effective June 9 importation of textile machinery was prohibited for one year to prevent excess production of textiles. A law of July 31 forbade increases in prices of primary necessities without government permission. In an effort to encourage the investment of foreign capital, the inheritance tax was made the same for both Peruvians and non-resident foreigners by a decree of October 25. A decree of October 28 prohibited any increase in rents of tenants paying less than 100 soles monthly and limited increases in rents for tenants paying between 100 and 150 soles monthly.

Foreign Relations. Peru's boundary dispute with Ecuador occupied first place in the nation's foreign relations during 1938 (see *ECUADOR* under *History* for details). As a result of this dispute, Ecuador threatened to boycott the Eighth International Conference of American States held in Lima during December, but was finally persuaded to attend by the Colombian and other neutral American governments. Peru's relations with all the other American republics remained highly satisfactory. She aided in the settlement of the Chaco Dispute (q.v.) between Bolivia and Paraguay; concluded a convention with Colombia (May 10) for the promotion of trade across their Amazonian boundaries; arranged an exchange of territories on the Copacabana peninsula in Lake Titicaca with Bolivia; carried on negotiations for a new trade treaty with Chile, meanwhile extending the existing treaty for six months; and agreed with Colombia to raise their respective legations in Bogotá and Lima to the status of embassies. The cordial relations existing between Peru and the United States, despite anti-democratic influences in Peru, was emphasized by the engagement of a United States naval mission in February.

See *BOLIVIA* and *CHILE* under *History*; *PAN AMERICAN CONFERENCE*.

PETROLEUM. Crude oil production in fields outside of the United States in 1938 exceeded that of any previous year in the history of the petroleum industry, according to the annual review of the *Oil and Gas Journal*. While a substantial decrease in the crude output of the United States more than

offset the gains in other oil countries, the latter areas considered as a unit continued the upward trend which has been underway for several years. The world crude oil output for 1938 is estimated at 1,991,673,000 bbl., or 5,546,600 daily. This is a decrease of 54,870,000 bbl. (150,400 daily) or 2.6 per cent compared with the 1937 figure, which was the industry's largest yearly total. The reduction of 65,123,000 bbl. (178,400 daily) in the production of the United States, exceeds by 10,253,000 bbl. the decline in world output.

WORLD CRUDE OIL PRODUCTION
[From Oil and Gas Journal]

	1938 * Barrels	1937 Barrels
North America		
Canada	7,450,000	2,978,000
Mexico	38,861,000	46,907,000
United States	1,212,530,000	1,277,653,000
Total all countries	1,258,841,000	1,327,538,000
South America		
Argentina	16,900,000	16,236,000
Colombia	21,315,000	20,293,000
Peru	16,045,000	17,467,000
Venezuela	191,593,000	186,852,000
Total all countries	248,359,000	243,210,000
British West Indies		
Trinidad	17,750,000	15,503,000
Europe		
U.S.S.R.	217,535,000	206,717,000
Rumania	48,800,000	52,176,000
Poland	3,790,000	3,708,000
Germany (including Austria)	4,215,000	3,398,000
Total all countries	276,089,000	267,396,000
Africa		
Egypt	1,500,000	1,149,000
Asia		
Iran	74,154,000	78,741,000
Netherlands East Indies ..	60,165,000	62,301,000
Iraq	33,192,000	30,604,000
British India	9,648,000	9,852,000
Total all countries	189,134,000	191,747,000
Grand total of world ...	1,991,673,000	2,046,543,000

* Estimated.

Production of crude petroleum in the United States for 1937 and 1938, and the supply and demand of all oils during the same period as given in the following tables, is based on U.S. Bureau of Mines data.

U.S. PRODUCTION OF CRUDE PETROLEUM
[Thousands of barrels]

State	1938	1937
Arkansas	18,077	11,764
California	249,749	238,521
Colorado	1,412	1,605
Illinois	23,929	7,499
Indiana	969	844
Kansas	59,587	70,761
Kentucky	5,821	5,484
Louisiana	94,812	90,924
Michigan	19,211	16,628
Montana	4,907	5,805
New Mexico	35,759	38,854
New York	5,045	5,478
Ohio	3,298	3,559
Oklahoma	174,882	228,839
Pennsylvania	17,426	19,189
Texas	475,614	510,318
West Virginia	3,684	3,845
Wyoming	19,004	19,166
Other *	68	77
Total United States	1,213,254	1,279,160

* Includes Missouri, Tennessee, and Utah.

Exports of crude petroleum from the United States for 1938, amounted to 77,271,699 bbl., valued at \$111,739,348, according to the Bureau of Foreign and Domestic Commerce.

SUPPLY AND DEMAND OF ALL OILS
[Thousands of barrels]

	1938	1937
New Supply:		
Domestic production—		
Crude petroleum	1,213,254	1,279,160
Daily average	3,324	3,505
Natural gasoline	50,317	49,177
Benzol	1,699	2,790
Total production	1,265,270	1,331,127
Daily average	3,466	3,637
Imports—		
Crude petroleum—		
Receipts in bond	3,651	1,912
Receipts for domestic use ..	22,761	25,572
Refined products—		
Receipts in bond	20,349	22,313
Receipts for domestic use ..	7,387	7,360
Total new supply, all oils	1,319,418	1,388,284
Daily average	3,615	3,804
Decrease in stocks, all oils	8,723	43,485 *
Demand:		
Total demand	1,328,141	1,342,516
Daily average	3,639	3,678
Exports—		
Crude petroleum	77,273	67,234
Refined products	116,633	105,600
Domestic demand—		
Motor fuel	521,657	519,352
Kerosene	56,351	54,972
Gas oil and distillate fuels ..	116,564	116,841
Residual fuel oils	292,650	325,514
Lubricants	21,248	23,323
Wax	994	1,062
Coke	5,589	5,765
Asphalt	24,531	21,876
Road oil	7,775	7,954
Still gas	62,410	64,218
Miscellaneous	1,776	2,249
Losses	22,690	26,556
Total domestic demand ...	1,134,235	1,169,682
Daily average	3,107	3,205
Stocks:		
Crude petroleum—		
Refinable in U.S.	273,353	306,826
Heavy in Calif.	16,467	(4)
Natural gasoline	4,830	4,758
Refined products	259,613	253,413
Total, all oils	555,263	564,997
Days' supply	153	154

* From Coal Economics Division. ^b Imports of crude as reported to Bureau of Mines. All other imports and exports from Bureau of Foreign and Domestic Commerce. ^c Increase. ^d Not available.

PETROLOGY. See MINERALOGY.

PHILADELPHIA. See PENNSYLVANIA.

PHILIPPINES. A group of islands in the northern part of the Malay Archipelago; formerly a possession of the United States; transformed (Nov. 15, 1935), into a self-governing commonwealth destined by statute of the United States to become independent in 1946. Capital, Manila.

Area and Population. The Philippine Islands number 7083, including numerous islets; 466 of the group have areas as great as one square mile. The combined area of the islands is 114,800 square miles. Their population was estimated in 1937 as 13,439,000; according to the census of 1918, it was 10,314,310. The principal islands and their areas in square miles are: Luzon, 40,814; Mindanao, 36,906; Samar, 5124; Negros, 4903; Palawan, 4500; Panay, 4448; Mindoro, 3794; Leyte, 2799; Cebu, 1695; Bohol, 1534; Masbate, 1255. The chief cities and their populations (estimated, 1935) were: Manila, 353,418; Cebu, 82,032; Iloilo, 45,236; Laoag, 42,901; and Legaspi (formerly Albay), 35,694. There were (1930) 45,208 Filipinos in the United States and 63,052 in Hawaii. Taga-

log, which was made the "national" language in 1937, is spoken by approximately one-half of the inhabitants of the islands. English and Spanish, used for divers official purposes, are each understood by a considerable part of the population; the teaching of English in the public schools is compulsory during the period of Philippine dependency on the United States.

Education and Religion. The public schools numbered 7938 in the academic year 1935-36. They reported a total registration of 1,262,353 pupils. These were estimated to come to less than 37 per cent of all the inhabitants of school-age. Primary education in these schools was free, secular, and coeducational. Apart from the regular public schools, there were 175 farm-settlement schools, 13 agricultural schools, 25 trade schools, 10 normal schools, and a State-supported institution of higher education, the University of the Philippines, which had (1938) 6733 students and a teaching staff of 637. Such statistics on religious affiliation as were available indicated that 9,925,479 of the inhabitants were Roman Catholics, that possibly 4,000,000 were members of the Independent Filipino Church, and that 150,000 were Protestants, 443,037 Mohammedans, and 24,263 Buddhists; these figures, however, gave a total in excess of the latest estimate of the population, and it appeared that part of the inhabitants must have been counted more than once in the aggregate.

Production. The industry of the Philippines is chiefly agricultural but includes mining, lumbering, fishing, and manufacturing. Agriculture is, moreover, the mainspring of the islands' external trade. The production of cane sugar has regularly afforded the greatest single component of both total yearly output and listed exports. The growing of sugar cane is for practical purposes limited by the imposition of a yearly quota as the allowable maximum of the United States imports of sugar from the Philippines, and by corresponding allotments, among farmers, of sugar cane to be grown. The quota set for 1938 was 1,057,416 short tons. Coconut products ranked second among the commercial crops; they were chiefly copra, copra meal and cake, coconut oil, and desiccated coconut. Abaca, or Manila hemp was produced (1937) to the quantity of 1,304,000 bales of 278 lb., in farm value about \$12,000,000. The crop of tobacco attained, for 1937, 725,200 quintals of 46 kilograms, in farm value, \$2,046,000. Maguey also was grown for exportation on a substantial scale. Apart from the crops dependent on a foreign market, the islands grew, for their own inhabitants' food, unhusked rice, or palay, to the quantity (1937) of 55,015,730 cavans of 44 kilograms, in value, \$67,200,000; 7,124,540 cavans of corn, value \$8,200,000; and much cacao and coffee. The growing industry of gold-mining rose to a yearly production of 716,967 ounces of gold (1937), from 621,968 for 1936; by value, to \$25,093,845, from \$21,768,880. Iron ore, silver, chromite, and copper all were produced in 1937, but iron only in excess of \$1,000,000 of value for the year's total. Industrial enterprises in some fields are conducted or aided by the Commonwealth, but in most fields private enterprise is active. Americans, according to an estimate in 1937, were the greatest owners of outside capital already employed in the islands.

Overseas Trade. The bulk of Philippine trade with other lands continued to be with the United States. Philippine imports from the United States attained a total value of \$86,471,842 for the calendar year 1938; exports to the United States came

to \$94,263,171. Though the trade fell below that of 1937, the Philippine excess of exports over imports, as between the two countries, was nearly \$8,000,000, not to count net exports of \$27,880,212 of gold, separately tabulated. For 1937 the corresponding figures were: General imports from the United States, \$85,031,884; exports thereto, \$126,061,188; the balance of exports to the United States (1937) thus exceeded \$41,000,000, exclusive of shipments of gold. The further credit balance (1937) from exportation of gold was \$25,426,721. The Philippine foreign trade with all countries, exclusive of monetary transfers, amounted (1937) to \$151,266,250 of exports and \$109,025,745 of imports. To Japan, whose trade was next largest after that of the United States, that year's exports totaled \$10,014,880; imports from Japan, \$16,102,007. Germany and Great Britain also did a large yearly trade with the Philippines.

The yearly total, by value, of each of the principal exports, by commodities, was, for 1937, as follows: Sugar, \$67,706,193; coconut products, \$45,694,911; abaca, or Manila hemp, \$21,639,686; tobacco and cigars, \$4,983,108. Shipments of sugar to the United States attained for the calendar year 1938, 892,465 short tons, in value \$46,169,082.

Finance. The Philippine Commonwealth issues money, of which the unit is the peso, equal in value (1938) to 50 cents in U.S. money. It derives its yearly revenue chiefly from duties on imports, excise, licenses, business taxes, and an income tax. Its revenue from these and minor taxes totaled, for the calendar year 1937, 78,475,510 pesos. From the United States Government it received also 113,825,828 pesos, representing money that had accrued, under the Federal law to pay the Philippine Government the equivalent of taxes collected upon vegetable oil from the islands. This item, however, did not represent an annual sum in any such amount, since the sum in question had been accruing for over three years. The total receipts, thus augmented, and with some minor entries, were 210,072,791 pesos, for 1937, as against 84,927,916 for 1936. Disbursements from the Commonwealth's general fund totaled, for 1937, 92,552,979 pesos; this included 12,435,495 pesos in contributions to local governments, 8,065,084 for the service of the public debt, 14,139,726 in outlays and investments, and 29,004,479 pesos paid out in salaries and wages. The Commonwealth's government began the calendar year 1938 with current liabilities of 17,365,098 pesos, a current accumulated surplus of 165,427,481, and cash totaling 177,076,202 pesos; the cash item was about thrice what it had been a year earlier, its rise reflecting the receipt of proceeds of the United States Government's collections of the tax on vegetable oils, mentioned above, as diminished by appropriations made in 1937. Further appropriations out of the vegetable-oil moneys, subsequently made, carried the total of such appropriations by the end of August, 1938, to some 6,000,000 pesos in excess of the total that had been received. The money thus appropriated was destined in general for public works, stock in companies closely connected with the Commonwealth's government, and enterprises for social betterment. The public bonded debt of the Commonwealth at the close of 1937 totaled 150,437,000 pesos; net of sinking funds, it stood at 86,321,178 pesos.

Transportation. Of the 875 miles of railway line in the Philippines, the chief part was in Luzon; the Manila Railroad Company, of which the Commonwealth owned the common stock, operated 677 miles in 1937; in January, 1938, an extension of

this railway's southern line, closing the gap over Ragay Gulf, began regular operation. The Philippine Railway Company, operating divisions in Iloilo and Cebu, though not owned by the Commonwealth, went into receivership in 1937 and the government, its chief creditor, took over the operation of the line. The mileage of highway (1937) was 10,104. About 930 miles of new highways were built in 1938, and the mileage of national highways at the end of 1938 was estimated as over 6000. An extensive rise in the use of trucks and busses on the highways was reported in 1938 as having continued, but at a much reduced rate. There were, in 1937, 10,198 private and 1856 public motor trucks and 3906 motor busses. Manila had regular transportation by airplane for mail and passengers to and from the United States after 1936 and was similarly connected with China, from 1937 on, by a route operated by Pan American Airways. Two insular companies operated, respectively, airplanes over two routes from Manila and three from Iloilo, in 1937. Passengers carried by commercial airplanes in the islands in 1937 numbered 22,384, and 1,699,627 passenger-miles were flown, in 844,003 flight-miles.

Government. The constitution of 1935, created by a convention elected by the people of the islands, under authority of an act of the United States, was approved in that year by President Roosevelt and ratified by a Philippine plebiscite; on it is founded the government, styled the Commonwealth of the Philippines, which came into effect Nov. 15, 1935. This government, while designed to function after the Philippines shall obtain their independence, exerts during the transitional period preliminary to the attainment of independence (from Nov. 15, 1935, until July 4, 1946, as set by the act of Congress of Mar. 24, 1934), an authority limited in some respects: The United States reserves authority over defense, foreign relations, and some features of finance; it reserves authority to intervene in order to preserve the Commonwealth government, protect life, individual liberty, and property, and meet governmental obligations under the Constitution. The President of the United States may accordingly veto any Philippine law or executive order judged to violate a contract of the Commonwealth or an international obligation of the United States, and the United States Supreme Court remains the final authority for determining litigation involving the insular constitution and laws. The chief representative of the authority of the United States in the islands is the United States High Commissioner to the Philippine Islands; similarly a Philippine Commissioner resides in the United States. The executive head of the government is a President, elected by the popular vote for a term of six years and barred from reelection to an immediately successive term. The President has a limited veto over legislation and considerable control over provincial and municipal authorities. A Vice-President, also, is elected to serve for six years. The legislative power resides in a unicameral National Assembly, which has 98 members; the seats are filled every three years by popular vote. The Assembly may override the Commonwealth President's veto by a vote of two-thirds. All men and (since December, 1938) all women over 21 years of age and able to read and write English, Spanish, or a native language are entitled to vote.

In 1938 the President of the Commonwealth was Manuel Quezon (elected Sept. 17, 1935); Vice-President, Sergio Osmeña; United States High

Commissioner, Paul V. McNutt (took office Feb. 27, 1937); Resident Commissioner to the United States, Quintin Paredes (resigned Sept. 29, 1938) and Joaquin Miquel Elizalde (successor).

HISTORY

Relations with the United States. The main motif in the political relations between Washington and Manila was in 1938, as in earlier years, the issue of Philippine independence. The efforts to deal with this issue were swayed in one direction and another by strong opposite influences; the progress of the Japanese arms in China steadily reduced the expectation of economic and political security for the Philippines after their severing the tie with the United States. Demand on the part of tropical lands under the American flag for greater quotas of exportation of sugar to the American market served as reminders that the Philippine product might not retain ease of access to that market after political independence had been achieved; and a substantial cash balance in favor of the islands resulted yearly from the trade with the United States. The Joint Preparatory Committee of Filipino and American members, which had held hearings in the islands in 1937 on the economic bearings of independence, returned to the United States in November. Its report, issued a year later (Nov. 28, 1938), recommended that the gradual imposition of taxes on Philippine imports, already provided for the years from 1941 to 1946, should continue after the islands' attainment of independence in the latter year, so that the Philippines would not become subject to the full American tariffs until 1960. President Roosevelt at the time gave his approval to the report. This further extension, on a diminishing scale, of preferences to Philippine goods would, if adopted, involve the amendment of the Independence act of 1934, which had provided for the lapse of the preferences in 1946.

President Quezon, had for some 30 years, and notably as recently as early in 1937, urged that the Philippines be made independent at the earliest possible moment. However, High Commissioner McNutt having made in March, 1938, a statement favorable to indefinite postponement of entire independence for the islands, Quezon went so far as to approve "a re-examination of the whole subject (of Philippine-American relations) at once." The Popular Front, a political group of liberal principles, met McNutt's suggestion by sending President Roosevelt (March 28) a message asking that McNutt be recalled, and by urging (April 11) in another petition to Roosevelt, that independence be made complete before 1946; but later this party, in issuing its program for the election of members of the Assembly omitted in October any mention of independence prior to the statutory date.

Elections. Closely connected with the developments of sentiment as to relations with the United States was the election of members of the National Assembly. At this election, held on November 8, the Nationalist party, headed by President Quezon, won the great majority of the seats. The opposition consisted of the Popular Front, an alliance of several parties considered as more advanced in liberalism than the Nationalists. These parties included the Sakdalistas, Radicals, and Youth Party. They accused the administration of tending toward fascism, of violating the guarantees of freedom of speech and of assembly, and of failure to solve agricultural problems. This was the first general election, to legislative office under the Common-

wealth government, in which women had voted. With regard to the electioneering charges of infringement of civil rights, made by Quezon's opponents, he was reported to have put several provinces under the control of the constabulary early in November, after word of political disorders in the areas involved.

Internal Matters. Encounters between Moros and Philippine troops from time to time indicated that efforts to keep the province of Lanao in order had not yet fully succeeded. President Quezon's veto, in June, of a bill designed to require the public schools to set aside time in which pupils could receive religious instruction, brought out distinctly a difference of views on the subject of church and state; Quezon, criticized by Mgr. Reyes, Archbishop of Cebu, charged interference of the Church in state affairs.

Legislation. A regular session of the Assembly, which adjourned late in May, was followed by a special session which adjourned on August 14. The regular session enacted, in addition to the regular budget calling for 75,600,000 pesos, a measure appropriating 96,400,000 pesos for public works to be carried out in the course of four years. An act passed in May created a National Abaca Company and provided 10,000,000 pesos toward this company's capital, leaving the remaining 10,000,000 to be provided by provincial and municipal governments; this company was to stabilize the marketing and production of abaca, or Manila hemp, a function similar to that already served, as to rice, by the National Rice and Corn Corporation; but as abaca went mainly into the foreign market, the enterprise of stabilizing its price presented a problem of a different order. Special appropriations were made for public markets and slaughter houses (10,000,000 pesos), systems of irrigation (4,500,000 pesos), and for the National Merchandising Corporation (2,000,000 pesos), but these were vetoed, in accordance with a declared intention of President Quezon to shun avoidable deficits. The wages of those employed in public works were required by statute to be at least 1 peso a day in the provinces and 1¼ in Manila. A unit of fixed weight was established for leaf tobacco. Bills to create additional taxes failed to pass.

The subsequent special session made appropriations totaling about 30,000,000 pesos; these included a number of the appropriations that had been vetoed after passage by the earlier session; in addition, 2,100,000 pesos were appropriated for taking a census and 1,500,000 for use in leasing, from extensive estates, land to be sublet to poor persons. The appropriation bills of this session all bore clauses requiring certification from the Financial Secretary that funds required under their terms were available. In this form the appropriations received the presidential approval.

PHILLIPS UNIVERSITY. A coeducational institution of higher learning at Enid, Okla., founded in 1907. The enrollment for the year 1938-39 was 590. The attendance at the 1938 summer session was 256. The faculty numbered 38. The productive endowment amounted to \$677,982, and the income for the year was \$149,162. The library contained 28,493 volumes. During the year, plans were made for the erection of three new buildings: A student union building, a gymnasium and swimming pool, and a dormitory for women. President, Eugene S. Briggs, Ph.D., inducted Feb. 1, 1938.

PHILOLOGY, CLASSICAL. As long as opportunities for teaching dictated such a choice, Latin studies were more cultivated than Greek. Now that

Latin is approaching Greek in obsolescence in the secondary school and even in the college curriculum, the practical consideration tends to disappear, and the relative significance of the ancient literatures and civilizations becomes the basis for preference. This has resulted in a stronger position for Greek (relatively, not absolutely) as compared to Latin. Furthermore, a renaissance of interest in classical literature in translation, as shown in the contents of certain newly required college courses at such universities as Chicago and Columbia, tends to focus interest on Greek rather than Latin studies. It is in keeping with this tendency that the activity of classical scholars, in Europe as in America, seems to be in the direction of investigations in the history of ideas, applied to authors, periods, and verbal concepts—what the Germans style *Begriffsforschung*. Grammatical and syntactical studies are quite neglected. Textual criticism has resolved itself into recording the minutest variations in the poorest manuscripts; emendation is a rejected art. In papyrology there have been no considerable publications of literary texts; the increment is chiefly of economic interest, chiefly of the Ptolemaic period in Egypt. Through the influence of archaeology, as, for example, in the newly completed researches at Troy, the upper limit of the classical student's period is being further extended. Archaeological work also, especially in the Athenian Agora, has quickened interest in epigraphical studies. It is worth mentioning that J. Kirchner, the German master of Greek epigraphy, complains that he has no followers in his own country; the center for these studies is now in the United States. Latin epigraphy has received a set-back in the second suspension of the publication of the *Olcott Epigraphical Lexicon* at Columbia University after only a few fascicles were produced. The retrogression of German scholarship has continued; the influence of the dominant political viewpoint is everywhere apparent. An example may be cited. In a new volume of the monumental encyclopedia of Pauly-Wissowa-Kroll, universally regarded as the most authoritative reference work in classical philology, the article on Peisistratos, done by a reputable scholar, contains the sentence "Peisistratos belonged indubitably to the Leader figures of the Nordic type" (*P. gehört zweifellos zu den Führergestalten nordischer Art*).

Orientation in the progress and direction of the field as a whole is best provided by the four principal bibliographies. These are: (1) *Jahresbericht über die Fortschritte der Klassischen Altertumswissenschaft*. This appears annually and carries in each volume extensive summaries of scholarly activity in selected ancient authors or subjects over a period of several years; it also carries obituaries of prominent classical scholars. As a supplement to the *Jahresbericht* there appears the *Bibliotheca Philologica Classica*, which lists, without evaluations, all classical books and articles appearing during the preceding year. (2) J. Marouzeau, *L'Année Philologique* is an annual catalogue, with brief summaries of books, articles, and reviews, including those on classical archaeology. (3) *Klassieke Bibliographie* (Utrecht) provides cumulative index cards of books and articles. (4) *The Year's Work in Classical Studies* gives summaries and criticisms by outstanding British scholars of progress in their respective fields of Greek Literature, Latin Literature, Greek History, Roman History, Greek and Roman Religion, Ancient Philosophy, Greek Archaeology, Italian Archaeology, and occasionally other subjects.

Certain periodicals devote themselves almost exclusively to critical reviews of work in classical philology. The most extensive and thorough reviews are in the German *Gnomon*; this journal also provides the most complete listing of new books in a bi-monthly supplement. *Philologische Wochenschrift*, in addition to its own reviews, summarizes critical opinion from all the other classical periodicals. The British *Classical Review*, in addition to thorough reviews, provides summaries of articles in other philological journals. The American *Classical Weekly* carries numerous brief but scholarly reviews, summaries of articles, and lists of new books. In this group should be mentioned also *Revue de Philologie*, *Rivista di Filologia e d'Istruzione Classica*, and *Supplement Critique au Bulletin de l'Association Guillaume Budé*. Most of the other periodicals in the field carry reviews as well as substantive articles. The principal ones are: *The American Journal of Philology*, *L'Antiquité Classique*, *Atene e Roma*, *Bollettino di Filologia Classica*, *The Classical Journal*, *Classical Philology*, *The Classical Quarterly*, *Les Études Classiques*, *Hermes*, *Hermeneus*, *The Journal of Hellenic Studies*, *The Journal of Roman Studies*, *Klio*, *Language*, *Latomus*, *Mnemosyne*, *Il Mondo Classico*, *Philological Quarterly*, *Philologus*, *Revue Belge de Philologie et d'Histoire*, *Revue des Études Grecques*, *Revue des Études Latines*, *Rheinisches Museum für Philologie*. In addition there are numerous serial and occasional publications of Universities and Academies. The organs of the various national archaeological institutes and the publications of the national schools at Rome and Athens always contain matter of philological interest. So also do the journals which deal with medieval and with Byzantine studies.

A guide to the amount, direction, merit, and personnel of American work in Classical Philology is provided by the *Transactions and Proceedings of the American Philological Association*. Vol. lxxviii (for 1937, published 1938) contains the following papers: "Suggestions for Guidance in the Preparation of a Critical *Index Verborum* for Latin and Greek Authors," W. A. Oldfather; "Homer's Gods—Prolegomena," G. M. Calhoun; "A Sixth-Century Epitome of Seneca, *De Ira*," C. W. Barlow; "Two Curse Tablets from Beisan," H. C. Youtie and C. Bonner; "A Choragic Epigram from Athens," M. MacLaren, Jr.; "Notes on the Text of Aristotle's *Poetics*," W. N. Bates; "Theognis and the Persian Wars," E. L. Highbarger; "The Greek Smooth Breathing," E. H. Sturtevant; "Initial Indo-European γ in Greek," C. E. Finch; "Notes on the Apparatus of Leo's Edition of Persius," D. M. Robathan; "A Prelude to Speech in Homer," H. N. Couch; "Malalas on the History of Antioch under Severus and Caracalla," G. Downey; "The Expiatory Rites of 207 B.C.," A. A. Boyce; "The Basic Critical Doctrine of 'Longinus,' *On the Sublime*," F. R. B. Godolphin; "The Platonic Scholia," W. C. Greene; "The Erinys in Aeschylus' *Septem*," F. Solmsen; "The Organization of Gilds in Greco-Roman Egypt," A. E. R. Boak; "The *Continuatio Theophrasti*," H. G. Nickles; "Horace's Influence on American Criticism," J. P. Pritchard; "A Greek Hagiologic Manuscript in Philadelphia," E. C. Tappert; "The Role of Eight Batavian Cohorts in the Events of 68–69 A.D.," M. St. A. Woodside; "The Opportunities for Dramatic Performances in the Time of Plautus and Terence," L. R. Taylor; "The Structure and Proportion of Catullus LXIV," C. Murley; "Contributions of the Herculanean Papyri to Our

Knowledge of Epicurean Logic," P. H. DeLacy; "The Later *Paideia* of Epicurus," N. W. DeWitt; "Plato's Ideas in the Light of Early Scholasticism," G. J. Ryan; "*Heredis Institutio ex Re Certa* and a New Will of the Roman Type," L. Cohen; "A Referee's Hearing on Ownership," C. J. Kraemer, Jr., and N. Lewis; "Hittite *kwis kwis*," E. A. Hahn; "The Early Greek Capacity for Viewing Things Separately," B. E. Perry; "The Shrine of the *Lares Compitales*," L. A. Holland; "The Juvenes and Roman Education," S. L. Mohler; "The Life of Juvenal," G. Highet. There are abstracts of 18 other papers, and data on the Association, including the names and addresses of the members (over 1000) and their bibliographical record.

In the American periodicals mentioned in the list above, the more important papers in 1938 were the following: In *The American Journal of Philology*, lix, appeared "Enslaved Persons Who Are Free," W. L. Westermann; "Dramatic Uses of the Greek Imperative," L. A. Post; "Notes on the Laws of Motion in Aristotle," I. E. Drabkin; "An Unreported *Culex* Manuscript," D. M. Robathan; "Heracleitus on the Notion of a Generation," H. Fränkel; "Augustus, Vergil, and the Augustan Elogia," T. Frank; "Two Notes on Theopompus, Philippic X," H. T. Wade-Gery; "The Chronology of Aeneid VIII–X," G. E. Duckworth; "The Last Campaign of Kleon and the Athenian Calendar in 422/1 B.C.," M. F. McGregor; "The Terminal Date of Caesar's Command," C. E. Stevens; "Possible Elliptical Compounds in Old English Glosses," H. Merritt; "Zu einigen Wiederholungen bei Lukrez," A. Raubitschek; "Breviora," T. Frank; "Xenophanes and the Olympic Games," C. M. Bowra; "Maenianum and Basilica," K. Lehmann-Hartleben; "A Note on Kleon's Assessment," B. D. Merritt; "The Nationality of the Poet Caecilius Statius," D. O. Robson; "A Thought Pattern in Heracleitus," H. Fränkel; "The New Inscription of the Salaminiot," M. P. Nilsson; "Plato's Epigram on Dion's Death," C. M. Bowra; "The Pentathlon Jump," W. W. Hyde; "Census and Poll-Tax in Ptolemaic Egypt," S. L. Wallace; "Apollonius Rhodius and the Old Geographers," L. Pearson; "Concerning Gothic Intransitive Verbs," A. M. Sturtevant; "The Islands of Peisistratos," H. T. Wade-Gery; "BGU II, 475," H. C. Youtie; "De Attio et Praxidico," W. Kroll.

In *Classical Philology*, xxxiii, appeared "Parody in Achilles Tatius," D. B. Durham; "The Technical Device of Direct Description of Character in Roman Comedy," O. L. Wilner; "The Epigrams of Theocritus," W. C. Helmbold; "Rhodes and Pergamum, 201–200 B.C.," C. G. Starr, Jr.; "Folklore in the *Scriptores Historiae Augustae*," M. L. Trowbridge; "Speeches VIII and X of the Demosthenic Corpus," C. D. Adams; "Horace I. 14," C. W. Mendell; "The Poet and the Muses in Homer," G. M. Calhoun; "On the Friendship of Lucretius with Memmius," W. Allen, Jr.; "Passive Verbs *Sentiendi et Dicendi* with Declarative Infinitive," W. H. Kirk; "The Missing Folios of the Paris Florilegium 15155," D. M. Robathan; "Dionysius of Halicarnassus and the Peripatetic Mean of Style," S. F. Bonner; "The Unnamed Characters in the Plays of Plautus," G. E. Duckworth; "Equites and Celeres," H. Hill; "Was Demosthenes a Panhellenist?" H. B. Dunkel.

The Classical Journal has a more popular and pedagogic character; *Classical Weekly* is devoted chiefly to reviews. Of the studies published in series by various American universities the oldest and

steadiest are the *Harvard Studies in Classical Philology*. Vol. xlix contains "Herbert Weir Smyth," C. N. Jackson; "Euripides and Thucydides," J. H. Finley, Jr.; "Aristophanes and the Art of Rhetoric," C. T. Murphy; "Pliny the Younger's Views of Government," M. Hammond; "Letters and Speeches of the Emperor Hadrian," P. J. Alexander; "Aristotle on the Beauty of Tragedy," G. F. Else; "Plautus and Popular Drama," A. McN. G. Little; "A Fragment of Juvenal in a Manuscript of Orléans," A. P. McKinlay and E. K. Rand. Classical contributions appear also in *Speculum*, *Language*, *The American Historical Review*, organs, respectively, of The Medieval Academy of America, The Linguistic Society of America, and The American Historical Association.

The various series which present scholarly recensions of the texts of Greek and Latin authors continue to add to their lists. The principal series are: *Bibliotheca Scriptorum Graecorum et Latinorum Teubneriana* (Leipzig; various revisions); *Scriptorum Classicorum Bibliotheca Oxoniensis* (Oxford; G. Murray's Aeschylus); *Corpus Scriptorum Romanorum Paravianum* (Turin; Livius Andronicus and parts of Cicero); *Collection des Universités de France publiée sous le patronage de l'Association Guillaume Budé* (Paris; with parallel French translations; parts of Cicero, Heliodorus, Plautus, Plotinus); *The Loeb Classical Library* (Cambridge, Mass.; with parallel English translations). New Latin volumes in this series are Ammianus Marcellinus, vol. iii, J. C. Rolfe; Celsus, vols. ii and iii, W. G. Spencer; Livy, vol. xii, E. T. Sage and A. C. Schlesinger; Plautus, vol. v, P. Nixon; Pliny, *Natural History*, vol. i, H. Rackham; Varro, *De Lingua Latina*, vols. i and ii, R. G. Kent; *Remains of Old Latin*, vol. iii, E. H. Warmington. New Greek volumes are Aristotle, *Organon*, vol. i, H. P. Cooke and H. Tredennick; Aristotle, *On the Heavens*, W. K. C. Guthrie.

A half dozen of the important books of the year must be mentioned: E. Boisacque, *Dictionnaire Étymologique de la Langue Grecque*; H. Diels, *Die Fragmente der Vorsokratiker*, revised by W. Kranz; T. Frank (editor), *Economic Survey of Ancient Rome*, vol. iv; O. Kern, *Die Religion der Griechen*, vol. iii; A. Schmekel, *Forschungen zur Philosophie des Hellenismus*; W. W. Tarn, *The Greeks in Bactria and India*.

PHILOLOGY, MODERN. When Americans attempt to understand the antipathy that European nations bear toward one another, they are frankly baffled, and rightly so, for these mutual dislikes are almost innate, going back many centuries in time. Thus, England and France are at present friends, but this amicable feeling is one rather born of necessity, for beneath the surface there lingers a mutual suspicion dating from the Hundred Years' War (1338-1453), when England was France's pet aversion. Similarly, Italy and France have been more or less at loggerheads ever since the French King, Charles VIII, made the first of a series of invasions of the peninsula in 1494. But the hostility between Germany and France is even more remarkable in its antiquity, being almost consecrated by time. That there is little doubt that it goes back to 486, when the Frankish German leader, Clovis, won a final victory over Syagrius, the last Roman governor of Gaul, near Soissons, is evident from a verse in the Old French poem, *Li Roumans de Berte aus grans Piés*, written by Adenet le Roi in 1270, which reads: "Adonc tenoient Franc les Tiois por amis," or "Then the French considered the Germans as friends." Thus, one can see that

the Franco-German mutual hatred not only antedated Adenet by many centuries, but that it was so deeply embedded in the hearts of both peoples that men of letters and scholars underwent its influence.

We are not astonished, therefore, to note that the present-day military offensive of the Germans against the French should be accompanied by a similar one in the literary and, especially, scholarly fields. Ever since the late Joseph Bédier (q.v.) published before the War his famous four-volume work, *Les Légendes épiques*, with the avowed intention, as he stated in a more recent contribution, of claiming for France alone—and that, be it said, contrary to the advice of his master, Gaston Paris—the glory of having given to the world in the 12th century the most beautiful literature produced in the entire Middle Ages, German scholars have taken offense, accusing him of seeking, as a consequence of nationalistic impulses, to deprive their nation of its just share in that honor. During the past year, this quarrel, which had been simmering during the post-War period, was revived in a very acute manner by the publication of two works, each averaging a thousand or more pages, notably *Germania romanica* (Berlin), by F. Gamillscheg, professor in the University of Berlin, and *Germanisches in Wallonien und Nordfrankreich* (Bonn), whose author is Franz Petri, professor in the University of Cologne.

Both of these authors attempt to prove,—and in this their reasoning is as unsound as that used by Bédier to confirm his interesting hypotheses,—by a meticulous study of patronymics, place-names, agricultural terms, etc., that the whole basis of Merovingian and Carolingian society was Germanic—which is probably true, to a great extent—and that, therefore, the *Chansons de Geste* and other forms of literature are of the same source—which does not necessarily follow.

But even if one admits the truth of the contentions of the German scholars, what difference does that make? The probabilities are that not only are both Bédier and his adversaries right, but that there is also an important Celtic element in this literature. The works themselves, however, are the creations of the literary artists of that time, and to them alone belongs the credit of their existence. One might as well attempt to prove that Shakespeare, Montaigne, Corneille, or any other great writer belongs to some other country than his own because he borrowed from all sources. On the contrary, one is inclined to consider this fusion of all foreign elements into their work a trait of the genius of the above-mentioned authors, giving to their masterpieces a universal appeal.

Indeed, such a discussion as the one mentioned above would be most welcome for all the valuable data it supplies, were it not for the fact that it also reveals the sad state into which modern scholarship has fallen, for herein one can see that our most eminent savants are actuated by a desire, not to get at the truth, but to prove a preconceived hypothesis, no matter how improbable it may be.

Sir Richard Paget, who seems to have a penchant for making sensational discoveries that invariably turn out to be of little, if any, worth, has now invented a talking machine which, he claims, reproduces "all the sounds of human speech." As he defines talking, according to the *New York Times*, as "only the natural result of the gestures of our mouths and the motions of our jaws," his most recent theory is that gestures are "20,000 times more effective than is customary speech." Hence, his machine is said to emphasize the latter. Sir Richard's

contributions would not deserve attention here were they not so widely diffused over the radio and through the public press; so, in order to correct any inaccurate ideas that the reader or auditor may have formed, it may be said that the British phonetician seems totally unaware of the valuable scientific investigations that are being made in laboratories both here and abroad.

The Third International Congress of Phonetic Sciences was held from the 18th to the 22d of July at the University of Ghent in Belgium. Of the six general subjects on the program of the meeting, three were considered as of vital importance, as follows: Methods of improving the language and pronunciation of broadcasting; the anthropological differences between the speech-sounds of different races,—especially those of the Armanoid, Hottentot, and Caffer races,—with emphasis upon the connections between the oldest human speech-sounds; and, finally, the introduction of various new phonetic methods and techniques as demonstrated from the point of view of linguistics, physiology, pathology, pedagogy, psychology, and acoustics. That more than 70 lectures, dealing with practically all of the aspects of the researches being made in phonetics, were given at the same time is an indication of the vitality of the subject as well as of the widespread interest in its problems. In the United States this was especially evident during 1938 from the unusually large number of contributions and letters to reviews and newspapers, dealing with the correct use and pronunciation of the English language.

An interesting innovation that bids fair to have marked influence on the literary criticism of the future was made by Yves Gandon in his *Le Démon du Style* (Paris). From a careful analysis of vocabulary, word-associations, sentence-flow, color, artistic texture, etc., of style used by different authors, he attempts to characterize and classify each of them according to a certain definite standard. Thus, his chapter on André Gide bears the sub-heading, "the style without style"; Paul Claudel, "the style in the state of grace"; François Mauriac, "the feverish style"; Jules Romains, "the unanimist style"; Georges Duhamel, "the luscious style"; Jean Giraudoux, "the pleasures and sports of style"; Francis Carco, "the felicitous style"; Roland Dorgelès, "the oral style"; Henry de Montherlant, "the horsewhip style"; Colette, "the sanctity of style"; etc. As Prof. Charles Cestre remarks in *The New York Times* of October 9, literary criticism has too long neglected to grant necessary attention to this important subject, using only two very general terms, good and bad, without in any way attempting to establish precisely the meaning of either. Henceforth, critics should be expected to supply the reader with some aesthetic criterion by which he may judge for himself whether or not to accept the conclusions presented.

General. Among the many interesting titles relating to primitive man, ancient languages and history, the following may be mentioned: F. Boas, *The Mind of Primitive Man* (New York), a revised edition of this suggestive study; P. E. Raymond, *Prehistoric Life* (Cambridge, Mass.), a useful survey; F. Boas, *General Anthropology* (Boston), an introductory work; *Universal World History* (10 vols.; New York), contributions of 150 historians, edited by J. A. Hammerton; J. Girault, *Album graphique d'Alphabets: Français, Étrangers et Ornés* (ib.), a collection of early calligraphy, French and foreign alphabets, etc.; Sir James G. Frazer, *Totemica* (ib.), a valuable supplement to *Totemism and Exogamy*; C. Wissler,

Man and Culture (ib.), a sixth edition of these lectures; A. C. Woolner, *Languages in History and Politics* (ib.), the place of languages in the history of human society; T. Fitzhugh, *The Indo-European Accent* (Charlottesville, Va.), a study of the voice of speech and song; F. Sommer and A. Falkenstein, *Die hethitisch-akkadische Bilingue des Hattusili I (Labarna II)* (Munich), Hittite text and Akkadian translation of a document relating to Hattusilis I, who lived about 1800 B.C. and who was also known as Labarnas II; W. Nestle, *Der Friedensgedanke in der antiken Welt* (Leipzig), a study of the peace-idea in the ancient world; G. Devoto, *Tabulae Iguvinae* (Rome), a study of the Umbrian Tables of Iguvium, giving the ritual of the Atiedian Brotherhood, originally discovered in 1444; F. Butavand, *L'Enigme Ibère* (Paris), a discussion of the Iberian problem; *The Family, Past and Present* (New York), selected writings, tracing the history of the family, edited by B. J. Stern; H. Belloc, *The Great Heresies* (ib.), an account of heresies, such as Mohammedanism, Albigensianism, etc., through 1700 years of history; *European Civilization: Its Origin and Development* (vol. vi; ib.), of which the present volume contains contributions on the political and cultural history of Europe since the Reformation, edited by E. Eyre; S. G. Champion, *Racial Proverbs* (ib.), 26,000 proverbs selected from 186 languages and dialects; W. E. Bush, *1,800 Selected Proverbs of the World* (Boston), from ancient to modern times; D. S. Davidson, *A Preliminary Consideration of Original Australian Decorative Art* (Philadelphia), a study issued by the American Philosophical Society; M. F. Ashley-Montagu, *Coming into Being among the Australian Aborigines* (New York), a study of the procreative beliefs of the native tribes; P. H. Buck, *Vikings of the Sunrise* (ib.), a history of the settlement of the Pacific Islands; V. Quinn, *Roots: Their Place in Life and Legend* (ib.), the role of herbs in history; D. M. Liddell, G. A. Pfeiffer, and J. Maunoury, *Chessmen* (ib.), a history of their design; B. A. G. Fuller, *History of Philosophy* (ib.), a one-volume history of ancient, medieval, and modern philosophy; G. Spearman, *Psychology Down the Ages* (2 vols.; ib.), its history through 3000 years; C. A. Ellwood, *The Story of Social Philosophy* (ib.), a study of social thought from Plato to Lester F. Ward; Marion Lockwood and A. Draper, *The Story of Astronomy* (ib.), its history from the earliest times; A. Einstein and L. Infeld, *The Evolution of Physics* (ib.), the growth of ideas from early concepts to the present; Sir B. Fletcher, *A History of Architecture* (ib.), the tenth edition, revised; J. C. Webster, *The Labors of the Months in Antique and Medieval Art* (Princeton, N. J.), a survey; Lillian Moore, *Artists of the Dance* (New York), biographical studies from ancient times to the present; and H. Leichtentritt, *Music and Civilization* (Cambridge, Mass.), the development of Western music from the Greeks to modern times in relation to its social and cultural background.

The medieval and Renaissance periods are represented by V. F. Hopper, *Medieval Number Symbolism* (New York), its source, meaning, and influence on thought and expression; G. G. Coulton, *Medieval Panorama* (ib.), a complete survey of the Middle Ages, with special reference to England; G. Kirby, *The Medieval Conception of Law* (ib.), its history; Eva M. Sanford, *The Mediterranean World in Ancient Times* (ib.), a volume in the Ronald Series in History; L. C. MacKinney, *The Medieval World* (vol. ii; ib.), a survey; J. W.

Thompson, *Medieval Libraries* (Chicago), the history of manuscripts and libraries from the beginning of the Christian era to the invention of printing; S. Prentice, *The Voices of the Cathedral* (New York), a study of the art of the cathedral; J. T. McNeill and Helena M. Gamer, *Medieval Handbooks of Penance* (ib.), a translation of the principal *Libri poenitentiales* and selections from documents; G. G. Coulton, *Inquisition and Liberty* (ib.), a social history of the Inquisition in Europe; A. S. Keller, O. J. Lissitzyn, and F. J. Mann, *Creation of Rights of Sovereignty Through Symbolic Acts, 1400-1800* (ib.), a study of the practice of the leading European maritime powers of the time; G. A. Campbell, *The Knights Templars: Their Rise and Fall* (ib.), a history of the order; and *Tobacco, Its History, Illustrated by the Books, Manuscripts and Engravings in the Library of George Arents Jr.* (vol. ii, 1615-98; ib.), a bibliographical survey, compiled by J. E. Brooks.

African. Among the contributions to this interesting field, which is, fortunately, being more and more studied, the following may be mentioned: E. B. Smith, *Egyptian Architecture as Cultural Expression* (New York), its development from beginnings through the Roman domination; Josephine Mayer and T. Prideaux, *Never to Die: The Egyptians in Their Own Words* (ib.), translated selections from early Egyptian writings giving a picture of their life; F. Cumont, *L'Égypte des Astrologues* (Brussels), ancient Egypt as presented by the history of its astrologists; S. L. Wallace, *Taxation in Egypt from Augustus to Diocletian* (Princeton, N. J.), a survey of Roman occupation; M. M. Knight, *Morocco as a French Economic Venture* (New York), an account of French occupation; M. Fortie, *Black and Beautiful* (Indianapolis, Ind.), the story of a life in Safari Land; W. D. Hamby, *Anthropometry of the Ovim-Bundu Angola* (Chicago), a study in African ethnology; Isak Dinesen, *Out of Africa* (New York), a description of plantation-life in Kenya; M. J. Herskovits, *Dahomey* (2 vols.; ib.), a study of the culture of the ancient West African kingdom; J. Lukas, *Zentralsudanische Studien* (Hamburg), studies on the culture of Central Sudan; R. Henriques, *Death by Moonlight* (New York), an account of lion-shooting in Sudan; H. Melzian, *A Concise Dictionary of the Bini Language of Southern Nigeria* (London), the first dictionary in English; I. Schapera, *A Handbook of Tswana Law and Custom* (New York), compiled for the Bechuanaland Protectorate Administration; L. Fouche, *Mapungubwe* (ib.), an archaeological study of primitive Bantu civilization on the Limpopo; and B. J. F. Laubscher, *Sex, Custom and Psychopathology* (ib.), a study of South African pagan natives.

Chinese and Japanese. Contributions to Chinese include C. S. Gardner, *Chinese Traditional Historiography* (Cambridge, Mass.), the first attempt in any language to supply a comprehensive description of the textual and historical criticism, style, etc., that have dominated Chinese historical scholarship for over 2000 years; L. Warner, *Buddhist Wall Paintings: A Study of a Ninth Century Grotto at Wan Fo Hsia* (ib.), a study in early Chinese painting, devoted to the twelfth cave of the Myriad Buddhas; B. Rowland, Jr., *Outline and Bibliographies of Oriental Art* (ib.), intended for teachers; Louise Crane, *The Magic Spear and Other Stories of China's Famous Heroes* (New York), a collection of Chinese folk-tales; *Chinese Fairy Tales and Folk Tales* (ib.), collected and

translated by W. Eberhard; C. P. Fitzgerald, *China: A Short Cultural History* (ib.), covering 3000 years; G. H. Danton, *The Chinese People: New Problems and Old Backgrounds* (Boston), a discussion of the problems of China in relation to its historic culture; *The Wisdom of Confucius* (New York), a new English version, translated and edited by Lin Yutang; C. Crow, *Master Kung: The Story of Confucius* (ib.), a biography of the sage; Shui Hu Chuan, *All Men Are Brothers* (ib.), a new one-volume edition of this 15th-century classic, translated by Pearl Buck; S. Hedin, *The Silk Road* (ib.), an account of an expedition to Sinkiang, translated from the Swedish; Dorothy Graham, *Chinese Gardens* (ib.), a history of their development in form and design; D. S. Dye, *A Grammar of Chinese Lattice* (Cambridge, Mass.), a study of the designs of 2500 lattice-windows in old Chinese buildings; and H. G. W. Woodhead, *The China Year Book, 1937* (Chicago), a reference work.

On Japanese we have Marion M. Dilts, *The Pageant of Japanese History* (New York), an introductory survey; K. S. Latourette, *The Development of Japan* (ib.), a fourth revised edition; J. Harada, *A Glimpse of Japanese Ideals* (ib.), lectures on Japanese art and culture; E. Steinilber-Oberlin, *The Buddhist Sects of Japan* (ib.), their history, philosophical doctrines, and sanctuaries; B. Taut, *Houses and People of Japan* (ib.), a study of domestic architecture and customs; W. Price, *Children of the Rising Sun* (ib.), a study of the Japanese people; S. Sakanishi, *Kyogen: Comic Interludes of Japan* (Boston), translations of brief Japanese comedies; and E. Lederer and Emy Lederer-Seidler, *Japan in Transition* (New Haven, Conn.), an interpretation of Japan in the light of its tradition and national characteristics.

Indo-Iranian, Armenian, and Tibetan. A very interesting contribution to the history of Hindu philosophy is *The Secret of Recognition* (*Pratyabhijnāhrdayam*) (Adyar, Madras), composed by Ksemarāja, who lived in the first half of the 11th century. The Sanskrit text of this reviving doctrine of salvation was edited by the staff of the Adyar Library under the supervision of G. S. Murti, with German translation and notes by Rev. E. Baer and authorized translation into English by Dr. K. F. Leidecker. Other works include H. G. Rawlinson, *India: A Short Cultural History* (New York), an account extending from the Indus valley civilization of 2500 B.C. to the present, edited by C. G. Seligman; H. Oertel, *Zu den Kasusvariationen in der vedischen Prosa* (Munich), a study of case-forms in Vedic prose; J. Mascaro, *Himalayas of the Soul* (New York), the principal Upanishads, translated from the Sanskrit; *Hindu Scriptures* (ib.), containing hymns from the Rig-veda, five Upanishads and the Bhagavadgita, edited and translated by N. MacNicol; B. Rowland, Jr., *The Wall-Paintings of India, Central Asia and Ceylon* (Boston), a comparative study, with an introductory essay on "The Nature of Buddhist Art," by A. K. Coomaraswamy; R. LeMay, *A Concise History of Buddhist Art in Siam* (New York), from the beginning of the Christian era to the end of the 16th century; E. C. Dewick, *The Indwelling God* (ib.), studies in the conceptions of divine indwelling in Hindu and Moslem thought; Elizabeth S. MacDonald, *Hinduism* (Boston), a brief exposition; W. A. Stanton, *Out of the East* (New York), a history of Christianity in India; Ruth I. Seabury, *Dinabandhu* (ib.), a background work on India; D. S. Hatch, *Further Upward in Rural In-*

dia (ib.), a survey of rural reconstruction; F. H. Beckmann, *Dust of India* (Boston), an account of a sojourn in India; S. Hossain, *Gandhi: The Saint as Statesman* (Los Angeles, Calif.), a biographical study; Mary P. Jeffery, *Dr. Ida: India* (New York), a life of Dr. Ida S. Scudder, medical missionary to India; *A Handbook for Travelers in India, Burma and Ceylon* (ib.), a new edition of this guide; and D. L. R. Lorimer, *The Burushaski Language* (vol. iii; Cambridge, Mass.), containing vocabularies of Burushaski and Wershikwar, two unclassified languages spoken north of Kashmir.

On Persian we have G. Morgenstierne, *Indo-Iranian Frontier Languages* (vol. ii; Cambridge, Mass.), a study of the little-known Iranian Pamir languages, such as Yidgha-Munji, Sanglechi-Ishkashmi, and Wakhi, spoken by small and isolated communities; M. N. Dhalla, *History of Zoroastrianism* (New York), a revised and enlarged edition of the author's *Zoroastrian Theology*; A. U. Pope, *A Survey of Persian Art: From Pre-historic Times to the Present* (ib.), of which the regular edition will be in seven volumes; E. S. Drower, *The Mandaeans of Iraq and Iran* (ib.), their cults, customs, magic, legends, and folklore; and *Oriental Manuscripts of the John Frederick Lewis Collection in the Free Library of Philadelphia* (Philadelphia), a descriptive catalogue.

Armenian is represented by A. Mahdesian, *Armenia, Her Culture and Aspirations* (Fresno, Calif.), an exposition of Armenian history; *The Armenians in Massachusetts* (Boston), a WPA survey.

On Tibetan, which may be entered here for geographical reasons, we have W. E. Clark, *Two Lamaistic Pantheons* (Cambridge, Mass.), a study of Tibetan statuettes, manuscript figures, and bronzes; L. M. King, *The Warden of the Marches* (Boston), an account of adventure in Tibet; and F. K. Ward, *Plant Hunter's Paradise* (New York), a record of journeys on the Burma-Tibet frontier.

Albanian, Finnish, and Hungarian. In regard to these languages, it should be noted that Albanian belongs to the Indo-European family, with which we are concerned at present, though there is much doubt as to where it is to be placed precisely, for most scholars are inclined to consider it a sort of linguistic oasis, classifying it by itself. Hence, S. E. Mann's *A Historical Albanian and English Dictionary (1496-1938)* (London, Eng.), which has reached the word *bagá*, is most welcome, for it throws much light on the numerous loan-words that have entered into this interesting tongue.

Finnish and Hungarian may be classed here merely for geographical reasons, since they have no connection whatever with the above-mentioned family, being members, along with their sister-language, Turkish, of the Ural-Altaic family. On these languages we have J. H. Wuorinen, *The Finns on the Delaware, 1638-55* (New York), a study of the role played by the Finns in the creation of New Sweden; T. D. Rosvall, *The Very Stupid Folk* (ib.), a collection of folk tales from the Finnish; J. L. Runeberg, *The Tales of Ensign Stal* (Princeton, N. J.), a 19th-century poem-cycle of Russia's conquest of Finland, selected and translated from the Swedish by C. W. Stork; K. Ekman, *Jean Sibelius: His Life and Personality* (New York), a new edition of the biographical study of the great composer, translated from the Finnish; S. A. Clark, *Finland on Fifty Dollars* (ib.), a new guide-book; H. Sutherland, *Lapland Journey* (ib.), an account of a journey through Finland and Lapland; and R. A. Hall, Jr., *An*

Analytical Grammar of the Hungarian Language (Baltimore), a detailed study, issued by the Linguistic Society of America. Mention may also be made here of the opening of the Hungarian Reference Library at 19 West 44th Street, New York City. This collection, which consists of books, reviews, etc., in both English and Hungarian, dealing with Hungary and its problems, was gathered through 30 years by the late Charles Feleký, a scholar and bibliophile. In 1937 it was purchased by the Hungarian National Museum in Budapest for the purpose of creating in the United States a reference library for the use of students and others.

Slavic. Notwithstanding the political, literary, and linguistic importance of the Slavonic nations, little significant attention was paid to them during the past year. Among the few works dealing with Russian that may be of interest to both students and general readers the following may be noted: I. Spector, *College Russian* (Portland, Ore.), a textbook; the same author's *The Golden Age of Russian Literature* (Seattle, Wash.), a survey of representative authors; D. T. Rice, *The Beginnings of Russian Icon Painting* (New York), the Ilchester Lecture, delivered at Oxford University, England; Anna M. Babey, *Americans in Russia, 1776-1917* (Brooklyn, N. Y.), an account of American travelers in Russia; A. S. Pushkin, *The Captain's Daughter* (New York), edited with notes and vocabulary by Anna H. Semeonoff; M. Paléologue, *The Enigmatic Czar* (ib.), a life of Alexander I, translated from the French; L. Tolstoy, *War and Peace* (vols. iv, v, and vi; ib.), the final volumes of the series issued by the Limited Editions Club; M. Gorky, *Collected Essays* (ib.), studies on various cultural subjects; Baroness Sophie Buxhoeveden, *Before the Storm* (ib.), recollections of country life in Russia in pre-War years; P. Kerzhentsev, *Life of Lenin* (ib.), translated from the Russian; M. J. Olgin, *Russian Revolution: A Story of Twenty Years* (ib.), a history; *History of the Civil War in the U.S.S.R.* (ib.), an account from 1914 to 1917, edited by Joseph Stalin and others; K. London, *The Seven Soviet Arts* (New Haven, Conn.), a survey of the work of the Soviets in the various fields of art; A. Gide, *Afterthoughts on the U.S.S.R.* (New York), in which the famous French writer tells of his conversion to an anti-Soviet belief; *The Man in the Panther Skin* (ib.), an epic poem by S. Rustaveli, a Georgian poet of the 12th century, whose 800th anniversary was celebrated in the Soviet Union recently; and J. Lehmann, *Prometheus and the Bolsheviks* (ib.), a travel book on Soviet Georgia.

A Carait Museum, the only one of its kind in existence, is being erected at Troki, near Wilno, Poland, for the purpose of housing the ethnographical and historical records relating to this Semitic sect. The Caraites or Caraims, who do not accept the Talmud, originated in the Crimea and came to Poland with the Tartars, whose language they speak. The 1500 or more members of this sect now living in Poland are engaged mainly in handicrafts, agriculture, and commerce and have at their head a religious leader called the *Hachan*.

Works dealing with the Polish language and culture include M. Rettinger, *Poles in the Civilization of the World* (Washington, D. C.), relating their history in many countries from the 13th century to the present day; R. Dyboski, *Ten Centuries of Poland's History* (ib.), a short survey; J. Statkowski, *Poland, Old and New* (ib.), a brief cultural and literary history and description; Charlotte Kellogg, *The Girl Who Ruled a King-*

dom (New York), a biography of Jadwiga, who was Queen of Poland in the latter part of the 14th century; M. Haiman, *Poles in New York in the 17th and 18th Centuries* (Chicago), biographical sketches of prominent Colonial Poles; R. M. McBride, *Towns and People of Modern Poland* (New York), a historical and cultural survey; *Contemporary Poland* (Washington, D. C.), an account of its life and development, reprinted from the 1937 *Handbook of Central and Eastern Europe*; and I. J. Paderewski and Mary Lawton, *The Paderewski Memoirs* (New York), the autobiography of the pianist and patriot.

Czecho-Slovakia is represented by R. Freund, *Watch Czechoslovakia* (New York), an account of the country and its people; Elizabeth Wiske-mann, *Czechs and Germans* (ib.), the historical background of the German minority problem; K. Capek, *Masaryk on Thought and Life* (ib.), philosophical and cultural discussions; and F. H. Stuermer, *Training in Democracy* (ib.), a study of the new school of Czecho-Slovakia.

Germanic and Scandinavian. The September issue of the *Deutsches Haus Bulletin* of Columbia University (New York) consisted of a catalogue of some 1500 German books recently exhibited there. Contributions on Germanic include S. Fairbanks, *The Old Frisian Skeltana-Riucht* (Cambridge, Mass.), an edition of an old Germanic law of the 10th century, with translation; M. Bues, *Die Versportung der deutschen Sprache im 20. Jahrhundert* (Greifswald), a study on the influence of the language of sport on German; *Kleiner Liederfreund* (New York), a collection of 202 popular German songs, edited by G. O. Arlt and C. B. Schomaker; Elizabeth Burchenal, *Folk-Dances of Germany* (ib.), containing 29 dances and singing games; H. Reinhardt, *Holbein* (ib.), reproductions of his paintings and engravings, with critical comments; F. Watson, *Wallenstein: Soldier under Saturn* (ib.), a biography of Albrecht von Wallenstein, a general of the Thirty Years' War; F. Mehring, *The Lessing Legend* (ib.), an abridged translation from the German of this critical study; L. W. Kahn, *Social Ideals in German Literature, 1770-1830* (ib.), a thesis on their character and development; Bertha Meyer, *Salon Sketches* (ib.), an account of the influence of three famous Jewesses on German literary and social life in the early 19th century; P. A. Schilp, *Kant's Pre-Critical Ethics* (Northwestern University, Ill.), a critical investigation; H. S. Borneman, *Pennsylvania German Illuminated Manuscripts* (Norristown, Pa.), a study of the history and art of the *Frakturschriften*; R. J. Sontag, *Germany and England: Background of Conflict, 1848-1894* (New York), a study of the sources of present-day antagonisms; B. Menne, *Blood and Steel* (ib.), a history of the House of Krupp; D. Nobbs, *Theocracy and Toleration* (ib.), an account of the disputes in Dutch Calvinism, 1600-50; and M. Jagendorf, *Tyll Ulen-spiegel's Merry Pranks* (ib.), a translation of a famous Flemish folk book of the 15th century.

Scandinavian, as usual, is well represented by interesting and scholarly contributions. Among them we may note G. Bach, *The History of Scandinavian Literatures* (New York), a general account, with additional sections by R. Bech, A. B. Benson, A. J. Uppvall, and others; H. Arntz, *Bibliographie der Runenkunde* (Leipzig), a bibliography of studies on the Runic inscriptions; G. L. White, Jr., *Scandinavian Themes in American Fiction* (Philadelphia), a doctoral dissertation; T. Knudsen and A. Sommerfelt, *Norsk Riksmål-*

sordbok (Oslo), an excellent dictionary of Norwegian, which has now reached the letter P; Sir Wm. A. Craigie, *The Art of Poetry in Iceland* (New York), the Taylorian Lecture at Oxford; *East of the Sun and West of the Moon* (ib.), a new selection of 21 stories from the Norwegian folk tales collected many years ago by P. C. Asbjørnsen and J. Moe and translated into English by G. W. Dasent, edited by Ingri and E. P. d'Aulaire; C. C. Qualey, *Norwegian Settlement in the United States* (Northfield, Minn.), a historical survey; E. Gordon, *Wergeland, the Prophet* (New York), explaining the prophetic vision of a 19th-century Norwegian poet; O. J. Falnes, *Norway and the Nobel Peace Prize* (ib.), a historical study; A. J. Uppvall, *Manual of Swedish Phonology* (ib.), presented in international phonetic symbols; A. J. Uppvall and G. R. Stene, *Swedish Grammar and Reader* (ib.), a textbook; C. de Lannoy, *A History of Swedish Colonial Expansion* (Newark, Del.), translated from the French; *The Magician's Cloak* (New York), four Swedish folk tales, translated and adapted by Margaret Sperry; C. Ward, *New Sweden on the Delaware* (Philadelphia), a brief account of the early Swedish settlements, taken from the author's earlier volume, *The Dutch and Swedes on the Delaware, 1609-64; New Sweden, 1638-1938* (Ann Arbor, Mich.), a catalogue of the exhibition in the Wm. L. Clements Library, organized in commemoration of the centenary of the Swedish settlements on the Delaware; *Books, Maps and Prints Relating to New Sweden* (Washington, D. C.), an exhibition at the Library of Congress; J. C. Clay, *Annals of the Swedes on the Delaware* (Chicago), a fourth edition; *Swedes in America, 1638-1938* (New Haven, Conn.), various contributions on the role of Swedes in American history, thought, and life, edited by A. B. Benson and N. Hedin; A. Martinet, *La Phonologie du Mot en Danois* (Paris), a study of the phonology of Danish words; and H. C. Anderson, *It's Perfectly True, and Other Stories* (New York), a new translation by P. Leyssac.

Celtic. The annual Celtic Congress, which is noteworthy for the reason that—besides the International Congress of Phonetic Sciences mentioned above—it is the sole international linguistic, literary, musical, and folklore body that continues to meet in war-clouded Europe, was held in 1938 at Douglas, capital of the Isle of Man, from June 29 to July 6, with an unusually large attendance. Mr. Sean O'Sullivan, Archivist of the Irish Folklore Commission, announced that, although the Commission had thus far collected more than a million manuscript-pages of folklore material, "they had only scratched the surface of the problem," because Ireland is unbelievably rich in tradition, having escaped the great cultural waves that spread over Europe from time to time in the past. Among other papers read were the following: Rev. S. J. M. Compton, "The Celtic Spirit in History and Art"; Marquis of Ailsa, "Scotland's Share in the Magna Charta"; Rev. John MacKechnie, "The Language Movement among Gaelic Youth"; Dr. J. Cameron, "The Celtic Land in Scotland"; Rev. J. Burke, "Irish Church Music in the Middle Ages"; L. S. Gogan, "The Continental Origins of Irish Literature"; Rev. K. MacLeod, "Songs of the Hebrides"; etc.

Among many indications of a cultural renaissance in the Celtic lands were the announcements of extensive undertakings in their history and the founding of reviews. Thus, the famous old Cymm-dorion Society voted at the 1938 Eisteddfod the

creation of a *Dictionary of Welsh Biography*, to be edited by Prof. R. T. Jenkins of Bangor University College, with the collaboration of Sir John E. Lloyd, the most distinguished living authority on Welsh history, as consulting editor. After much discussion as to the language to be used in the *Dictionary*, it was decided to publish the first edition in English, to be followed by a Welsh version. As for reviews, attention was called last year to the creation of *The Celtic Digest*, issued by the Celtic Society of Columbia University, which published in March the first scholarly contribution by President Douglas Hyde of Eire to appear in America. Other new reviews include the semi-annual *Irish Historical Studies* (Dublin), published by the Historical Societies of Dublin and Belfast, which bids fair to be the most scholarly journal on Irish history yet to appear; *The Dublin Historical Record* (*ib.*), issued by the Old Dublin Society, containing studies on the local history and traditions of Dublin; *The Irish Digest* (*ib.*), a digest of all books and articles dealing with Ireland; and *The Ireland-American Review* (*ib.*), intended to improve cultural relations between the two countries.

Contributions to the study of Irish include A. J. Goedheer, *Irish and Norse Traditions about the Battle of Clontarf* (Haarlem, Holland), showing that the famous battle of 1014, which ended the glorious reign of Brian Bóramha, was neither a national victory of the Irish over the Norsemen nor a victory of Christianity over paganism, as has been claimed, but merely an event in a series of organized invasions ending in 1103; P. Grosjean, *Hagiographica Celtica* (parts ii-v; Brussels), biographical notes on Celtic saints, published in the *Analecta Bollandiana*; the same author's *Gloria postuma S. Martini Turonensis apud Scottos et Britannos* (*ib.*), an excellent scholarly survey of the posthumous fame of St. Martin of Tours in the British Isles; J. Hornell, *British Coracles and Irish Currachs* (London), an account of wicker and hide-covered boats from the 1st century B.C. to the present; A. Tommasini, *Irish Saints in Italy* (*ib.*), their history from the early centuries of the Christian era; Capt. F. C. Hitchcock, *To Horse* (Dublin), an account of horses and horsemanship from the 11th century to the present; E. B. Barrett, *The Great O'Neill* (New York), a newly discovered biography of the last of the Celtic chiefs; J. C. Develin, *The Story of an Irish Sept* (Rutland, Vt.), a history of the O'Develins of Tyrone; O. St. J. Gogarty, *I Follow St. Patrick* (New York), a witty descriptive book about Ireland in which the author attempts to prove that the Saint was not a Gaul, a Roman, a Spaniard, a Cornishman, or an Englishman, as various other authorities have maintained, but a South Welshman; S. Gwynn, *Dublin, Old and New* (*ib.*), a historical, social, and architectural study; W. Love, *Roadside and Fireside Irish Folk Tales* (Boston), a collection of 23 tales; S. O'Faolain, *The Silver Branch* (New York), an anthology of old Irish poetry; the same author's *King of the Beggars* (*ib.*), a life of Daniel O'Connell, the Liberator; S. Rynne, *Green Fields* (*ib.*), a day-by-day journal of farm life in Kildare; L. Edwards, *My Irish Sketch Book* (*ib.*), sketches of hunting in Ireland; J. L. Hammond, *Gladstone and the Irish Nation* (*ib.*), a historical study; *The Autobiography of William Butler Yeats* (*ib.*), a reprint of three sketches; H. Gorman, *James Joyce* (*ib.*), an intimate, detailed biography; Lord Dun-sany, *Patches of Sunlight* (*ib.*), an autobiography revealing the origins of his fanciful works; Doro-

thy Macardle, *The Irish Republic* (London), a history of the Anglo-Irish conflict; M. J. O'Brien, *Pioneer Irish in New England* (New York), a study of the Irish immigrants in the 17th century; the same author's *George Washington's Association with the Irish* (*ib.*), a historical account; and his *Hercules Mulligan, Confidential Correspondent of General Washington* (*ib.*), a biography. Final mention should be reserved for President Douglas Hyde's delightful *Mise agus an Conradh* (Dublin), which is, at the same time, a history of the language movement in Ireland from the 17th century on and an autobiography relating the development of the Gaelic League down to 1905.

The language and history of Scotland are studied in *Poems from the Book of the Dean of Lismore* (Cambridge, Eng.), compiled by J. MacGregor, with a catalogue of the Book and Indexes by the late E. C. Quiggin, and edited by J. Fraser; A. MacBain, *Etymological Dictionary of the Gaelic Language* (Stirling), containing chapters on outlines of Gaelic etymology, national and personal names and surnames; C. MacPharlain, *Gaelic-English Dictionary* (*ib.*), intended for the ordinary reader; T. D. MacDonald, *Gaelic Proverbs and Proverbial Sayings* (*ib.*), with English translations; A. MacGregor, *Highland Superstitions* (*ib.*), dealing with Druids, fairies, witchcraft, sacred wells, etc.; *Highland Lore and Legend* (New York), West Highland ballads, paraphrased from Gaelic into English verse by I. Malcolm; N. MacNeill, *The Literature of the Highlanders* (Stirling), a survey from the earliest times to the present; *The Songs of Skye* (*ib.*), folk songs, collected by B. H. Humble; A. MacBain, *Celtic Mythology and Religion* (*ib.*), a new edition, with a chapter on "Druid Circles and Celtic Burial"; the same author's *Place-Names of the Highlands and Islands of Scotland* (*ib.*), an analysis of "Pictish," Celtic, and Norse sources; *The Stones of Scotland* (New York), a history of Scottish architecture from prehistoric times, written by five scholars and edited by a sixth, G. Scott-Moncrieff; J. G. Mackay, *The Romantic Story of the Highland Garb and the Tartan* (Stirling), the story of Highland dress from the earliest times; *Scottish Diaries and Memoirs, 1550-1746* (*ib.*), extracts giving pictures of life, arranged and edited by J. G. Fyfe; *A Calendar of Cases of Witchcraft in Scotland, 1510-1727* (New York), compiled by G. F. Black and published by the New York Public Library; J. B. Nolan, *Benjamin Franklin in Scotland, 1759 and 1771* (Philadelphia), a record of these two tours; M. Martin, *A Description of the Western Islands of Scotland* (Stirling), a reprint of a work, published in 1703, which decided Dr. Johnson to undertake his famous journey to the Isles, edited by D. J. MacLeod; A. MacGregor, *The Feuds of the Clans* (*ib.*), an account of clan life of which the first part was written in 1875 and the second taken from a MS. of 1764; W. Murison, *Sir David Lyndsay* (New York), the life and works of a poet and satirist of the Old Church; Sir Herbert J. C. Grierson, *Sir Walter Scott* (*ib.*), an excellent biography, which corrects and supplements Lockhart's famous work; E. Muir, *Scott and Scotland* (*ib.*), a comparison of the predicament of the Scottish writer in Scott's time and today; and D. C. Cuthbertson, *Romantic Scotland* (Stirling), the history, legends, and romance of Scotland, shire by shire.

Studies dealing with Wales and Cornwall include B. G. Charles, *Non-Celtic Place Names of Wales* (London), a study of such names of Old

English, Norman, Scandinavian, or Flemish origin; A. S. Davies, *The Ballads of Montgomeryshire* (Welshpool), biographies and bibliographies of ballad-writers from the 18th century on, including specimens of their work; R. Davies, *My Wales* (New York), a delightful description of the country, the people, and their activities; R. S. and Laura H. Loomis, *Arthurian Legends in Medieval Art* (ib.), a study of Arthurian iconography in the decorative arts and book-illustration; P. T. Jones, *Welsh Border Country* (ib.), a description and history; and Margaret Leigh, *Harvest of the Moor* (ib.), an account of farming in Cornwall.

Romance Languages. Although these languages, as their name indicates, are modern offshoots of the popular or vulgar Latin as spoken at Rome, they may be placed here—since Latin is not considered in this survey—by reason of their indebtedness to Frankish German, on the one hand, and to Celtic, on the other. In fact, the late Henri Hubert went so far as to state in his monumental posthumous work, *Les Celtes et l'Expansion celtique jusqu'à l'Époque de la Tène* (Paris, 1932), edited and approved by four well-known scholars, that "le français est du latin prononcé par des Celtes et mis au service d'esprits celtiques," etc. (p. 19). In other words, modern French is merely Latin as pronounced by the Gauls and their—mainly Irish—teachers, and its syntax is due to their knowledge and interpretation of Latin syntax. That Professor Hubert's conclusion is valid is obvious from the similarity of vowel, consonant, and other phonetic changes in the development of both Irish and French as well as in the parallel evolution of syntax in these two languages. It is, therefore, more than passing strange that French philologists have entirely neglected to consider the historical development of Irish or Welsh in order to comprehend better the concomitant course of their own tongue. But this seems to be merely another example of the nationalism in scholarship mentioned at the outset of this survey, for the French do not wish to have for their ancestors a people whom they have heretofore considered as ignorant and uncultured.

French. That the *Chanson de Roland*, the most beautiful epic left from the Middle Ages, has also a strong appeal for the modern reader is evident from the fact that two translations of it were issued in New York during the past year, notably *The Song of Roland*, translated into English metrics by C. S. Moncrieff, with illustrations by V. Angelo, and published by the Limited Editions Club; and Merriam Sherwood's beautiful prose version under the same title, illustrated by Edith Emerson. The latter is especially recommended to the reader, for not only does Miss Sherwood's smoothly flowing prose approach more closely to the Old French of the 11th-century author, but it also retains all the naïve spirit, poetic atmosphere, and vigor of the original.

Dr. Marcel Françon, who is probably the leading living authority on the literature and language of France during the transition period in the late 15th and early 16th centuries, issued a most valuable and interesting volume, entitled *Poèmes de Transition* (Cambridge, Mass.), containing some 600 *rondeaux* found in MS. 402 of Lille. These quaintly beautiful poems, by many authors, not only reflect the various traditions and artistic movements of the time, but likewise shed much light on social conditions, studied methods of versification, trends in language and thought, music, and art in an age that gave us the elegant chateaux that

still remain. Other works included W. von Wartburg, *Evolution et Structure de la Langue française* (Chicago), a new edition, published for the first time in America; U. T. Holmes, Jr., *A History of Old French Literature* (New York), a survey from its origins to 1300; E. Gilson, *Reason and Revelation in the Middle Ages* (ib.), being the Richards Lectures at the University of Virginia; Sister Mary V. Gripkey, *The Blessed Virgin Mary as Mediatrix in the Latin and Old French Legend Prior to the Fourteenth Century* (Washington, D. C.), an interesting study of theocentrism beginning with Gregory of Tours in the 6th century; *Le Manuscrit du Roi* (2 vols.; Philadelphia), a photographic reproduction of an Old French MS., with an introduction by J. Beck; Jean, Sire de Joinville, *The History of Saint Louis* (New York), translated from the 13th-century French by Joan Evans; E. Gilson, *The Philosophy of St. Bonaventure* (ib.), an analytical study of the 13th-century churchman, translated from the French; V. L. Dedek-Héry, *Jean de Meun et Chaucer, Traducteurs de la Consolation de Boèce* (ib.), a study on Chaucer's indebtedness to the French version of Jean de Meun, reprinted from *Publications of the Modern Language Association of America*; *Old French Lives of Saint Agnes* (Cambridge, Mass.), an edition of a 13th-century poem, with studies on some 15 other versions, prepared by A. J. Denomy; *Aucassin et Nicolette* (Chapel Hill, N. C.), translated into English by E. F. Moyer and C. D. Eldridge; G. Hanoteaux, *Jeanne d'Arc* (Paris), a biographical study from the Catholic point of view; H. D. Sedgwick, *The House of Guise* (Indianapolis, Ind.), a history of a powerful family in the 16th century; *The Works of Guillaume de Salluste Sieur du Bartas* (vol. ii; Chapel Hill, N. C.), an edition of the works of a famous 16th-century epic poet; Janet Doe, *A Bibliography of the Works of Ambrose Paré* (Chicago), the first critical bibliography ever made of the works of the great 16th-century surgeon; and Q. Hurst, *Henry of Navarre* (New York), a biography.

On the 17th and 18th centuries we have C. F. McCombs, *French Printing Through 1650: Mazarinades* (New York), a check list of books and pamphlets in the New York Public Library; *Selected Letters of Mme de Sévigné* (2 vols.; ib.), taken from the nine-volume English edition of 1811; *The Journal of Jean Cavalier* (Chicago), the journal of a survivor of La Salle's Texas expedition, 1684-88, translated by J. Delanglez; L. P. Courtines, *Bayle's Relations with England and the English* (New York), a detailed study of Pierre Bayle, 1647-1706; J. Wilcox, *The Relation of Molière to Restoration Comedy* (ib.), a useful study of the great dramatist's influence in England; N. L. Torrey, *The Spirit of Voltaire* (ib.), a valuable and well-presented study of Voltaire's character and ideas; *Voltaire's Philosophical Dictionary* (ib.), selections, translated by H. I. Woolf; *Diderot, Selected Writings* (ib.), translated by Jean Stewart and J. Kemp; G. Morris, *A Diary of the French Revolution* (Boston), written while the author was U.S. Minister to France; Georgia Robison, *Revellière-Lepeaux, Citizen Director, 1753-1824* (New York), a life of the Revolutionary; and J. M. Eagan, *Maximilien Robespierre: Nationalist Dictator* (ib.), a study of him as a Jacobin.

The 19th century is represented by O. Aubry, *Napoleon: Soldier and Emperor* (Philadelphia), a biography; G. W. Pierson, *Tocqueville and Beaumont in America* (New York), a narrative of their

journey, in honor of the centenary of *Democracy in America*; A. Maurois, *Chateaubriand* (*ib.*), a biography; K. W. Hooker, *The Fortunes of Victor Hugo in England* (*ib.*), a study of the vicissitudes of his fame in England; and R. L. Hawkins, *Positivism in the United States (1853-1861)* (Cambridge, Mass.), a careful study of the influence of Comte's philosophy.

Finally, two works on language and architecture may be mentioned, as follows: J. G. Anderson, *Le Mot juste* (New York), a new edition of this dictionary of English and French homonyms, revised by L. C. Harmer; and A. Gardner, *An Introduction to French Church Architecture* (*ib.*), a survey.

Italian. Among the few contributions to this field are *Dante's Purgatorio* (New York), an edition, with an English version in *terza rima*, by L. Binyon; *The Comedy of Dante Alighieri, Part II, Purgatory* (*ib.*), an American translation by L. How; *The Most Noble and Famous Travels of Marco Polo, Together with the Travels of Nicolo de' Conti* (*ib.*), a second edition of this Elizabethan translation of John Frampton, edited by N. M. Penzer; J. Pope-Hennessy, *Giovanni di Paolo, 1403-1483* (*ib.*), an interpretation of the artist's personality and work; Antonina Vallentin, *Leonardo Da Vinci: The Tragic Pursuit of Perfection* (*ib.*), a biography, translated from the German; *The Notebooks of Leonardo Da Vinci* (2 vols.; *ib.*), a definitive edition, translated by E. MacCurdy; A. H. Gilbert, *Machiavelli's Prince and Its Forerunners* (Durham, N. C.), a study in origins; H. Coates, *Palestrina* (New York), a biographical and critical study; *The Defense of Galileo of Thomas Campanella* (Northampton, Mass.), translated for the first time by G. McColley; L. Da Ponte, *The Marriage of Figaro* (New York), the libretto of Mozart's opera, translated by E. J. Dent; C. Collodi, *Pinocchio* (*ib.*), a new edition of Carlo Lorenzini's classic, issued by the Limited Editions Club; J. Bernhart, *The Vatican as a World Power* (Boston), a history; T. Antongini, *D'Annunzio* (*ib.*), a biography by the poet's secretary, translated from the Italian; V. Seligman, *Puccini among Friends* (New York), a selection of the composer's letters; and *The Italians of New York* (*ib.*), a historical study prepared by the WPA.

Portuguese, Provençal, and Rumanian. On Portuguese we have E. B. Williams, *From Latin to Portuguese* (Philadelphia), a historical survey of the phonology and morphology of the Portuguese language; V. McNabb, *St. Elizabeth of Portugal* (New York), a short biography of the early 14th-century saint; and S. Zweig, *Conqueror of the Seas* (*ib.*), a life of Magellan. Provençal is represented by B. Collier, *To Meet the Spring* (New York), a journey through Langue-doc and Provence; and Lady Fortescue, *Sunset House* (Boston), a description of Provence and its inhabitants.

Transylvania, which was incorporated into Rumania after the War, is now the subject of much anxiety in the latter country because both Germany and Hungary are casting covetous eyes upon it. For this reason the very extensive and detailed *Bibliographie de la Transylvanie roumaine* (Cluj), issued by the *Revue de Transylvanie*, is very apropos, since it contains a list of some 4056 titles—not counting the large number of book-reviews mentioned after each book—which were published from 1916 to 1936. Of special interest are the sections on history (containing archaeology, documents, inscriptions, culture, etc.), literature, philology,

linguistics, customs, folklore, drama, and music. Other useful works include *Metamorphosis Transylvaniae, 1918-1936* (Cluj), consisting of contributions by some 10 authorities on literature, art, drama, etc.; *Les Français et la Roumanie* (Bucharest), texts selected by P. Desfeuilles and J. Lassaigne, dealing with French opinion of Rumania from the middle of the 18th century to the present; R. Seişanu, *La Roumanie, Pays latin* (*ib.*), a survey, showing the Latin origin of the Rumanian people and their language; and S. Sitwell, *Roumanian Journey* (New York), a travel record.

Spanish. The Hispanic Society of America, founded and directed by Dr. Archer M. Huntington and located at Broadway and 157th St., New York City, is without doubt the outstanding scholarly Spanish society of the world, not even excluding similar organizations in Spain and South America. Its art collection is unique and one of rare value, while its library, consisting of more than 125,000—mainly rare—volumes, along with countless catalogued and uncatalogued MSS., is not only the largest, but also the most valuable, collection of Spanish works in existence, outside of the Biblioteca Nacional of Madrid. Therefore, any reference work relating to this monumental collection should be of special interest to all readers; and we fortunately have such a work, issued by the Society itself and modestly entitled *Handbook, Museum and Library Collections* (New York), containing many beautiful illustrations. It is divided into the following sections: Paintings, Sculpture, Ceramics, Glass, Gold- and Silver-work, Iron-work, Furniture, Textiles, Laces and Embroideries, Manuscript Maps, Prints, Manuscripts and Books, and a detailed index.

Other works dealing with Spanish include G. Tislander, *Los Fueros de Aragón* (Lund, Sweden), a study of the language of the ancient Aragonese laws; B. Bevan, *A History of Spanish Architecture* (New York), profusely illustrated; C. R. Post, *A History of Spanish Painting* (vol. vii, parts i and ii; 2 vols.; Cambridge, Mass.), a study of the Gothic phases of the Catalan school in the later 15th century; A. F. G. Bell, *Castilian Literature* (New York), a historical and critical study; *Translations from Hispanic Poets* (*ib.*), issued by the Hispanic Society of America; R. T. Davies, *The Golden Century of Spain, 1501-1621* (*ib.*), a social and cultural history; L. Marcuse, *Ignatius Loyola* (*ib.*), a biography of the founder of the Jesuit Order; Concepción Casanova, *Luis de León como traductor de los clásicos* (London, Eng.), a thorough study of the terms found in the translations of the great 16th-century scholar; Delphine F. Darby, *Francisco Ribalta and His School* (Cambridge, Mass.), a critical study of the work and influence of a 16th-century painter; H. Keniston, *The Syntax of Castilian Prose: The Sixteenth Century* (Chicago), a chronological survey; Mary E. Hough, *Santa Teresa in America* (New York), a study of American opinion of the 16th-century saint; Mary N. Hamilton, *Music in Eighteenth-Century Spain* (Urbana, Ill.), a survey; *California in 1792: The Expedition of José Longines Martínez* (San Marino, Calif.), translated from an 18th-century MS. by L. B. Simpson; G. Zellers, *La novela histórica en España, 1828-1850* (New York), a study of the sources of the early historical novels; and R. L. Guinle, *A Modern Spanish-English and English-Spanish Technical and Engineering Dictionary* (*ib.*), the first technical dictionary to be issued since the German work of Tolhausen about 40 years ago.

Catalan is represented by the late A. M. Alcover and F. de B. Moll, *Diccionari Català-Valencià-Balear* (Fasc. 34-38; Palma de Mallorca), which is now about through the letter C; and E. A. Peers, *Catalonia Infelix* (New York), a history of the State.

Finally, a few characteristic works on Latin America may be mentioned: J. W. Vandercook, *Caribee Cruise* (New York), a book of history and data on the West Indies; E. S. Whitman, *Those Wild West Indies* (ib.), a description and guide; T. White, *Puerto Rico and Its People* (ib.), a political and social study; E. Entralgo, M. Vitier, and R. Agramonte, *Enrique José Varona: su vida, su obra y su influencia* (Havana), an official study of the great Cuban thinker, writer, and leader; E. B. Echeverría, *Lectura de Pascuas* (ib.), selections from his works, published by La Secretaria de Educación de Cuba; C. L. R. James, *The Black Jacobins* (New York), a history of Toussaint l'Ouverture and the San Domingo Revolution; Edna Taft, *A Puritan in Voodoo-Land* (ib.), an account of voodooism; J. A. Jarvis, *Brief History of the Virgin Islands* (St. Thomas, V. I.), from their discovery to the present; S. G. Inman, *Latin America* (Chicago), a survey of its history; C. E. Chapman, *Republican Hispanic America* (New York), a general history; E. H. Thompson, *The High Priest's Grave, Chichen Itza, Yucatan, Mexico* (Chicago), a record of an investigation made in 1896, edited for the Field Museum by J. E. Thompson; Josephina Niggli, *Mexican Folk Plays* (Chapel Hill, N. C.), five brief plays; B. Nordang, *Patagonian Year* (New York), a Norwegian engineer's experiences in the jungles of Argentina; J. P. Calogeras, *A History of Brazil* (Chapel Hill, N. C.), from its founding to 1889; A. F. Zimmerman, *Francisco de Toledo, Fifth Vice-Roy of Peru, 1569-81* (Caldwell, Idaho), a biography; and M. Poindexter, *Peruvian Pharaohs* (Boston), an account of Inca culture and its origins.

English Language. In the United States, the vogue of the cross-word puzzle, during the past few years, has tended to increase considerably the sale of dictionaries. In England, on the other hand, the old-fashioned American spelling bee became so popular in 1938 that even publishers and authors took part in such competitions—without either side, it may be said, showing any special brilliancy. However, the humble dictionary has consequently become a "best-seller" in both countries, and so it is but fitting that it should be given pre-eminence here, as follows: *Roget's International Thesaurus of English Words and Phrases* (New York), a revised and enlarged edition by the late C. O. S. Mawson; H. L. Shatford, *The Elements of Thought* (Washington, D. C.), a chart illustrating the 1000 categories of Peter Mark Roget; F. S. Allen, *Allen's Synonyms and Antonyms* (ib.), a new edition, containing slang, colloquialisms, and technological expressions, by T. H. Vail Motter; R. Soule, *A Dictionary of English Synonyms and Synonymous Expressions* (Boston), a new edition, revised and enlarged by A. D. Sheffield; Bessie G. Redfield, *Aid to Rhyme* (New York), a third enlarged edition; W. K. L. Clarke, *A Little Dictionary of Bible Phrases* (ib.), containing the derivations and meanings of nearly 350 words; D. G. Kittel, *Lexicographia Sacra* (ib.), two lectures on the making of the *Theologisches Wörterbuch zum Neuen Testament*; Sir W. A. Craigie and J. R. Hulbert, *A Dictionary of American English on Historical Principles* (parts iii, iv; Chicago), going as far as Chubby; *Webster's Students Dic-*

tionary (New York), intended for the young; B. Overton, *Macmillan's Modern Dictionary* (ib.), a ready-reference work; A. D. Baten, *The Language of Life* (Dallas, Tex.), containing more than 100,000 words, phrases, similes, and metaphors; E. Partridge, *A Dictionary of Slang and Unconventional English* (New York), a second edition, revised and enlarged; W. H. Fletcher, *Vocabulary Building* (parts i, ii; Los Angeles, Calif.), containing sociology and physical geography terms, derived from Greek and Latin; J. I. Rodale, *The King's English on Horseback* (Emaus, Pa.), a dictionary of humorous terms; J. R. Carpenter, *An Ecological Glossary* (Norman, Okla.), definitions of ecological terms; *Draft Customs Nomenclature* (vol. ii; New York), a League of Nations report on the unification of such terms; Lulu G. Graves and C. W. Taber, *A Dictionary of Food and Nutrition* (Philadelphia), terms relating to dietetics and nutrition; and L. Lewis, *Radio Dictionary* (Stamford, Conn.), terms used in broadcasting.

Scientific nomenclature is growing so apace that even specialists in the various fields are having difficulty in keeping in touch with the neologisms that are being created from day to day. A few years ago, for example, the London Authors Club invited a young psychological expert to explain to the older professors in the same field the meanings of the terms recently introduced by his colleagues. Since it is obviously impossible for even our large general dictionaries to list such words, specialized vocabularies are coming more and more into vogue. Thus, it was announced in the *New York Times* on December 4 that five experts are preparing a dictionary of scientific educational expressions to be completed in four or five years; and one of them, Prof. H. D. Rinsland of the University of Oklahoma, has already assembled 18,000 terms in the single field of educational measurements. Likewise, Prof. E. Kasner's *New Names in Mathematics* (New York) supplies for his colleagues definitions for the neologisms resulting from recent researches in that science. And the same holds true in other lines of investigation.

Syntax, etymology, dialectology, and kindred subjects are represented by E. Clodd, *The Story of the Alphabet* (New York), a new edition of a study first published in 1900; V. Engblom, *On the Origin and Early Development of the Auxiliary Do* (Lund, Sweden), a syntactical investigation; H. Gehse, *Die Kontaminationen in der englischen Syntax* (Breslau), a historical study; B. J. Whiting, *Proverbs in the Earlier English Drama* (Cambridge, Mass.), culled from almost 90 plays or groups of plays of the 15th and 16th centuries; A. W. Dellquest, *These Names of Ours* (New York), supplying derivations of some surnames; A. H. Holt, *American Place Names* (ib.), giving meanings and pronunciations of such names; G. E. Shankle, *American Nicknames* (ib.), an interesting, though at times trivial, study of some 4000 sobriquets; I. Goldberg, *The Wonder of Words* (ib.), an introduction to the study of language; and W. Matthews, *Cockney, Past and Present* (ib.), a short history of the London dialect from the 16th century.

Grammar, composition, etc., are studied in the following: J. B. Opdycke, *Don't Say It!* (New York), intended to correct errors and clarify doubts about the use, meanings, spelling, and pronunciation of words; and Aline E. Hower, *Successful Letter Writing: Business and Personal* (ib.), a psychological approach to correspondence.

Collections of folk songs and American dialect

tology and folklore include Grace Castagnetta and H. W. van Loon, *Folk Songs of Many Lands* (New York), 24 songs, with music; Elsie G. Eells, *Tales from the Amazon* (ib.), a new edition of this book of folklore originally published as *The Magic Tooth*; M. L. Hanley, *Dialect Notes* (vol. vi, part xv; New Haven, Conn.), containing also vol. iii, part xiii of R. H. Thornton's *An American Glossary*; *Folk Hymns of America* (New York), native American hymns, collected by Annabel M. Buchanan; B. F. Crawford, *Religious Trends in a Century of Hymns* (Carnegie, Pa.), a Ph.D. thesis in Methodist hymnology; G. Korson, *Minstrels of the Mine Patch* (Philadelphia), ballads and stories of the mining industry; *Folk Songs from the Southern Highlands* (New York), 200 songs, collected and edited by M. E. Henry; R. W. Neeser, *American Naval Songs and Ballads* (New Haven, Conn.), from the Revolution to 1882; Joanna C. Colcord, *Songs of American Sailor Men* (New York), a collection of sea chanties; J. A. and A. Lomax, *Cowboy Songs, and Other Frontier Ballads* (ib.), a new and enlarged edition; Eloise H. Linscott, *Folksongs of Old New England* (ib.), with words and music; J. C. Allen, *Tales and Trails of Martha's Vineyard* (Boston), the history and folklore of the island; D. Doten, *The Art of Bundling* (Weston, Vt.), the nature, origins, and practice of the custom; Ann Hark, *Hex Marks the Spot* (Philadelphia), an account of the Pennsylvania Dutch; *Aus Pennsylvania* (ib.), an anthology of translations into the Pennsylvania German dialect, edited by W. S. Troxell; Jean Thomas, *The Singin' Fiddler of Lost Hope Hollow* (New York), a portrayal of Kentucky mountaineers; *Tales and Songs of Southern Illinois* (Menasha, Wis.), collected by C. Neely; J. M. Carrière, *Tales from the French Folklore of Missouri* (Columbia, Mo.), stories from "Pawpaw" French; *Coyote Wisdom* (Austin, Tex.), folktales from the southwest about the coyote, edited by J. F. Dobie, M. C. Boatright, and H. H. Ransom; C. Hallenbeck and Juanita H. Williams, *Legends of the Spanish Southwest* (Glendale, Calif.), Spanish legends of Colonial times; D. Coolidge, *Arizona Cowboys* (New York), authentic stories; C. B. Rousseve, *The Negro in Louisiana* (New Orleans), aspects of his history and his literature; Kate M. Crady, *Free Steppin'* (Dallas, Tex.), a volume of Negro verse; Lucy Cobb and Mary Hicks, *Animal Tales from the Old North State* (New York), a collection of Negro folk tales; W. Murrell, *A History of American Graphic Humor: 1865-1938* (ib.), an account of all phases of humorous art; and J. Blanck, *Peter Parley to Penrod* (ib.), a bibliographical survey of famous American juvenile books.

Phonetics and speech are represented by C. Battisti, *Fonetica generale* (Milan), the fundamentals of research in phonetics; R. T. Holbrook and F. J. Carmody, *X-Ray Studies of Speech Articulations* (Berkeley, Calif.), a physiological investigation; J. F. Bender and V. M. Kleinfeld, *Principles and Practices of Speech Correction* (New York), with a glossary of 500 technical terms; A. H. Kanter and A. S. Kohn, . . . *And the Stutterer Talked* (Boston), a study of stuttering; C. F. Wedberg, *The Stutterer Speaks* (ib.), a second edition; D. E. Watkins, *The Convincing Word* (New York), methods of improving one's speech; and Margaret A. Stanger and Ellen K. Donohue, *Prediction and Prevention of Reading Difficulties* (ib.), an educational study.

England. H. W. Nevins and Harold Nicolson

both agree in affirming that mathematicians always write good English, as well as in placing Bertrand Russell among the most conspicuous stylists of today.

Interesting surveys of work in this field may be found in T. P. Cross' *Bibliographical Guide to English Studies* (Chicago), an enlarged seventh edition; and *Essays and Studies* (vol. xxiii; New York), papers by members of the English Association, collected by S. C. Roberts.

General works include N. Denholm-Young, *Seignorial Administration in England* (New York), its history; J. E. A. Jolliffe, *The Constitutional History of Medieval England* (ib.), from the English settlement to 1485; D. C. Calthrop, *English Costume, 1066-1830* (ib.), a new edition; and R. Dutton, *The English Garden* (ib.), a history of its development.

On the Middle Ages and the 16th century we have G. G. Coulton, *Medieval Panorama* (New York), a survey of English life from the Conquest to the Reformation; F. D. Kershner, *Those Gay Middle Ages* (Chicago), an account of the filth, superstition, and cruelty of the period; *Frivolities of Courtiers and Footprints of Philosophers* (Minneapolis, Minn.), selections from John of Salisbury's *Policraticus*, the 12th-century survey of culture, translated by J. B. Pike; *Amis and Amiloun* (New York), a medieval romance, edited by M. Leach; C. Sturge, *Cuthbert Tunstal* (ib.), a biography of the 16th-century churchman and scholar; *Elizabethan and Seventeenth-Century Lyrics* (Philadelphia), edited by M. W. Black; W. Haller, *The Rise of Puritanism* (New York), studies on the writings and sermons of 1570-1643; Lisle C. John, *The Elizabethan Sonnet Sequences* (ib.), an excellent study of sonnet collections; J. A. Williamson, *The Age of Drake* (ib.), a survey of Elizabethan life; R. W. Chambers, *The Place of Saint Thomas More in English Literature and History* (ib.), an evaluation of his work and influence; M. M. Kastendieck, *England's Musical Poet, Thomas Campion* (ib.), a study of his work and his influence on the lyric; and *Ben Jonson* (vol. vi; ib.), works of the dramatist, edited by C. H. Herford and P. and E. Simpson.

The following centuries are represented by Thomas Fuller's *The Holy State and the Profane State* (2 vols.; New York), a splendid edition, with introduction, notes, and appendix, prepared by M. G. Walten; *Complaint and Reform in England, 1436-1714* (ib.), 50 contemporary writings, dealing with social, religious, educational, and other subjects, arranged by W. H. Dunham, Jr. and S. Pargellis; L. Hotson, I, *William Shakespeare* (ib.), an account of the poet's relations with certain friends and associates; *A New Variorum Edition of Shakespeare* (vol. xxii; Philadelphia), his poems, edited by H. E. Rollins; J. D. Wilson, *What Happens in Hamlet* (New York), a second edition; *The Works of John Milton* (vol. xviii; ib.), the final volume of the Columbia University edition, begun in 1908; Rosamond Bayne-Powell, *Eighteenth-Century London Life* (ib.), a social history; A. B. Tourtellot, *Be Loved No More* (Boston), a life of Fanny Burney, the novelist; J. Sutherland, *Defoe* (Philadelphia), a biography; G. Tillotson, *On the Poetry of Pope* (New York), a critical study; J. Boswell, *The Life of Samuel Johnson, LL.D.* (3 vols.; ib.), edited from the annotations of Mrs. Thrale, by E. G. Fletcher; Elizabeth P. Stein, *David Garrick, Dramatist* (ib.), a study of the actor's plays; *The Torrington Diaries of the Hon. John Byng* (vol. iv; ib.), the

final volume, describing a journey through England and Wales, 1781-94, edited by C. B. Andrews; Sir Herbert J. C. Grierson, *Sir Walter Scott, Bart.* (ib.), an excellent and authoritative biography, supplementing and correcting Lockhart's long-standard work; Sir E. K. Chambers, *S. T. Coleridge* (ib.), a critical biography; Dorothy Hewlett, *Adonais* (Indianapolis, Ind.), a new life of John Keats; *Victorian Street Ballads* (New York), popular songs sold in the London Streets throughout the 19th century, edited by W. Henderson; and M. Elwin, *Old Gods Falling* (ib.), a survey of popular English literature from 1887 to 1914.

Americana. Since much material relating to this subject has already been given under the heading, *English Language*, we shall limit ourselves here to a few characteristic titles. Thus, on the American Indian, we have C. W. Wissler, *The American Indian* (New York), a third edition of this archaeological study; H. R. Sass, *Hear Me, My Chiefs* (ib.), a volume of Indian legends; A. Britt, *Great Indian Chiefs* (ib.), studies of eight chiefs during 200 years; J. W. Lydekker, *The Faithful Mohawks* (ib.), a history of the tribe; J. J. Cornplanter, *Legends of the Longhouse* (Philadelphia), myths of the Senecas; C. C. Trowbridge, *Meewacar Traditions* (Ann Arbor, Mich.), legends of the Miami Indians, edited from the 19th-century manuscript by V. Kintetz; J. B. Davis, *Cherokee Fables* (Siloam Springs, Ark.), a folklore collection; C. C. Uhlenbeck, *A Concise Blackfoot Grammar* (Amsterdam, Holland), a speech manual; Cora Du Bois, *The Feather Cult of the Middle Columbia* (Menasha, Wis.), a study in tribal customs; *General Series in Anthropology* (No. 6; ib.), studies of the Sinkaietk or Southern Okanagon of Washington, by W. Cline and others; Therese O. Deming, *Indians of the Wigwams* (Chicago), a legend of the Leni-Lenapé tribe; A. E. Hudson, *Kazak Social Structure* (New Haven, Conn.), an account of tribal life; W. La Barre, *The Peyote Cult* (ib.), tribal worship; J. W. Caughey, *McGillivray of the Creeks* (Norman, Okla.), a biography of the leader; Belle S. Sullivan, *The Unvanishing Navajos* (Philadelphia), a study of their life; A. T. Jackson, *Picture-Writing of Texas Indians* (Austin), an interpretative study; F. C. Lockwood, *The Apache Indians* (New York), their history from the Spanish Conquest; H. Hoiyer and M. E. Opler, *Chiricahua and Mescalero Apache Texts* (Chicago), folklore texts with English translations; J. C. McGregor, *Winona Village* (Flagstaff, Ariz.), a description of a 12th-century settlement in Arizona; Ruth M. Underhill, *Singing for Power* (Berkeley, Calif.), a study of the song magic of the Papago Indians of Arizona; Frances Densmore, *Music of Santo Domingo Pueblo, New Mexico* (Los Angeles, Calif.), with translations of poems and a study of Pueblo ritual; and Alice A. Lide, *Aztec Drums* (New York), with drawings by C. M. Sanchez.

Canada is represented by G. M. Wrong, *The Canadians: The Story of a People* (New York), a popular history; and *Premier Bulletin bibliographique de la Société des Écrivains canadiens* (Montreal), an annotated bibliography.

D. W. Brogan waxed enthusiastic in the *London Spectator* over the WPA guide books, which, he said, "illustrate the richness of American life." Among the most characteristic general works on our life and culture, we may mention C. P. Nettels, *The Roots of American Civilization* (New York), a history of Colonial life; T. J. Wertenbaker, *The*

Founding of American Civilization: The Middle Colonies (ib.), the language, religion, and other cultural traits of these racial groups; *The Oxford Anthology of American Literature* (ib.), selections from John Smith to the present, edited by W. R. Benét and N. H. Pearson; J. Anderson, *The American Theatre* (ib.), an illustrated history; R. A. Billington, *The Protestant Crusade* (ib.), a study of the genesis of American nativism; H. P. Beers, *Bibliographies in American History* (ib.), a guide to materials for research; *American Authors, 1600-1900* (ib.), a biographical dictionary, edited by S. J. Kunitz and H. Haycraft; Marion N. Rawson, *Candleday Art* (ib.), a history of arts and crafts; M. R. Eppse, *A Guide to the Study of the Negro in American History* (Nashville, Tenn.), a sociological study; S. N. Holbrook, *Holy Old Mackinaw* (New York), a history of the lumberjack; L. R. Wilson, *The Geography of Reading* (Chicago), a study of the distribution of libraries in the United States; and, finally, the tenth volume (1875-79) of G. C. D. Odell's excellent *Annals of the New York Stage* (New York).

Dr. Frank H. Vizetelly (q.v.), whose untimely death occurred on Dec. 20, 1938, contributed to the review, *Better English* (New York), two articles which may serve as a fitting epitaph to a most industrious life, for they constitute a kind of résumé of the principles that guided him throughout his extensive lexicographical work that covered a half-century or more. In the first essay, entitled "Which Shall It Be? Quality or Quantity" (November), this gifted genius—whose love for historical philology, it may be added, did not stifle, but on the contrary, stimulated his enthusiastic interest in language as a living dynamic force—points out how, through the aid of research, the number of words listed in dictionaries increased, from the 50,000 contained in Johnson's *Dictionary*, published in England in 1755, as well as the 70,000 found in Webster's *American Dictionary* of 1828, to 225,000 in Whitney's *Century*, 301,000—further augmented to more than 455,000—in Funk's *Standard*, and finally, to over 550,000 in the recent Second Edition of the *New International*. And he concludes with the remark that, notwithstanding preposterous claims to the contrary, "all told the reputable and disreputable words in the language do not total more than a million."

In his second article, "Uses and Abuses of Words" (January, 1939), Dr. Vizetelly first inveighs against the reprehensible "modern practise . . . to create new words with no other apparent object than to avoid the known, usual, and appropriate term," and then makes the following significant statement, which, as noted above, was the lexicographical dictum that he always observed, to wit: "Today we need quality rather than quantity and fewer but fitter words." Much the same theory was also held some 40 years ago by Adolphe Hatzfeld, Arsène Darmesteter, and Antoine Thomas in the famous *Dictionnaire général de la Langue française* (Paris), which has been of incalculable benefit to the French language of today. So, American writers and scholars of the future can do no better than to heed these final words of advice from one of the most practical and far-seeing lexicographers this country has ever produced.

PHILOSOPHY. The various currents of contemporary American philosophy were fairly well represented by the papers read this year at the meeting of the Eastern Division of the American Philosophical Association at Wesleyan University. There were papers on symbolic logic, scientific

method, philosophy of history, pragmatism, and ethics, and several discussions were presented on Aristotle and on the Danish philosopher, Kierkegaard. Special interest was attracted by three papers on history. Arthur O. Lovejoy pointed out that while philosophers have been too exclusively interested in the logical connection of historical theories, historians have laid too much stress upon their mere chronological order. Although he admitted the value of the chronological arrangement of material for the first stage of inquiry, he nevertheless insisted that far greater clarity would result if historical materials, such as ideas and theories, were studied in the order of their step-by-step development. It follows that the history of philosophy should be written, not as a chronicle of "systems," but as a biography of the component ideas, which often have a life of their own so that the investigator has to trace their development, not only in philosophical works but also in science, literature, and politics. Sterling P. Lamprecht, in another paper, discussed the subjective and objective factors in the history of philosophy. An understanding and respect for clashing points of view in the history of philosophy is possible, he claimed, if one studies them historically in the light of their cultural emergence and reference. John Herman Randall, Jr., in contrast to Lovejoy, stressed the integration of theories and institutions within a given historical period or within a great tradition. "Philosophic problems emerge whenever the strife of ideas and experience forces men back to fundamental assumptions in any field," he said. "They are to be understood only as expressions of the basic conflict within a civilization that drive men to thoroughgoing criticism. Philosophy is the expression in thought of the process of cultural change itself."

Maurice Mandelbaum, in a paper on ethics, criticized the notion of "value-blindness" as developed in the works of Scheler, Hartmann, and Hildebrand. He suggested that calling people blind who fail to accept your own specific values is of less value than tracing the origin of values in general would be. David F. Swenson described the "existential dialectic" of Kierkegaard, a philosopher who has been recently very influential, especially in Germany. His philosophy, said Swenson, is an instrument of the "subjective existing thinker," who is confronted with the need of deciding upon a most radical change, a change, that is, from one subjective pole of experience to its opposite. John Wild, in another paper on Kierkegaard, maintained the paradoxical opinion that while the 19th-century Danish philosopher thought he had broken with the classic tradition of Plato and Aristotle, his philosophy is, in point of fact, a return to this tradition.

In a session of the meeting devoted to Aristotle, Werner Jaeger contributed valuable information on the connection between Aristotelian philosophy and Greek medicine of the 4th century B.C., while W. D. Ross, the well-known English scholar, discussed "the discovery of the syllogism," and Isaac Husik attempted to prove the genuineness of Aristotle's treatise, *The Categories*.

Probably the most widely discussed book of the year was John Dewey's *Logic, the Theory of Inquiry*. Representing the summation of theories which have matured through a long career of study and reflection, it is remarkable in a number of respects. In the first place, it makes logic primarily the theory of inquiry and consequently relegates the formal aspect of the science, the doctrine of the

syllogism, for example, to secondary importance. Formal logic and specific accounts of scientific procedures and discoveries are all but missing, while hundreds of pages are devoted to the philosophical, psychological, and sociological aspects of the process of scientific inquiry. Although little scholarship is brought to bear upon the point, Dewey argues persuasively the importance of the unity of theory and practice and of the interdependence of science and society. Since logic is construed as the theory of inquiry, all the customary topics of logic (terms, propositions, arguments, facts, truth, etc.) are described as segments or aspects of the particular procedural processes in which they occur. Terms of language, judgments, arguments, and facts are mere tools of particular inquiries. Isolated from these inquiries terms have no meaning, propositions no truth, arguments no validity, facts no standing, for they are all mere stages of inquiry. Since propositions are means to an end, that is, to the attainment of a further stage of the inquiry, they are neither true nor false in any sense, but strong or effective, weak or inadequate (p. 287). Truth is an ideal limit which we never reach even in a modest way, and perhaps, do not even approach. This pragmatic emphasis is accompanied, as would be expected, by an operationalism which, however, is not as extreme as that of the physicist, P. W. Bridgman, in his *The Intelligent Individual and Society* (1938). Scientific laws are if-then propositions, according to Dewey. The law of gravitation, for example, reduces to statements such as: If certain observations of the mass, velocity, and position of certain bodies are made, other observation can be made in the future. On the other hand, Dewey will not go so far as to identify a quality with its function (p. 147). One other interesting feature of the book is the rejection of Aristotelian logic as an ontological doctrine and the occasional recognition of the value of dialectic for the prosecution of scientific inquiry. The book of 1938, which gives the most revealing account of Dewey's philosophy as a whole, relating it to social and cultural movements in this country, oddly enough, comes from Germany. It is Eduard Baumgarten's *Der Pragmatismus*. R. W. Emerson—W. James—J. Dewey. It is worth noting that Franz Böhme in his *Anti-Cartesianismus. Deutsche Philosophie im Widerstand*. (Leipzig, 1938) defines truth as fruitfulness (or efficacy) for the purposes of the German community. Other National Socialists have also embraced a kind of pragmatism, showing that pragmatism in general has no necessary connection with democracy.

Two other American philosophers, almost as well-known as John Dewey, went to press this year, but their books are slighter and less ambitious. Alfred North Whitehead's *Modes of Thought* is an eloquent reconsideration of the subtleties of "creative impulse," activity, nature, and life, and it is worthwhile to see how far he agrees with Dewey, with whom he is sometimes compared. Like Dewey, he goes part way with dialectic in maintaining that: "Both in science and in logic you have only to develop your argument sufficiently, and sooner or later you are bound to arrive at a contradiction, either internally within the argument, or externally in its reference to fact" (p. 14). Moreover, "complete self-identity can never be preserved in any advance to novelty" (p. 146). Likewise, while Dewey holds that all thinking, and therefore logic, begins with an inconsistency or frustration of habitual response, Whitehead makes inconsistency (i.e. Sheffer's "stroke")

function) the starting point from which the whole of logic can be derived. Whitehead's genial disrespect for "clear-headedness" is also reminiscent of Dewey. "The importance of clarity does not arise," he declares, "until we have interpreted it in terms of the vast issues vaguely haunting the fullness of existence" (p. 148). But the difference between the two philosophers is perhaps more important. For example, Dewey's dialectic, what there is of it, is subjective; Whitehead's objective, asserting "necessary connections" in nature.

Whitehead, rejecting Dewey's pragmatism, remains a realist and so does George Santayana in his new volume, *The Realm of Truth*. The "practice" of the pragmatists and the "coherence" of the idealists are tests of truth, he contends, but not its essence. Truth is a correspondence of our ideas with reality. Only the material, temporal world, however, is real. Hence, "truth never enters the field of mathematics at all," nor has it anything to do with morals. Unfortunately, truth is difficult to obtain in the material world for reasons stated by Hume, and Santayana feels obliged to accept it on faith ("animal faith"). The belief in the uniform order of nature he finds irresistible. The law of uniformity, however, is not necessary. Facts being contingent, and knowledge a mere reflection of them, no knowledge is necessary. This skepticism of Santayana is accompanied, of course, by much gentle irony, mockery, and urbane pathos. Truth is tragic, he explains, by its very nature, and "the keen air of truth is not for all lungs." He ridicules those who are dazzled by Truth. The purer truth is, the duller. "Happiness in truth is like happiness in marriage, fruitful, lasting, and ironical. You could not have chosen better, yet this is not what you dreamed of." The reader is tempted to think that had not Santayana himself been dazzled by Truth, he would have devoted this book to the theory of probability and thus given it some relevance to science. Another volume on truth published this year, *"Truth" as Conceived by Those Who Are Not Professional Philosophers* by Arne Ness, represents the contemporary debunking attitude of the logical positivists. After submitting hundreds of people to questionnaires on the nature of "truth," he concluded that there is no such thing as the common-sense view of truth.

While Santayana despairs of finding truth and says nothing of probability, H. Levy in his *A Philosophy for a Modern Man* gives a popular but penetrating account of probability and its growing importance for science and for social progress. His leading concept is that of the "isolate," an isolate being "any part of the universe that is the subject of examination." The isolation of the isolate is, however, never complete. Experiments attempt to isolate a subject with only partial success. Through "the theory of errors" its connection with the rest of nature is disclosed, and progress in science is often the result. Isolates are of two kinds, atomic isolates, such as an apple off the tree, a man out of society, or a hydrogen atom, and statistical isolates, which are groups of atomic isolates, such as the pressure of a gas or the morale of a group. The statistical isolate, Levy argues, is just as objectively real as the atomic isolate. The fact that the behavior of individual electrons, atoms, or molecules cannot always be predicted is no ground for skepticism, for in these cases the behavior of statistical isolates can be predicted with great accuracy. Levy inveighs against those modern scientists who, when the increase of poverty and unemployment become embarrassing and when the help of

science is imperative, argue wistfully and invalidly from the incidents of scientific advance to a kind of supernaturalism and irrationalism which relieves them of responsibility and reconciles them, however regretfully, with the world as it is. Levy, like so many distinguished British scientists (Haldane, Bernal, and others), is a materialist, a temporalist, and a realist in politics. He believes that the remedy of our social problems is an uncompromising struggle for peace and democracy and for socialism in the future, and he attempts to demonstrate how science can contribute. Another book making a strong plea for the preservation of democracy is *Social Philosophies in Conflict* by the American philosopher, Joseph A. Leighton.

Many books analyzing and defending democratic institutions have appeared this year, called forth by the growing threat of fascism. Likewise, an excellent account of National Socialist philosophy and political theory came out. This is Aurel Kolnai's *The War against the West*. Representing the democratic Catholic center, the approach of this book to Nazism is analytical, hostile, mordantly satirical. The author does not confine himself to the writings of the official Nazi spokesmen such as Alfred Rosenberg, Hermann Koellreutter, and Carl Schmitt, but discusses the views of many literary men and philosophers, such as Nietzsche, Ludwig Klages, Max Scheler, and Werner Jaeger, who, even if they have not accepted National Socialism, have provided its atmosphere or psychologically prepared the way for it by their teachings. Nietzsche's anticipation of Fascist doctrines is well-known. That of Scheler and Klages, less so. Although Scheler died before the advent of National Socialism, philosophical ideas perfectly in harmony with it may be discovered in his *Genius des Kriegers* (1915) and in his major work on ethics. Kolnai's inclusion of Heidegger in this list of pro-Nazi philosophers on the basis of one public address delivered in 1933 is a doubtful matter.

While National Socialism has found many philosophic defenders, Fascist Italy has not had such success. Two books published this year on Giovanni Gentile, usually regarded as the spokesman of Fascist philosophy, show how little relevance this philosophy has to political practice. (These books are: *The Idealism of Giovanni Gentile* by Roger W. Holmes, and *Gentile: The Philosophy of Giovanni Gentile* by Pasquale Romanelli.) Thus, while philosophy for Gentile is its own justification and provides its own criterion of truth, philosophy, according to the current National Socialist view, is an instrument of the "German community"; and the needs of this community, as interpreted by the Leader, determine its truth.

Several good philosophical books, however, were published in Germany this year. Baumgarten's volume *Pragmatismus* has already been mentioned. Nicolai Hartmann's *Möglichkeit und Wirklichkeit*, a very abstract and elaborate analysis of the relation of the modalities, is also a serious and important work. One of his conclusions is that the modalities, i.e. impossibility, non-existence, chance, possibility, existence, and necessity do not form a single hierarchy, that possibility and impossibility are relative to existence and non-existence. In his *Ethics* Hartmann denied the hierarchy of virtues, and recognized horizontal dimensions. In his analysis of the modalities he follows the same complex method. *Existenzphilosophie* by Karl Jaspers is also notable. Although the philosophy it advocates is esoteric, pompous, eccentric in the extreme, and certainly remote from practical interest, it has

great prestige not only in Germany, but also in France and the United States. The most ambitious German publication of the year was perhaps Wilhelm Burkamp's *Wirklichkeit und Sinn*, an immense two-volume work, covering a great range of philosophical subjects with especial emphasis upon biological and psychological problems and long discussions of modern mathematical and logistic philosophy. All the trends of modern philosophy, not only those which have been felt in Germany, but also French and Anglo-American developments, are carefully evaluated. The author can not be assigned to any school of philosophy. Rather, his sympathy with many schools results in an eclecticism which is not always free from contradiction. Although he rejects the *a priori* trends in philosophy and states against Husserl that "today it does not suffice to go back to phenomena. We must go back to the earth, to life," he also opposes the present positivistic movements. For example, he insists upon absolute ethical values and a self, or an "I," which is over and above all empirical experience. Yet he is not willing to reduce the "I" to a mere bloodless logical or transcendental subject, and insists against Husserl that it is active. The same eclecticism and indecision can be seen in his treatment of "race." Although he makes much of the distinction between pure and mixed races, he is obliged in fairness to admit that all races (including the German) are mixed. Again, although he affirms absolute values, he reduces virtue, under the influence of Nietzsche, to mere affirmation and consistency of will.

Another important event in the philosophical world was the publication this year of the first installments of vols. i and ii of the *International Encyclopedia of Unified Science*. Otto Neurath, the editor in chief, leads off the series with a rather diffuse but provocative article on "Unified Science as Encyclopedic Integration." In an effort to give breadth to this international movement Neurath describes it not only as "logical positivism" but also, and preferably, as "logical empiricism" and "empirical rationalism." He is followed by Niels Bohr, Dewey, Russell, Carnap, Morris, and Lenzen, whose articles (though some of them are very slight) succeed to some extent in popularizing the essentials of scientific methodology. Victor F. Lenzen's *Procedures of Empirical Science* and Charles W. Morris' *Foundations of the Theory of Signs* illustrate the serious type of popular analysis the "Encyclopedia" is undertaking.

This brief review of the philosophy of 1938 would not be complete without the mention of the English translation of the most important work of Jacques Maritain, the outstanding Catholic philosopher of Europe. His book, *The Degrees of Knowledge*, though it holds firmly to the strict Thomist position, nevertheless shows great understanding of rival systems. It is bound to foster better reciprocation between the Thomists and other philosophers.

In addition to the books listed above in the text, the following are important: Peter Anthony Bertocci, *The Empirical Argument for God in Late British Thought*; Rasvihary Das, *The Philosophy of Whitehead*; Albert Einstein and Leopold Infeld, *Physik als Abenteuer der Erkenntnis*; Prossor Hall Frye, Plato; B. A. G. Fuller, *A History of Philosophy*; D. Hilbert and W. Ackermann, *Grundzüge der theoretischen Logik*; Otto Janssen, *Dasein und Wirklichkeit*; Karl Jaspers, *Existenzphilosophie*; Peter Kamm, *Philosophie und Pädagogik Paul Häberlins in ihren Wandlungen*;

Benjamin Evans Lippincott, *Victorian Critics of Democracy*; Hélène Metzger, *Attraction universelle et religion naturelle chez quelques commentateurs anglais de Newton*; Ralph Barton Perry, *In the Spirit of William James*; W. H. V. Reade, *The Problem of Inference*; Hans Reichenbach, *Experience and Prediction*; Bertrand Russell, *The Principles of Mathematics*; René Schaerer, *La question platonicienne*; Moritz Schlick, *Gesammelte Aufsätze 1926-1936*; Howard Selsam, *What Is Philosophy?*; *Sixième Semaine Internationale de Synthèse, La notion de progrès devant la science actuelle*; M. A. R. Tucker, *Past and Future of Ethics*; *University of California Associates, Knowledge and Society*; Jean Wahl, *Études Kierkegaardianes*.

PHOENIX (fē'niks) **ISLANDS**. A group of eight islands—Canton (Mary), Enderbury, Phoenix, Birney, Gardner, McKean, Hull, and Sidney—in the central Pacific (2° 30' to 4° 30' S. and 171° to 174° 30' W.), belonging to Great Britain and included in the Gilbert and Ellice Islands colony by Order in Council of Mar. 18, 1937. Total area, 16 square miles; population, 59. During 1938 it was announced that the British government had decided to colonize the islands and thus relieve the overpopulation of the Gilbert Islands.

History. A settlement in part of the rival claims of Great Britain and the United States to the ownership of the islands of Canton and Enderbury was announced by U.S. Secretary of State Hull in a statement from Washington, issued simultaneously in London, on Aug. 10, 1938. The statement follows: "The governments of the United States and of the United Kingdom have agreed to set up a regime for use in common of the islands of Canton and Enderbury in the Phoenix group and for the employment of these islands for purposes connected with international aviation and communication, with equal facilities for each party. The details of the region will be determined in notes to be exchanged between the two governments." The question of actual sovereignty and nationality was placed aside for future consideration.

PHOSPHATES. See FERTILIZERS.

PHOTOGRAMMETRY, AMERICAN SOCIETY OF. See PHOTOGRAPHY.

PHOTOGRAPHY. Seldom, if ever before in the history of photography, have so many new films been introduced within one year. New emulsions were announced in almost all of the principal fields of photography, such as the amateur, the commercial, the cinematographic, the newsphoto, the aero, and numerous specialized branches. The year might well be characterized as a film makers' year.

Perhaps the most significant new film of the year was a multi-layer color film, which was made available in October, in sheet form, in sizes to 8 by 10-inches. Transparencies in full natural colors could be made with it in an ordinary commercial camera simply by exposing the film in the same way as an ordinary film. Development to a pattern-free positive image of extreme fineness of grain was done by the manufacturer. The resulting color transparency was used then as a basis for reproduction by photomechanical processes or for making color prints on paper.

This new color film was said to be adjusted to give correct color rendering with high efficiency incandescent tungsten filament lamps, operating at a color temperature of 3200° K., and at normal voltage. A series of lamps was announced, which were designed especially for use for color photography,

and a compact meter for the measurement of color temperatures was described.

Statistics showed that the amount of color printing in books, magazines, and other publications had more than doubled within two years. More than half of this increase was a result of color photography. The use of miniature color films in snapshot cameras grew rapidly during the year and many hundreds of these tiny pictures were enlarged and reproduced in color throughout the world.

Exhibitions were beginning to provide sections for color prints and transparencies, and a few restricted their entries exclusively to color photographs. The realism of a color picture was shown in a striking way when 24-sheet poster boards on the Pacific Coast were prepared from small color transparencies. An appreciable increase in speed was reported for a German multi-layer color film and for a screen color film made in England. Color prints in sizes to 18 by 20 inches from the latter film were advertised.

An important announcement to ciné film users was the statement that color duplicates could be made from Kodachrome originals. A three-color motion picture process called "Pantachrome" was announced in Germany, where it was said that copies in color could be made immediately for projection in motion picture theaters. The Technicolor Company, leading producer of 35 mm. color films, was reported to have delivered over 65 per cent of their annual capacity of 130,000,000 feet of color prints during the year (*Tech. Eng. News*, 19: 107, October, 1938).

The advantages and limitations of various methods of color photography were analyzed by von Holleben (*Phot. Ind.* 36: 203, Feb. 23, 1938), and a summary of recent color patents and articles was published by Grote (*Phot. Korr.* 74: 17, February, 1938).

One of the most active groups fostering the expansion of aerial photography was the American Society of Photogrammetry with headquarters in Washington, D. C. About three years ago, this organization began to publish a mimeographed journal known as *Photogrammetric Engineering*; during the year this quarterly publication was expanded to a copyrighted printed journal. The third issue for the year was especially interesting because its entire 90 pages were devoted to a detailed report on progress in materials and equipment for aerial photography in 13 countries. This report was prepared for presentation at the Fifth Congress of the International Society of Photogrammetry in Rome, Italy, Sept. 29 to Oct. 5, 1938.

The total area photographed and contracted for aerial survey by the U.S. Department of Agriculture from 1926 to June, 1938, was 1,582,052 sq. mi. as given by the report of the American Committee at the Congress. The requirements for adequate national aerial surveys were discussed by Reading, who stated that modern air surveying can supply maps and photographs at half their former cost (*Photogrammetric Eng.* 4: 11, Jan.-Mar., 1938).

Air photographic libraries were in use in many countries. The Canadian Air Library, established in 1923, was reported to contain 725,000 individual prints. Greater precision in topographic maps was assured with the use of the improved non-shrink films and papers. A special aero topographic camera was built which had a capacity of 635 exposures on a single film. It was tested out in an unconventional pusher-type airplane especially designed for high altitude mapping photography (*Aero Digest* 33: 85, September, 1938).

Exploration and geologic air-mapping were discussed by Loel, who included data on a study of submarine geology (*Mining Technology—Tech. Paper No. 890*, March, 1938). In the course of further aerial surveys in Alaska, Washburn photographed the greatest area of glacial ice known outside of the polar regions, and soon this long-standing blank spot on the map will be filled in from data obtained from the photographs. Extensive glacial areas were photographed for the first time in color from the air by Clark (*Life* 5: 53, Dec. 5, 1938).

At the U.S. Army Air Corps field near Dayton, Ohio, Major Goddard and his staff produced color prints within 40 minutes from tri-color separation negatives after exposure in a special aero camera during flight. Details of objects previously hidden by ordinary photography were said to be revealed in these color pictures. The prints were processed in mobile field laboratories, designed as auto trailers (*Camera* 57: 196, September, 1938).

The first photographs of the 19,613-foot volcano, Cotopaxi, in Ecuador were made in June by Bullock, the British Minister to Ecuador, and Roosevelt, an American explorer.

"Microfilming promises to solve some of the most troublesome and difficult situations that face our intellectual and scholarly institutions and libraries" according to Davis, President of the American Documentation Institute, Washington, D. C. (*J. Applied Physics* 9: 1, January, 1938). The Institute was founded in 1937 on behalf of over 60 scholarly and scientific agencies. Its purposes are three-fold: (1) Microfilming of materials in libraries upon demand; (2) publication of all material that should be made available to intellectual workers of the world; (3) recording of out-of-print and rare books as well as technical papers for which there is need for only a few copies for distribution. Davis defined this last application as "docufilm service." Problems attending the facsimile reproduction of rare books were described by Bendikson (*Library J.* 63: 140, Feb. 15, 1938). The year marked the debut of the *Journal of Documentary Reproduction*, a quarterly review of the application of photography and allied techniques to library, museum, and archival service.

New apparatus for making microcopies and machines for reading them were introduced, which increased the useful flexibility of such equipment (*Library J.* 63: 279, Apr. 1, 1938); also *J. Soc. Mot. Pict. Eng.* 30: 601, May, 1938). Records could be made at 500 to 1000 exposures per hour. Various types of equipment were demonstrated at the meeting of the International Federation on Documentation at Oxford in September.

The entire file of *The Times* (London) was being copied on film. The six big banking institutions of England were making photographic records of their files, and arrangements were made to store sets of these outside of London. In the United States 2000 of the 15,000 banks were photographing daily all the checks passing through their files. Insurance companies and department stores were also using this method of compact documentation.

The most notable advances in cinematography, according to the Progress Committee Report of the Society of Motion Picture Engineers (*J. Soc. Mot. Pict. Eng.* 31: 109, August, 1938), was the introduction of new panchromatic negative emulsions. These were of two general types, namely (1) films with additional speed and finer grain than any previously available and (2) films of great sensitivity, having four times the speed of any known

therefore. Improved quality of prints for theater reproduction was also noted.

A trend toward mobile sound-recording equipment effected easier interchangeability of studio and location photography. Better facilities were made available in the laboratories for development control and printing of motion picture film.

This industry was following closely the progress of television with especial reference to possible uses of motion pictures as an adjunct to television broadcasting programs. At the fall meeting of the Society of Motion Picture Engineers, papers by engineers from the General Electric and the RCA Manufacturing companies discussed some of these problems and the prediction was made that within a year commercial development of this field would be initiated. This opinion was concurred with by the Scientific Committee of the Academy of Motion Picture Arts and Science (*Tech. Bull.*, Nov. 22, 1938), although it was also pointed out that artistic and economic problems will act as an automatic brake and prevent too rapid development of the art.

Remarkable time-lapse motion pictures of solar prominences were made by the McMath-Hulbert Observatory of the University of Michigan. A cloud of incandescent gas was shown in one instance, which reached a total height of 620,000 miles above the surface of the sun (*Scientific Monthly*, 47: 411, November, 1938).

A detailed account of the development of non-theatrical films in America over the last quarter century was published by Krows (*Educational Screen* 17: 211, September, 1938, et seq.). Educational aspects of the motion picture were considered in one entire issue of the *Journal of Educational Sociology* (November, 1937) by British and American authors. It was noted by Darvall that the 240 million English-speaking people in the world give educational films a wider potential circulation than any other medium in any other language.

Installations of 16 mm. projection apparatus were being extended in various countries; Germany, for example, was reported to have over 20,000 in their schools so that one out of 2.6 schools possessed its own equipment. Over 200 schools in the United States were reported to be engaged in the production of films as a part of their project work (*Educational Screen* 17: 216, September, 1938).

Further studies on the practical problem of the cause of "knock" in a spark-ignition engine were made with a high-speed camera by Rothrock and Spencer. Their results showed that no type of sonic or supersonic compression waves exist in the combustion gases prior to the occurrence of knock. (Report No. 622, Nat. Advisory Com. for Aeronautics, Washington, D. C.). A new high-speed motion-picture camera of the optical compensator type, operating at 4000 pictures per second, was used to study problems applied to the design of the telephone apparatus (*J. Soc. Mot. Pict. Eng.* 30: 30, January, 1938). Natural-color motion pictures were made with exposures of $\frac{1}{10,000}$ th second of electric arcs being struck in various gases. New facts related to combustion were revealed when the pictures were projected at normal speed (*J. Applied Physics* 9: 188, March, 1938).

Esselen showed motion pictures at the fall meeting of the American Chemical Society at Milwaukee of air-bubble formation in water as revealed by ultra-slow motion photography. Edgerton had developed a camera that permitted as many as 600 exposures on a single plate. An intense light source was used which lasted $\frac{1}{100,000}$ th second and gave

100 exposures per second. Mili used the Edgerton high speed flash equipment for making action studies of athletes, such as skaters, tennis, and basketball players. The resulting photographs showed amazing clarity of detail in the action of the players.

Ordinary visual record seismographs as used for location of oil deposits record many types of vibrations in addition to those which are related to the deposit. A new instrument called a "Geosonograph" uses a receptor which transforms the vibrations to electric waves, amplifies and records them on sound film. Subsequent analysis can sort out the waves in which the oil surveyor is interested (U.S. Geol. Survey *Bull.* No. 895 B).

In the fields of medicine and surgery, color photography offered many advantages over ordinary photography as pathological cases, operations, and post-mortem examinations could be recorded quickly and accurately with the new, fast-color films. Miniature cameras were preferred for many types of general photography because of their convenience. Extensive use was also being made of the finer grain, fast panchromatic films in hospitals and laboratories throughout the world. Clinical cameras were designed for specialized uses such as dental intraoral photography, pictures of the stomach, the eye, ear, and throat (*Photography* 6: 45, June, 1938, also *J. Biol. Phot. Assn.* 7: 2, September, 1938).

A remarkable exhibit of 61 color photomicrographs (each $6\frac{1}{2}$ by $8\frac{1}{2}$ -inches in size) was shown at the Geological Museum, London, in October (*B. J. Phot.* 85: 644, Oct. 14, 1938). Increased resolution was obtained in photomicrographs of cross sections of animal skins by photographing them with ultra-violet ($365\text{ m}\mu$) radiation (*J. Amer. Leather Chemists Assn.* 33: 67, February, 1938).

Unusual uses of photography were: Measurement of the swimming speed of fish (*Discovery N.S.* 1: 154, 1938); recording the songs of vanishing birds (*J. Soc. Mot. Pict. Eng.* 30: 201, February, 1938); photography with X-rays of the penetration of bullets into wood (*Naturwissenschaften* 26: 476, 1938); identification of precious stones by photographing the pattern formed when light passed through them (*Focus* 24: 466, 1937); measurement of the rate of emission of perfume from a flower (*Bull. Soc. Franc. Phot.* 25: 109, July, 1938).

A study of 30 metropolitan newspapers revealed a 40 per cent increase in the use of photographs since 1931 (*Editor and Publisher* 71: 8, Feb. 19, 1938). About 16,000,000 all-picture magazines were reported to have been purchased monthly in the United States. The number of users of stripping films was increasing constantly but many engravers still preferred the older wet-plate process of preparation of half-tone plates.

The rapid growth of demands for making color-print reproductions from small (35 mm.) film which caught the industry unprepared as regards cameras and lenses two years ago was being met by the introduction of suitable equipment (*Amer. Photo-engraver* 30: 602, July, 1938). The introduction of larger size color films during the latter part of the year was received with great interest. Elimination of réseau pattern in screen plates was claimed (*Phot. J.* 78: 269, April, 1938).

Physical Measurements. Several practical problems arising from the study of the characteristic curve of photographic materials were discussed by Willcock. Failure of the reciprocity law at low light intensities was observed and practical results

of the effect were noted (*Brit. J. Phot.* 84: 721, Nov. 12, 1937, et seq.). Discordant results were claimed by Bontenbal from contrast measurements of photographic papers according to methods suggested by various workers. A reasonable measurement was claimed to result, however, if the exposure difference between two points on the characteristic curve with densities of 0.25 and 0.9 was selected (*Phot. J.* 78: 76, February, 1938).

At the Washington meeting of the Society of Motion Picture Engineers, MacAdam read a paper and showed a motion-picture film, which demonstrated that colorimetry had acquired the status of an exact science (*J. Soc. Mot. Pict. Eng.* 31: 343, October, 1938).

The need for more precise instruments and methods for making color prints, both commercial and cinematographic, was admitted and suggestions for meeting it were given in papers by Kurtzner and Seymour (*Amer. Phot.* 32: 862, December, 1938), and Evans (*J. Soc. Mot. Pict. Eng.* 31: 194, August, 1938). The contention that the practical color photographer is concerned primarily with specific colors in certain parts of a scene rather than with the average color of the scene was upheld by several investigators, and suggestions were made that instruments should be built to evaluate such areas (*Brit. J. Phot.* 85: 385, June 24, 1938; also *Phot. J.* 78: 115, March, 1938).

A valuable use of the photographic plate was described by Harrison who gave details on the production of photographic scales for the rapid calibration and correction of comparator screws (*Rev. Sci. Instruments* 9: 15, January, 1938). Specific information of great use in undersea photography was supplied by Darby, Johnson, and Barnes on the absorption and scattering of solar radiation by the sea (Carnegie Institution of Washington, Publ. No. 475, p. 191, Oct. 15, 1937).

Manufacture and Storage of Sensitized Materials. As noted earlier in this report, the introduction of improved photographic materials in nearly every field of photography represented one of the most noteworthy events of the year. Emulsion manufacturers have, for many years, associated a gain in speed of an emulsion with a coarsening of the grain size. Many of the newer films of the year, however, were not only much faster than those available theretofore, but in many cases the grain size was reduced appreciably, a significant achievement (*J. Soc. Mot. Pict. Eng.* 30: 541, May, 1938; *ibid.* 31: 307, September, 1938; also *Internat. Phot.* 10: 23, December, 1938). A balanced color sensitiveness and freedom from halation distinguished many of the new films. Some of the very fine grain emulsions were reported to be single-coated (*Brit. J. Phot.* 85: 221, Apr. 8, 1938). Many interesting details related to the manufacture of motion-picture film were discussed by Amor (*Phot. J.* 78: 459, July, 1938).

Of interest to photographers and photoengravers was a new monopack film, which permitted three separation negatives to be made at one time in any commercial camera. After development, the images were iodized, washed, and dried. Printing was done by reflection (*Brit. J. Phot.* 85: 601, Sept. 23, 1938).

For air-mail transit, an extremely thin bromide paper was introduced, which had only 43 per cent of the weight of single-weight paper. Research in the manufacture of paper stock over the last decade by the Kodak Co. resulted in the production of a wood cellulose paper of superior quality to the

best rag content paper (*Business Week*, p. 42, Dec. 4, 1937).

A comprehensive survey was published by Kornfeld dealing with the mechanism of optical sensitizing of photographic emulsions, the connection between sensitizing and other properties and the mechanism of desensitizing (*J. Phys. Chem.* 42: 795, June, 1938). The limit of infrared sensitizing was set at 2μ by this same author who showed that the competition between the thermal reaction and the photochemical reaction sets a natural limit to such extension (*J. Chem. Physics* 6: 201, April, 1938).

A nondeformable film for air mapping photography was prepared from cellulose triacetate, using special solvents and plasticizers. Gradual transition to safety film from nitrate film appeared to be in progress. Many new professional films were being supplied on safety support. A film stock composed of a thin aluminum ribbon was reported to have several advantages, such as non-inflammability, freedom from deterioration, and non-shrinkage. Samples were claimed to have been projected by reflection 1500 times without perceptible wear (*Sci. Amer.*, July, 1938, p. 36).

A method of standardization of photographic gelatin on the basis of sensitivity as proposed in 1935 by two Russian investigators, Makaroff and Bekunoff, was examined by Trivelli and Smith, who concluded that the phenomena involved were too complex to be used for standardization because they depended not only on the kind of gelatin used, but also on the average grain size of the emulsion. Trivelli and Smith also studied the relation between contrast and grain size in photographic emulsions, and found contrast to be proportional to the logarithm of the number of grains over the full range of ripening (*Z. wiss. Phot.* 37: 123 and 140, 1938). Change in color when gelatin is treated with ammoniacal silver nitrate was stated by Polster to represent a method of determining the value of the gelatin for photographic purposes (*Osterreich Chemiker Ztg.* 41: 254, July 5, 1938).

An extensive study was reported by the French Air Ministry of the effect of low temperatures (20°C to -60°C .) on the sensitivity of emulsions. In general, sensitivity dropped with temperature. The plan of storage of valuable films in the National Archives, Washington, D. C., was described by Bradley (*Amer. Cinemat.* 19: 217, May, 1938).

New Apparatus. Interest in miniature cameras continued with no signs of the movement losing any of its popularity. On the contrary, many new cameras were placed on the market and the amateur appeared to greet each one with enthusiasm. It was estimated that 17,000,000 cameras of all types were being used actively in the United States.

The most compact new camera was probably the Minox, which was made in Latvia and measured about 3 by $1\frac{1}{2}$ by $\frac{3}{4}$ inches. The picture size was only $\frac{3}{4}$ by $\frac{3}{8}$ inch, but the camera had several features associated with larger cameras (*Brit. J. Phot.* 85: 352, June 3, 1938). Another camera used unperforated 16 mm. film (*Miniature Camera World* 2: 377, June, 1938); still another required 29 mm. film but gave standard size miniature pictures of 24 by 36 mm. (*Camera*, Phila. 56: 417, June, 1938).

A series of lenses with different covering powers and color correction were designed especially for use in making color pictures (*Phot. Ind.* 36: 35, May 11, 1938).

As a result of the extensive use of miniature cameras, amateurs were enlarging most of their

negatives. A demand for better enlarging equipment was being met by the introduction of enlargers having specialized features as follows: Better lenses; more accurate methods of focusing; provision for operation of high intensity lamps at reduced voltage during preliminary testing; adjustments for angle of lamp house to correct for tilt; and more rigid supports to insure freedom from vibration.

Printing machines using photocells for measurement of exposure were announced for use in commercial photo finishing plants (*Developments*, 12: 18, December, 1937). A sensitive instrument which measured the passage of an electric current when hypo was present in the wash water was recommended for the determination of thoroughness of washing of prints (*Miniature Camera Mag.* 2: 722, August, 1938).

Greater compactness, ease of repair, and higher efficiency was noted in projection equipment for motion picture theaters. A few 16 mm. projectors were equipped with arc illumination to make possible their use for larger picture projection (*Amer. Cinemat.* 19: 206, April, 1938).

Exposure meters appeared to be finding wider use, both by the amateur and the professional photographer. One new type meter was equipped with a sliding hood to prevent stray light striking the photocell (*Amer. Cinemat.* 19: 118, March, 1938). Another meter, especially designed for color photography work, permitted independent measurement of the highlights and shadow areas of the subject (*Kinemat. Weekly* 249: 53, Nov. 4, 1937).

Very promising results were reported from different parts of the world from investigators who were using the electron microscope, which permitted magnifications of 40,000 times. An instrument known as the Seriescope makes two pairs of radiographs, one vertically posterior-anterior and the other laterally. On viewing these in the instrument it is stated that the physician can locate a lesion and orient its position exactly in the body (*Bull. de Photogrammetrie* 7: 148, 1938).

The Photographic Process. The controversy on fine-grain developers continued unabated even though emulsions of much finer grain were introduced which made their use unnecessary except in cases where extreme enlargement is desired. In a series of noteworthy articles on practical fine-grain development, Arnold pointed out that much of the literature on the subject is obsolete because present-day negative materials differ greatly from older materials, and that the promotion of one photographic characteristic is usually obtained at the expense of another (*Photo. Art Monthly* 6: 429, September, 1937, et seq.). Jacobsohn divided fine-grain developers into two groups: (1) Compensating developers resulting in relatively fine grain by false gradation, and (2) genuine fine-grain developers comprising formulas using phenylenediamine compounds or similar developing substances (*Camera*, Luzern 16: 400, June, 1938).

The magnitude of speed losses and lowering in grain size with various types of developers was shown by Bloch and Mitchell to depend very largely upon the sensitive material (*Manuf. Chemist* 9: 16, April, 1938). Reinders and Beukers tested several fine-grain developers and made their comparisons from enlarged prints from step-wedge negatives. They pointed out that "a much stronger influence is exerted on the sharpness of the enlarged image by the focusing on the plate and the moving of the camera or object, . . . than by the use of one or the other developer" (*Phot. J.* 78: 192, April, 1938).

Among the various new fine-grain developers introduced were the following: (1) A "Meritol"-borax developer containing tribasic sodium phosphate and known as M.C.M.100 (*Miniature Camera Mag.* 2: 236, March, 1938); (2) a proprietary developer known as 777 Panthermic for which satisfactory development at temperatures to 90° F. was claimed without loss of speed (*Zeiss Mag.* 4: 128, June, 1938); (3) the Gamma "D" developer, a proprietary formula devised by Mortenson; (4) the Champlin No. 16, a much simpler formula than the famous No. 15 and said to be free from poisonous skin effects and stain; (5) X-33 Thermomolecular developer, also stated to work well from 65° to 85° F.

At the annual meeting of the Photographic Society of America in Rochester, N. Y., in October, Crabtree and Henn read an interesting paper on their researches on this subject. A new formula, called DK-20, was announced, with which it was claimed that minimum graininess could be obtained with only a very slight loss in emulsion speed.

A successful modification of the Odell physical developer was described by Turner who considered it superior to paraphenylenediamine developers (*Miniature Camera World* 2: 79, January, 1938). Evans and Hanson, Jr. discussed methods of measuring the "reduction potential" and the "oxidation potential" of developers and stated that the true significance of these measured potentials is still not definitely known. In another paper they showed that it is possible to calculate readily the concentration of any ingredient present in a continually replenished developer solution during use (*J. Soc. Mot. Pict. Eng.* 30: 559, May, 1938; *ibid.* 31: 273, September, 1938).

Working details for making black-and-white enlargements from Kodachrome transparencies were published by Morse (*Amer. Phot.* 32: 1, January, 1938). The method of processing such films, as well as the use of dye images, is said to be the cause of the very fine grain of Kodachrome transparencies. The chemistry of color developer processes was reviewed by Tull (*Brit. J. Phot.* 85: 627, Oct. 7, 1938).

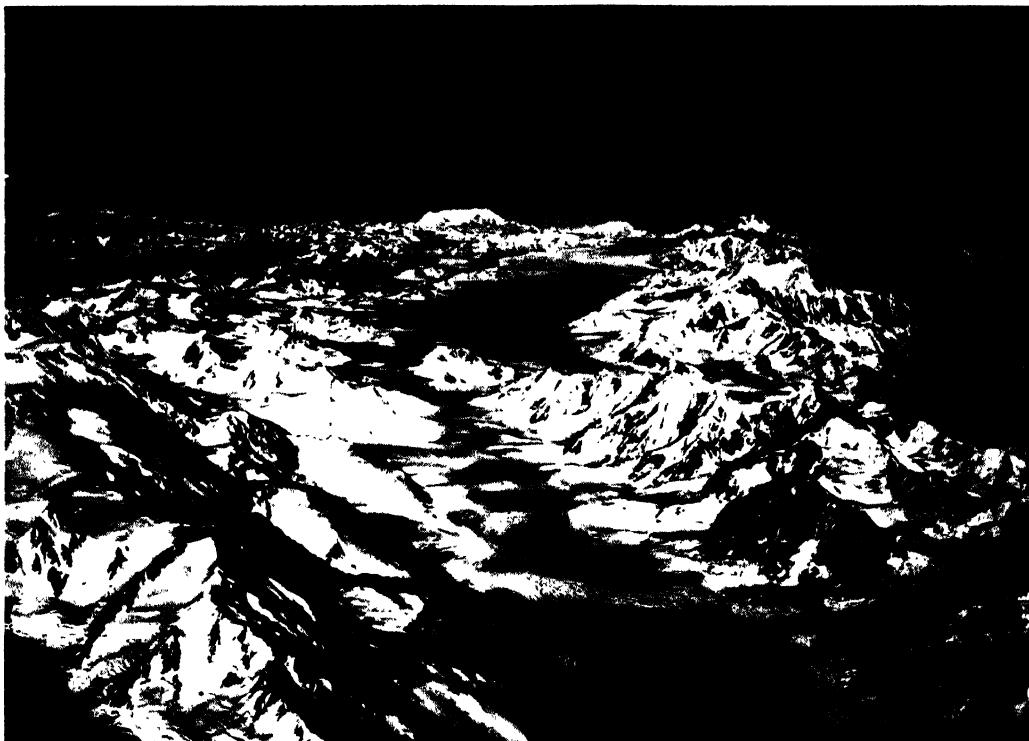
A new colorless desensitizer, "Pina-white," was marketed abroad, which could be added to a developer without causing precipitation (*Phot. Ind.* 36: 872, Aug. 3, 1938).

A photoelectric colorimeter for precise testing of the silver content of used fixing baths was described by Lobel (*Photographe* 29: 22, Jan. 20, 1938). Disadvantages are claimed by Sheppard and Houck to result if, after fixing films in a regular acid-hardening fixing bath, they are washed at the isoelectric point of gelatin (pH 4.9) rather than at a pH 7 or 8 (*J. Soc. Mot. Pict. Eng.* 31: 67, July, 1938).

An exhaustive paper on the toning of prints by selenium was published by Asloglow (*Brit. J. Phot.* 85: 599, Sept. 23, 1938).

Photographic Theory. A general discussion of the mechanism of the photographic process under the auspices of the British Association for the Advancement of Science at Nottingham, England, was opened by three speakers. Davies dealt with physical evidence on the action of light on photographic materials; Rawling gave an account of the action and theory of development; and Mott described a theory of light action and latent image formation which was developed on a wave-mechanical basis (*Nature* 140: 997, Dec. 11, 1937).

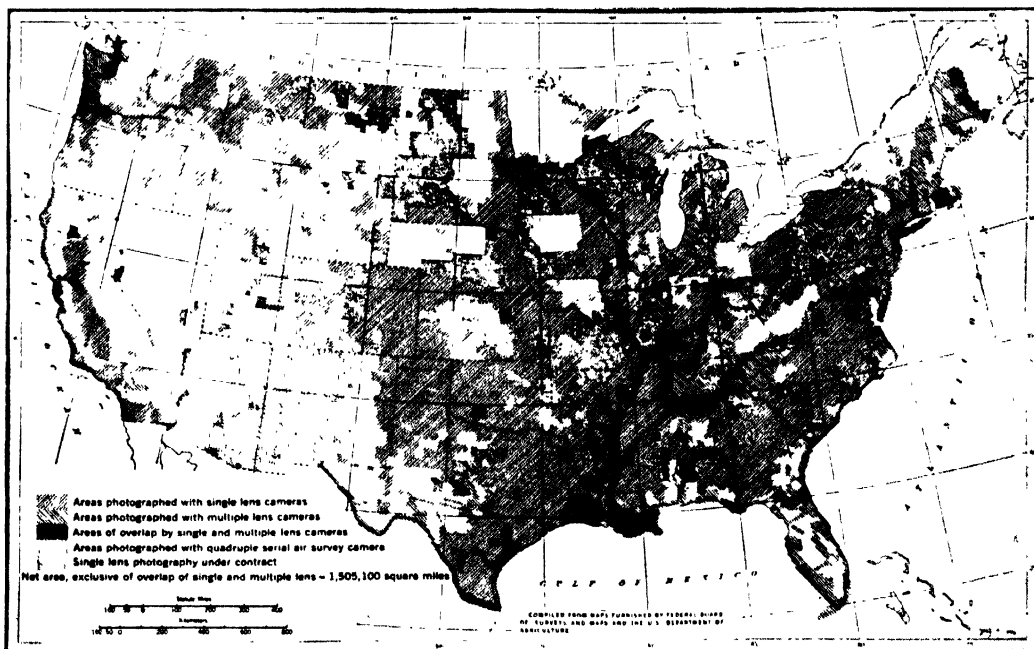
In a lecture before the Franklin Institute, Philadelphia, on May 20, 1938, Mees discussed pho-



Photograph by Bradford Washburn for the National Geographic Society

INFRARED PHOTOGRAPH OF THE LONGEST GLACIER IN THE WORLD

Taken from an altitude of 15,000 feet, this picture shows the glacier, extending over 200 miles along almost the entire St. Elias Range in Canada and Alaska. Mt. Lucania (17,150) is at the extreme upper left; Mt. Logan (highest peak in Canada - 19,850) is near the upper center, Mt. Vancouver (15,720) is at the far end of the great glacier, to the right of Logan, and Mt. St. Elias (18,008) is the pointed peak to the right of Vancouver.



Courtesy of U. S. Coast and Geodetic Survey and the Agricultural Adjustment Administration

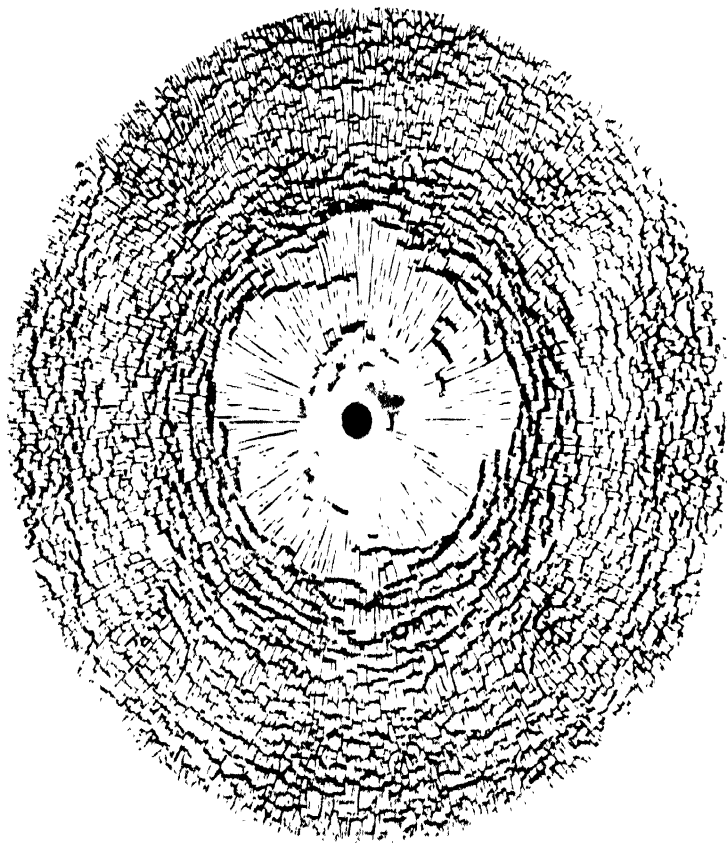
AREA CONTRACTED FOR AERIAL SURVEY AND SURVEYED IN THE UNITED STATES TO
JUNE, 1938

PHOTOGRAPHY



Courtesy of Life Magazine

ULTRARAPID PHOTOGRAPH OF EXPERT SKATER—HAZEL FRANKLIN
Exposed at about 1/100,000-second at f 16 with Edgerton High Speed Camera and Flash Equipment as adapted for commercial work. Modeling achieved with five lights to give front, cross, and top lighting. Photographed by Gjon Mili



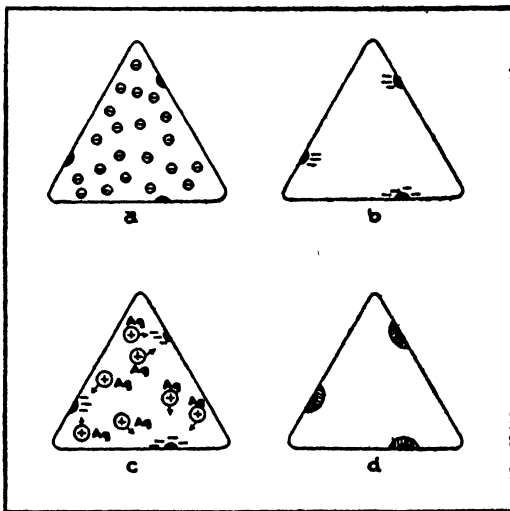
Courtesy F. E. Benisek and H. E. Edgerton, Massachusetts Institute of Technology

HIGH-SPEED PHOTOGRAPH SHOWING CRACKS RACING ACROSS SHEET OF TEMPERED GLASS AT THE INSTANT IT IS STRUCK BY A METAL PLUNGER (THE DARK SPOT IN THE CENTER)

The photograph, made with an exposure of less than one millionth of a second, reveals that the fractures in the glass radiate at a constant speed of approximately 3000 miles an hour

tography and the advance of pure science. He reviewed the progress of knowledge on color sensitizing of photographic emulsions, of processes of color photography, of the chemistry of development, and of the cause of sensitivity and the mechanism of latent image formation. In connection with the latter subject, he pointed out that a consistent theory of the effect of light upon silver bromide grains had come out of the work of the Kodak Laboratories and from Professors Gurney and Mott of Bristol, England (*Proc. Roy. Soc. 164A*: 151, Jan. 21, 1938). Summing up this theory Mees stated, "The action of light, then, on the silver halide crystals is, first, to produce instantaneously a charge of free electrons. Then these electrons are trapped at the sensitivity specks, and their charge is neutralized by silver ions, with the result that metallic silver is deposited around each sensitivity speck and forms the permanent nucleus which we call the *latent image*." (*J. Franklin Institute* 226: 281, September, 1938).

Two independent investigations confirmed various aspects of the theory of latent image formation proposed by Gurney and Mott. Experiments by Webb and Evans using interrupted and Herschel exposures (erasure by infrared radiation of the forward action of a previous exposure to white light) at low temperatures (-186°C .) as well as reciprocity measurements were shown to permit interpretation in terms of the Gurney-Mott theory (*J. Opt. Soc. Amer.* 28: 249, July, 1938).



Reproduced from an article by Webb and Evans, *J. Opt. Soc. Amer.* 28: 249, July, 1938.

SCHEMATIC DIAGRAM OF SILVER BROMIDE CRYSTAL SHOWING FORMATION OF THE LATENT IMAGE

(a) Three black spots near edges represent sensitivity specks. After exposure to light, the crystal contains free electrons (circles with lines inside them) in rapid motion; (b) Specks acquire a negative charge by trapping of some of the electrons; (c) Free silver ions (dislodged by heat motion from their regular lattice position) diffuse toward the negatively charged specks; (d) Each silver ion that reaches a speck neutralizes excess negative charge (electrons) and forms silver atoms, which remain bound to the speck. These metallic clumps are supposed to act as nuclei for inducing development of the silver bromide crystal.

Berg and Mendelssohn showed that photographic materials have an appreciable sensitivity down to -253°C . (liquid hydrogen) and that little change occurs when the temperature is dropped from -183°C . to -253°C . No reciprocity failure was found

at either of these temperatures (*Proc. Roy. Soc.—London, Series A* 168: 168, October, 1938).

Failure of the reciprocity law at low intensity of photographic exposure was shown by Webb and Evans to be due to a regression of the latent-image speck in its initial stages of formation. Their results also showed that a stable latent-image speck can exist which is not developable (*J. Opt. Soc. Amer.* 28: 431, November, 1938).

Renewed investigations on the numerical relationships between the sensitometric and the grain-size characteristics of emulsions based on the quantum theory of photographic exposure were reported by Silberstein and Trivelli. Particularly significant among the results with several sets of emulsions was the fairly close proportionality, which was found between the so-called H. and D. speed of an emulsion and its average silver halide grain size (*J. Opt. Soc. Amer.* 28: 441, November, 1938).

The mechanism of optical sensitizing of silver halides by dyes was studied by Sheppard, Lambert, and Walker who showed that in the presence of a halogen acceptor, the absorbed dye is not destroyed on exposure to light, but facilitates the transfer of electrons from bromide to silver ions by absorbing quanta of too low an energy to cause such a transfer directly. For each quantum of light absorbed per dye molecule, one atom of silver is produced in any event in the initial high efficiency region of the absorption (*Nature* 140: 1096, Dec. 25, 1937; *ibid.* 142: 478, Sept. 10, 1938).

An investigation by Cameron on the potentials of platinum electrodes in photographic developers showed these potentials to be functions of the oxygen concentration as well as that of the reducing agent. A second paper reported attempts that were made to determine a reversal point in developer solutions of elon containing sulfite. None was found to exist (*J. Phys. Chem.* 42: 521 and 629, 1938). Further studies on oxidation processes were reported by James, Weissberger, and Snell who discussed the auto-oxidation of durohydroquinone and several methylhydroquinones (*J. Amer. Chem. Soc.* 60: 98 and 2084, 1938).

Several very interesting papers were published on the theory of additive as well as subtractive color photography, and also on the theory of three-color reproduction as follows: "Additive Three-color Photography," Harrison, *Phot. J.* 77: 706, December, 1937; *ibid.* 78: 424, June, 1938; "Subtractive Three-color Photography," Yule, *J. Opt. Soc. Amer.* 28: 419, November, 1938; *ibid.* 28: 481, December, 1938; "Additive and Subtractive Color Photography," Hardy, *J. Soc. Mot. Pict. Eng.* 31: 331, October, 1938; "Three-color Reproduction," Hardy and Wurzburg, Jr., *J. Opt. Soc. Amer.* 27: 227, July, 1938; also MacAdam, *ibid.* 28: 399, November, 1938, and 466, December, 1938.

Using the photographic emulsion as the "proving ground," Wilkins and St. Helens made a statistical study of the grain spacing of alpha-rays, deuterons, and proton tracks (*Phys. Rev.* 54: 783, Nov. 15, 1938). Examples of this emulsion-track technique were exhibited at the 83d Exhibition of the Royal Photographic Society in London in September.

Bibliography. An attractively printed quarterly publication, *U.S. Camera*, made its debut in October. It is published by U.S. Camera Publishing Corp., New York, publisher of a leading American annual of photography. The *Photographic Digest*, which was started in 1936, was absorbed by *Minicam*, a popular monthly published in New York. In the specialized fields, two journals made their

appearance: The *Journal of Documentary Reproduction*, published quarterly by the American Library Association (Chicago); and the *Journal of the British Kinematographic Society*, issued quarterly by this society in London. A new Russian technical journal, *Kino-mechanik*, was in its second volume as a monthly issue.

The more notable books of the year were: D. Charles, *The Camera in Commerce*, Pitman & Sons, London; F. R. Bill, *A Manual of Home Portraiture*, Photographic Association of America, Cleveland, Ohio; L. P. Clerc, *Photography—Theory and Practice*, 2d English edit., Pitman & Sons, London; C. B. Neblette, *Photography—Principles and Practice*, 3d edit., Van Nostrand Co., New York; *The Modern Encyclopedia of Photography*, 2 vols., The Waverley Book Co., Ltd., London; J. Price, *News Pictures*, Round Table Press, New York; N. Naumberg, *We Make the Movies*, Norton Co., New York; *Motion Picture Sound Engineering*, edited by a committee of the Academy of Motion Picture Arts and Sciences (Hollywood), Van Nostrand Co., New York; H. Umbeh, *Der Schmalfilm Tont*, Knapp, Halle (Saale); R. M. Fanstone, *Color Photography for Beginners*, Fountain Press, London; C. E. Dunn, *Natural Color Processes*, 2d edit., Chapman & Hall, London; D. A. Spencer, *Color Photography in Practice*, Pitman & Sons, London; K. Henney, *Color Photography for the Amateur*, McGraw-Hill Co., New York; P. K. Turner, *Processing Miniature Films*, Link House Publications Ltd., London; F. R. Newens, *Trichrome Printing by the Autotype Process*, 2d edit., Autotype Co., Ltd., London; H. Champlin, *Brilliance—Gradation—Sharpness with the Miniature Camera*, Camera Craft Publishing Co., San Francisco, Calif.; *How to Make Good Movies*, Eastman Kodak Co., Rochester, N. Y.; J. I. Crabtree and G. E. Matthews, *Photographic Chemicals and Solutions*, American Photographic Publishing Co., Boston, and Chapman & Hall, London; C. W. Gamble, *Modern Illustration Processes*, 2d edit., Pitman & Sons, London; C. M. Willy, *Practical Photo-lithography*, Pitman & Sons, London; G. G. Reinert, *Praktische Mikro-fotografie*, Knapp, Halle (Saale); C. A. Mitchell, *Documents and Their Scientific Examination*, Griffin and Co., London; W. D. Morgan and H. M. Lester, *Miniature Camera Work*, Morgan & Lester, New York; E. Stenger, *Fortschritte der Photographie*, vol. v, Ergebnisse der Angewandten Physikalischen Chemie, Akademische Verlags, M. B. H. Leipzig; R. Taft, *Photography and the American Scene*, Macmillan Co., New York; M. Bardeche and R. Brasillach, *History of Motion Pictures*, trans. from the French by I. Barry, Norton and Co., New York.

A partial list of the handbooks and annuals appearing during the year is as follows: J. J. Rose, *The American Cinematographer Handbook and Reference Guide*, American Society of Cinematographers, Hollywood, Calif.; *Abridged Scientific Publications of the Kodak Research Laboratories*, vols. xviii and xix, Eastman Kodak Co., Rochester, N. Y.; *American Annual of Photography*, American Photographic Publishing Co., Boston, Mass.; *British Journal Almanac*, Greenwood, London; *Universal Photo Almanac and Market Guide*, Falk Publishing Co., New York, N. Y.; *Photofreund Jahrbuch*, Photokino-Verlag, Berlin; *Deutscher Kamera Almanach*, Union Deutsche Verlag, Berlin; *Jahrbuch des Kinoamaturs*, Photokino-Verlag, Berlin; *U. S. Camera*, Morrow and Co., New York, N. Y.; *Kinematograph Year Book*, Kinematograph Publications, Ltd., London; *Film Daily Year Book of Motion Pictures*, "Film Daily", New York, N. Y.; *International Motion Picture Almanac*, Quigley Publications, New York; *Penrose's Annual*, Lund, Humphries and Co., London; *Klimsch's Jahrbuch*, Klimsch and Co., Frankfurt a. Main.

PHOTOPERIODISM. See BOTANY.

PHYSICAL ANTHROPOLOGY. See ANTHROPOLOGY.

PHYSICS. Further search for new atomic particles, the near completion of the task of transmuting the known chemical elements, a better understanding of mysterious cosmic rays, and the creation of a better set of spectroscopic wavelength standards were among the outstanding achievements of the year 1938 in physics.

Atomic Particles. Although no new atomic particles actually were discovered during the year two significant experiments approached the much predicted goal of finding other sub-atomic building blocks.

Crane and Halpern at the University of Michigan made the first study of momentum relations in an individual disintegration event. Using the disintegration of a gaseous compound of a radioactive

salt they found that the law of momentum appears not to be conserved. Rather than lay aside this basic and well-tested law of physics, they postulated the existence of a third particle in the observed disintegration. "This third particle while undetected itself," they state, "is probably the long-sought neutrino."

Under the direction of Compton at the University of Chicago, Shonka reported experiments at 14,200 feet on the penetration of cosmic rays through great thicknesses of lead, which suggest that the causative agent is a new particle, the neutrino, having the mass of the heavy electron—found in 1937—but without electrical charge.

To bring order out of the chaos over the nomenclature suggested for the heavy electron, Anderson and Neddermeyer of California Institute of Technology proposed a new name for this particle which has a mass intermediate between that of the proton and the electron. While the heavy electron was first known as the X particle and then variously and simultaneously as the dynatron, barytron, penetron, and yukon, it is now proposed that the particle be known as a mesotron to indicate the characteristic property of intermediate mass.

Work on the nature of the mesotron ranged from high in the atmosphere, in airplane laboratories, to the depths of deep mines. Flying at 25,000 feet Schein and Wilson of the University of Chicago obtained data indicating that a probable scene of origin of the mesotrons was in the upper atmosphere of the earth.

Most significant suggestion on the properties of the mesotron particles was that of Euler and Heisenberg of Germany who predicted that the particles suffered a radioactive type of decay which could explain their seemingly paradoxical absorption properties. Mesotrons had been found to pass more easily through dense materials like lead than through an equivalent amount of air. Experiments and calculations by Blackett in England and Rossi at Copenhagen give confirmation to the fact that the mean life of the disintegrating mesotron is .000002 seconds. That a single atomic particle like the mesotron can suffer a disintegration is explained by saying that it forms an electron and a neutrino with the original mass of the mesotron turning into kinetic energy of its two atomic "offspring" particles.

Is there really a heavy electron, or mesotron? Darrow of Bell Telephone Laboratories raised the pertinent point that because the electrical charge and exact mass of the mesotron has not yet been determined the particle is more a mental concept in the minds of physicists than it is a physical reality.

Forecasts of still yet undetected particles included that by Langer at California Institute of Technology, who suggested the need for a lightweight kind of mesotron having a mass from 2 to 10 times as great as the electron.

Cosmic Rays. Intriguing and intensive was research on the mystery of cosmic rays during the year. Millikan and his co-workers at California Institute of Technology massed findings best interpreted by saying that cosmic rays originate in the annihilation of such common atoms as carbon, nitrogen, and oxygen. Their high altitude balloon experiments indicate that cosmic rays reaching the earth have never encountered so dense a mass of matter before and thus rules out, they feel, the interior of stars as the scene of origin.

In contrast Johnson of Bartol Research Foundation, summarizing all cosmic-ray knowledge, pos-

tulates the interior of stars as the point of origin of cosmic rays.

Compton at University of Chicago sees in the absence of the discovery of a "galactic effect" in cosmic ray's intensity, evidence of a "local" origin for cosmic rays within the galaxy of stars containing the Milky Way, the earth, and the sun.

Largest and one of the most intricate cosmic-ray detecting devices ever built was reported by Swann of Bartol Research Foundation of the Franklin Institute. It consists of 180 Geiger-Muller counters, arranged in 10 tiers, separated by plates of lead. It is designed for studies of the most penetrating cosmic radiation and cosmic ray "shower" phenomena.

Spectroscopy. Vitrally important to the field of spectroscopy was the virtual completion of a comprehensive and precise catalogue of the spectral lines of the elements under the direction of Harrison of Massachusetts Institute of Technology. The new catalogue will supplant and greatly extend the present reference standards obtained more than 25 years ago.

To spectroscopy, too, in 1938 goes credit for the first experiments performed with the giant 225-ton cyclotron apparatus at the University of California, for Jenkins used the huge electro-magnet of the yet-unfinished unit to split the spectral lines in Zeeman effect research.

Cyclotrons. Significant was the trend of cyclotron construction toward the goal of creating sizable quantities of artificially radioactive materials for use in biological and medical experimentation including products for cancer-radiation therapy. Announcement of a new 100-ton cyclotron at Massachusetts Institute of Technology for such humanitarian purposes was typical.

Equally important was the first use of the 85-ton cyclotron at the University of California for the treatment of human cancer patients with neutrons obtained from the apparatus. Stone and John Lawrence, brother of Prof. E. O. Lawrence, who invented the cyclotron, were in charge of the tests.

Efforts continued to improve the performance of cyclotrons. Lawson and Tyler of the University of Michigan devised vacuum tube circuits which will control the 250 amperes of current flowing in the coils of the cyclotron electro-magnet to an accuracy of one part in 5000.

Kurie at Indiana University described new ways to bombard difficult targets like metallic sodium and lithium in cyclotrons. A small target chamber filled with hydrogen gas and special water cooling is employed.

Electrostatic Generators. Electrostatic generators, rival of cyclotrons as favored atom-smashing machines of the physicists, continued to be constructed. Van de Graaff at Massachusetts Institute of Technology, Wells at Westinghouse, and Tuve and his colleagues at Carnegie Institution of Washington, were all in the final stages of putting finishing touches on three great instruments operating under pressure.

Tate, Rumbaugh, and Williams at the University of Minnesota announced plans for the construction of still another generator capable of creating energies of 4,000,000 electron-volts.

Breit, Herb, and their colleagues described further studies with the Wisconsin high-voltage apparatus of the attractive force within atomic nuclei, which permit, finally, a quantitative fixation of the magnitude of this force and the distance over which it acts. The force, a "cement" holding matter together, constitutes a binding energy equivalent to

11,000,000 electron volts and acts only over a distance of one-tenth of a millionth of a millionth of an inch.

Super-Heavy Elements. Hahn, Meitner, and Strassmann of Kaiser Wilhelm Institute, Berlin, announced the creation of the trans-uranium element No. 95 made by bombardment of heavy uranium, for months, with neutrons. Element 95, called eka-iridium, was found to disintegrate spontaneously in a radioactive transformation having a half life period of 60 days.

Such elements, first created in experiments on neutron bombardment by Fermi and his colleagues at Royal University, Rome, were thus confirmed independently. Abelson at the University of California also confirmed Fermi's previous discovery of trans-uranium elements Nos. 93 and 94.

While not yet definitely substantiated, it is now probable that elements up to No. 97 have been produced by neutron bombardment of uranium.

Earth Electricity and Magnetism. McNish of Carnegie Institution of Washington reported vast electrical currents several hundred miles wide moving through the thin atmosphere from 60 to 90 miles above the surface of the earth. The currents appear during electrical storms and are attributed to the action of particles projected to the earth from the sun.

Forbush, also of Carnegie Institution of Washington, cited a ring of electricity as a possible cause for cosmic ray intensity decreases during intense magnetic storms. During periods between severe magnetic storms the size of the ring of electricity might also explain slight observed variations in cosmic radiation.

Millikan at California Institute of Technology announced similar findings and suggested that measurements of cosmic ray intensity would become a way of measuring the external magnetic field of the earth.

Transmutation. While Darrow of Bell Telephone Laboratories, summarizing transmutation research, reported that all the known chemical elements, except two, had yielded to the one-time dream of ancient alchemists; the field of changing elements one with another was still one of the most fruitful in physics.

Alvarez at the University of California described an electrical velocity selector which allows the production and use of highly collimated beams of pure thermal neutrons. The mean temperature and hence the speed of the neutrons may be varied from room temperatures (300 degrees Kelvin) down to only 10 degrees Kelvin above absolute zero, all without the use of refrigerants. The effect of fast neutrons is completely eliminated. Thus a new order of accuracy in transmutation experiments using such thermal, slow neutrons is now possible.

Allison, Skaggs, and Smith, of the University of Chicago, made a new precise determination of the energy changes in the transmutation of beryllium into lithium by proton bombardment. They were able to establish the difference of mass between the beryllium isotope of mass nine and the lithium isotope of mass six as 2.99804 ± 0.00009 . Assuming that of the two the mass of lithium six is more accurately known, and adopting the value of Livingston and Bethe of 6.01686 ± 0.00020 , the experiment shows the mass of beryllium nine isotope to be 9.01491 ± 0.00025 . The prevalence with which beryllium is used in transmutation experiments makes this new, more accurate figure of value.

Using the electrostatic generator at the University of Wisconsin, Bernet, Herb, and Parkinson were able to determine, with higher accuracy than ever before, the energy levels in the nucleus of the fluorine atoms at which gamma radiation is emitted. Protons were the bombarding particles. The findings throw new light on the nuclear reactions which bring about these gamma-ray emissions, a matter which is as yet poorly understood.

Konopinski and Bethe of Cornell University reported theoretical calculations which assign gyroscopic spin of the nucleus as the cause of the amazingly long life of the radioactive rubidium isotope 87 which has a half life of 100,000,000,000 years.

New Determination of e/m . Measurements by Bearden of Johns Hopkins on the index of refraction of X-rays by a diamond prism, with an accuracy of one part in 10,000, made possible a new determination of the value of the important physical constant e/m . The value is $(1.7601 \pm .0003) \times 10^7$. This value, for bound electrons, is higher than previous spectroscopic measurements but is in excellent agreement with the free electron results of Dunnington.

Wilson Cloud Chamber Improvement. Ruark, of the University of North Carolina, reported a new mechanism for photographing and viewing the tracks of atomic particles in a Wilson cloud chamber in three dimensions. The advance makes possible an increase in speed in studying photographs where scientists must take thousands of cosmic-ray pictures to obtain only a few of some special class of tracks which they may be investigating.

Cerenkov Radiation. Collins and Reiling at the University of Notre Dame made studies on Cerenkov radiation, the strange blue-white light emitted by liquids when bombarded with swift electrons. Originally discovered in 1934, the new work with this radiation discloses that the spectrum of the light is continuous from the long wavelength limit of the photographic plates down to the ultraviolet wave lengths where absorption by the liquid begins to occur.

Electron Bombardment Furnace. Temperatures of 4500 degrees Fahrenheit were obtained by Hultgren at Harvard University in a new furnace that utilizes the bombardment of electrons as the heating source. The furnace temperature is limited only by the lack of crucibles which will stand temperatures greater than 5000 degrees.

Ether Drift Experiment. Using hydrogen ions instead of light rays, Ives, of Bell Telephone Laboratories, repeated the famous experiment on ether drift whose negative result led to the formulation of Einstein's relativity theory. The results confirm the original findings of Michelson and Morley.

Dual X-ray Tubes. Increased length of service for X-ray tubes used in cancer therapy was achieved by Failla of Memorial Hospital, New York City, by using a dual circuit enabling two tubes to work, each in turn, off the half cycle of alternating current.

Acoustics. Reverberation was still a major subject of investigation in the science of acoustics.

Reverberation meters, instruments giving integrated records of the dying away of sound, came into wider use. In Holland, van Urk obtained interesting curves with such an instrument while in France, Fleurent and Beauvilain demonstrated how a fluxmeter could be used to measure reverberation times of considerable length.

Morris, Nixon, and Parkinson of Johns Manville laboratories reported studies on reverberation, noting that care must be taken to prevent vibrations in the room from reacting on the sound source.

In the field of sound-absorbing materials, Monna in Italy showed that in layers from one to two centimeters thick, openings of from 10 to 20 microns (a micron is equivalent to 39.37 millionths of an inch) possessed the most effective radius for best sound absorption.

Advances were made in studying reflections in rooms so that reverberation would not only be reduced but sufficient intensity of sound would be obtained in remote parts as under a gallery in an auditorium. Such tests, of which those of Vermeulen in Holland are typical, are made with aluminum sheet models and an electric light bulb replacing the source of sound. Justification for this unusual substitute is that the intelligibility of speech depends mainly on the higher frequencies of the speech sounds, those waves having a length of 30 centimeters or less, which are reflected with regularity as is light. The audience in such tests is represented by opal glass, through which the distribution of intensity in the different parts can be seen. Theaters made with the aid of models and the reverberation formula confirm the predictions with regard to loudness and intelligibility.

Söllner, at Cornell University, found that high-frequency sound waves not only make sediments, gels, and precipitates disperse—as previously has been known—but also that certain solids, having a laminated structure, like mica, could be broken into fine bits by the intense vibrations created.

Optics. Of outstanding interest and important practical applications in increasing the transmitting properties of elaborate trains of glass lenses and prisms as used in periscopes, cameras, and binoculars, was the announcement of the use of thin films to eliminate, almost completely, the reflective light losses at air-to-glass surfaces.

Blodgett of the General Electric Company and Cartwright and Turner of Massachusetts Institute of Technology announced independently the use of films, having a thickness of one-quarter the wavelength of light rays, as the means of eliminating reflective losses almost completely. When such films are applied properly to the two surfaces of a glass plate or lens, destructive interference of the reflected light ray is achieved and the light energy thus annulled appears in the transmitted beam.

Films of insoluble soap solution, obtained by dipping, were used by Blodgett and films of fluorides of magnesium and sodium, obtained by evaporation, were employed by the M.I.T. scientists.

Electron Diffraction. Germer of Bell Telephone Laboratories reported studies in monatomic films—so thin that they are often referred to as a two-dimensional world—which reveal the presence of *three-dimensional crystals*. This knowledge was obtained by analyzing the pattern obtained with an electron diffraction camera.

With electron microscopes Zworykin of the Radio Corporation of America described experiments which have rendered visible for the first time the virus of smallpox and pictures of molecules of gases. Magnifications approaching 100,000 times were achieved.

Centrifuge. Significant in the realm of high-speed centrifuges was the report of Beams, Skarstrom, and Carr, of the University of Virginia, that the isotopes of chlorine had been concentrated in their centrifuge spinning at 1000 revolutions a sec-

ond. Forces equivalent to 170,000 times that of gravity were attained. The equipment is able to concentrate a cubic centimeter daily of a fluid in which the isotopic ratio of chlorine of mass 35 to chlorine of mass 37 is increased by 12 per cent.

Bibliography. Leonard L. Loeb, *Atomic Structure* (Wiley); V. Rojansky, *Introductory Quantum Mechanics* (Prentice-Hall); Geo. Hevesy and F. A. Paneth, *A Manual of Radioactivity* (Oxford); Strong, Neher, Whitford, Cartwright, and Hayward, *Procedures in Experimental Physics* (Prentice-Hall); G. W. Morey, *Properties of Glass* (Reinhold); D. Schoenberg, *Superconductivity* (Macmillan); A. M. Tyndall, *The Mobility of Positive Ions in Gases* (Macmillan); Gerhard Herzberg, *Molecular Spectra and Molecular Structure I: Diatomic Molecules* (Prentice-Hall); Otto Klemperer, *Electron Optics* (Macmillan); R. J. W. Lefevre, *Dipole Moments* (Chem. Pub.); A. O'Rahilly, *Electro-Magnetics* (Longmans); Hoag, *Electron and Nuclear Physics* (Van Nostrand); Albert Einstein and Leopold Infeld, *Evolution of Physics* (Simon & Schuster); E. H. Kennard, *Kinetic Theory of Gases* (McGraw); M. and B. Ruhe-mann, *Low Temperature Physics* (Macmillan); R. G. J. Fraser, *Molecular Beams* (Chem. Pub.); L. Landau, E. Lifschits, *Statistical Physics* (Oxford). See NOBEL PRIZES.

PICKERING, WILLIAM HENRY. An American astronomer, brother of Edward Charles Pickering (1846-1919), died in Mandeville, Jamaica, B.W.I., Jan. 16, 1938. Born in Boston, Mass., Feb. 15, 1858, he was educated at the Massachusetts Institute of Technology (B.S., 1879) and then taught physics there from 1879 to 1883. Invited by his brother, head of the Harvard College Observatory, to join him, he became assistant professor of astronomy there in 1887 in charge of the newly established Boyden Department. An amateur photographer, he realized that photography and astronomy could be combined and suggested its use on a large scale to his brother, with the result that the Harvard survey of the sky, which contained 400,000 plates, was begun. He himself took some of the earliest photographs of Mars during 1888-89.

In 1889, he went to California to establish an observatory on Mount Wilson, but subsequently this site was abandoned, and in 1891 he set up an observatory for Harvard at Arequipa, Peru, which was recently given up, where he discovered the great whorls of diffuse galactic nebulosity enveloping the whole constellation Orion. In the following year, with A. E. Douglass, he discovered visually the numerous so-called lakes or oases on Mars. Pickering returned to Boston in 1893 where he met Percival Lowell who arranged with him to build an observatory in the West, with the result that the foundation for the famous Harvard Observatory at Flagstaff, Ariz., was laid. In the following year (1894) he began his observations of Mars and Jupiter. Returning to Harvard, in 1899 he led the first Harvard Expedition to Jamaica, and during 1900-01 he established an astronomical station for Harvard at Mandeville, where he spent seven months photographing the moon.

He re-established the Jamaica branch of the Harvard Observatory in 1911 and began his constant visual observation of Mars, the moon, and Jupiter's third satellite. The foremost observer of Mars in the country, his Observatory was the center of activities of the International Society of the Associated Observers of Mars, and in 1914 he began the first of the classical "Mars Reports,"

published in *Popular Astronomy*. These analyses of observations and drawings of the planet by a number of co-operating observers ran through 44 numbers and were discontinued in 1930. Dr. Pickering retired from Harvard in 1924 and settled in Mandeville, where he converted the astronomical station into a private one and continued his studies and researches.

A pioneer in his field, being one of the first to lead expeditions to observe solar phenomena and to build observatories, he led expeditions to observe the total solar eclipses in Colorado, 1878; Grenada, W. I., 1886; California, 1889; Chile, 1893; Georgia, 1900, and New Hampshire, 1932. In 1904 he led an expedition to Southern California to make observations of the moon, and in 1905 he made a special visit to Hawaii, and in 1907 to the Azores, to study the volcanic craters because of their similarity to the moon's craters.

Dr. Pickering's work embraced astronomy, photography, novae, eclipses, meteors, and he is especially known for his discovery of the ninth satellite of Saturn—Phoebe—the existence of which was shown by a photograph taken at Arequipa in 1898. This was one of the first objects of the solar system found to have a retrograde motion, and its discoverer showed how and why it revolved in an opposite direction from the others. In 1905 he reported the discovery of the 10th satellite—Themis—but this discovery was not fully confirmed. For his work on the satellites of Saturn he received the Lalande Prize in 1905 and the Janssen medal in 1909. As early as 1907, Pickering worked out a position for a hypothetical planet, and when Pluto was discovered in 1930 by Clyde W. Tombaugh, working on the reckonings made by Dr. Lowell in 1914, it was found to be near where Pickering's calculations had placed it.

A frequent contributor to the *Annals of Harvard Observatory*, Dr. Pickering was the author of *Walking Guide to Mt. Washington* (1882); *The Moon* (1903); *Lunar and Hawaiian Physical Features Compared* (1906), and *Mars* (1921).

PITTSBURGH, UNIVERSITY OF. A nonsectarian institution of higher education for men and women in Pittsburgh, Pa., founded in 1787. The total autumn enrollment for 1938 was 10,200, distributed as follows: The College, 2526; engineering, 784; mines, 230; business administration, 1706; education, 866; off-campus centers, 822; graduate school, 2261; medicine, 240; law, 171; pharmacy, 205; dentistry, 159; retail training, 24; school of applied social sciences, 206. Students who are taking evening courses are included in the above enrollment. The extension division enrollment was 936. The 1938 summer session enrollment was 2989. There were 1051 members of the faculty (including fellows of Mellon Institute of Industrial Research) during the year which closed June 30, 1938. The amount of endowment for the year ending June 30, 1938, was \$2,787,339, and the income from endowment was \$99,292. The library contained 211,000 volumes. The Heinz Memorial Chapel, the gift of Howard Heinz, Mrs. John L. Given, and the late Clifford Heinz, in memory of their father, Howard J. Heinz, and his mother, Anna Margaretta Heinz, was dedicated and presented to the University Nov. 20, 1938. The School of Applied Social Sciences, a graduate school of social work, was organized in 1938. Chancellor, John G. Bowman, LL.D.

PIUS XI. See ROMAN CATHOLIC CHURCH.

PLANTS. See BOTANY.

PLASTICS. See CHEMISTRY, INDUSTRIAL.

PLATINUM. Canada continued in 1938 to be the largest producer of platinum, exceeding Russia, Colombia, and South Africa. Besides the popular use of this metal for jewelry, there is a steady demand for it in chemical laboratories for blowpipe tips, crucibles, and other purposes. It is preferred to many materials because of its ability to withstand corrosion at high temperatures.

World production of the platinum metals in 1938, according to the American Metal Market, was estimated at 460,000 oz., compared with approximately 440,000 in 1937. The United States is the largest single market with actual imports of 161,226 oz., during 1938. Re-exports totaled 33,435 oz., or approximately half those of 1937. Price ranges of the platinum metals were steadier during 1938 than the previous year. Palladium held firm at \$24 per oz., rhodium was in the range \$120-125 per oz., while platinum in January, 1938, was \$36 per oz., fell to \$33 in May, reached a high of \$39 in August, and then receded to \$34 in December.

PNEUMONIA. See MEDICINE AND SURGERY.

POLAND. A central European republic, established Nov. 9, 1918. Capital, Warsaw.

Area and Population. On Jan. 1, 1938, Poland had an area of 149,957 square miles and a population estimated at 34,500,000. In October, 1938, the Teschen (Cieszyn) district, with an area of 419 square miles and 241,698 inhabitants, was ceded to Poland by Czecho-Slovakia (q.v.). Living births registered in 1937 numbered 856,064 (24.9 per 1000); deaths, 481,594 (14 per 1000); marriages, 275,560 (8 per 1000). Emigrants in 1937, 102,366; returned emigrants, 40,704. About 27.4 per cent of the population resides in urban centers. Estimated populations of the chief cities on Jan. 1, 1938, were: Warsaw, 1,261,000; Łódź, 665,000; Lwów (Lemberg), 318,000; Poznań (Posen), 269,000; Kraków, 255,000; Wilno (Vilna), 208,000; Cześćochowa, 136,000; Bydgoszcz (Bromberg), 137,000; Katowice, 133,000; Sosnowiec, 125,000; Lublin, 120,000; Gdynia, 114,000; Chorzów, 109,000; Białystok, 105,000.

Education and Religion. About 23 per cent of the population 10 years of age and over were illiterate at the 1931 census. The school enrollment in 1937-38 was: Nursery schools, 83,100; primary, 4,851,500; general secondary, 221,200; continuation and trade schools (1936-37), 194,200; universities (1936-37), 48,200. At the census of 1931 there were 20,670,100 Roman Catholics (64.8 per cent), 3,762,500 Orthodox Church members (11.8), 3,336,200 Greek Catholics (10.4), 3,113,900 Jews (9.8), 835,200 Protestants (2.6), and 197,900 others.

Production. About 64 per cent of the working population is engaged in agriculture, forestry, and fishing, and about 15.4 per cent in trade and transport. Yields of the chief cereals in 1938 were (in metric tons): Wheat, 2,298,200 (1,926,200 in 1937); barley, 1,435,900 (1,363,400); rye, 6,920,000 (5,637,800); oats, 2,596,000 (2,342,900); corn, 103,100 in 1937. Other crops in 1937 were: Potatoes, 1,477,867,000 bu.; sugar beets, 3,246,000 metric tons; beet sugar (1937-38), 457,000 metric tons; linseed, 2,964,000 bu.; flax, 83,995,000 lb.; clover, 1,911,000 metric tons. Livestock in 1937 included 10,572,000 cattle, 7,696,000 swine, 3,188,000 sheep, 406,000 goats, 3,890,000 horses, and about 120,000,000 poultry. The 1937 output of flour was 16,329,000 bbl.; wool, 9,259,000 lb.; beef, 459,152,000 lb.; mutton, 22,355,000 lb.; pork, 1,140,043,000 lb.; milk, 238,000,000 gal.; butter, 265,000,000 lb.; eggs, 283,000,000 doz. Mineral and metallurgical production for 1937 was (in metric tons): Coal,

36,218,000; iron ore, 678,000; salt, 590,000; crude potash, 521,000; petroleum products, 456,000; pure ozokerite, 488; pig iron, 724,000; steel, 1,451,000; rolled iron and steel, 1,043,000; lead, 18,000; zinc, 107,000.

Foreign Trade. In 1938 imports for consumption totaled 1,300,504,000 zlotys (1,254,298,000 in 1937) and exports of Polish products were 1,184,604,000 zlotys (1,195,488,000). Metals and their manufactures, raw cotton, machinery, and wool were the leading 1937 imports. The value of the chief exports was (in U.S. currency dollars): Wood and its manufactures, \$37,684,000; coal, \$35,017,000; metals and their manufactures, \$26,159,000; canned hams, \$11,280,000. Germany supplied 14.5 per cent of the 1937 imports for consumption (14.2 in 1936); United Kingdom, 11.9 (14.1); United States, 11.9 (11.9); Austria, 4.6 (4.5). Of the 1938 exports, the United Kingdom took 18.6 per cent (21.8 in 1936); Germany, 14.7 (14.3); United States, 8.6 (6.6). United States figures showed exports to Poland and Danzig in 1938 of \$24,695,903 (\$26,297,155 in 1937); imports from Poland and Danzig, \$13,416,775 (\$19,568,280).

Finance. For the fiscal year ended Mar. 31, 1938, total budget receipts were 2,373,000,000 zlotys and expenditures 2,335,000,000 zlotys. For 1938-39 budget estimates placed receipts and expenditures at 2,475,000,000 zlotys. The national debt was 4,974,000,000 zlotys on Oct. 1, 1938, against 4,763,000,000 on Oct. 1, 1937. During the year the internal debt increased from 2,131,000,000 to 2,459,000,000 zlotys and the external debt decreased from 2,632,000,000 to 2,515,000,000 zlotys. The zloty exchanged at an average of \$0.1892 in 1937 and \$0.1886 in 1938.

Transportation. In 1937 Poland had 13,440 miles of railway lines (state-owned, 12,580; private and local lines, 860), which carried 266,300,000 passengers and 77,870,000 metric tons of freight. Gross receipts of the state lines were 963,838,000 zlotys. Highways and roads extended 208,579 miles in 1937; number of automobiles on Jan. 1, 1938, 34,324. Statistics of the Polish Airlines (LOT) for 1937 were: Number of flights, 8963; miles flown, 1,359,992; passengers, 37,497; baggage, 928,752 lb.; freight, 623,258 lb.; mail, 272,307 lb.; newspapers, 227,233 lb. The Polish merchant marine in 1938 consisted of 52 vessels of 100,903 gross tons. Gdynia (Poland) and Danzig (Free City) handle most of Poland's overseas commerce. In 1937, 5766 vessels of 5,638,300 net registered tons entered Gdynia and 5935 vessels of 4,025,700 tons entered Danzig.

Government. The Constitution of Apr. 23, 1935, vested extensive powers in a President, chosen by popular vote from two nominees—one selected by the retiring President and the other by 75 electors (50 appointed by the Diet and 25 by the Senate and the highest state officials). In case the President refrains from nominating a candidate, the other nominee is automatically elected for the term of seven years. The President was empowered to appoint and dismiss the Prime Minister, to issue decrees with the force of law when the Diet (Sejm) was dissolved, and to dissolve the Diet and the Senate. The Diet consists of 204 members, chosen by voters (male and female) over 24 years of age from lists of nominees selected by special bodies including representatives of various political, commercial, professional, educational, and other groups. The Senate is composed of 96 members, one-third chosen by the President and the remaining two-thirds elected by voters over 30 years of age who have been

decorated for service to the state, have obtained an advanced education, or serve on certain public or semi-public agencies. Members of both the Diet and the Senate serve for five years. President in 1938, Ignace Moscicki (non-partisan), re-elected May 8, 1933. Premier, Gen. Felicjan Slawoj-Skladkowski, heading a non-party cabinet formed May 16, 1936. Many of the dictatorial powers wielded by Marshal Pilsudski previous to his death were formally vested in Gen. Edward Smigly-Rydz, inspector-general of the army, in 1936.

HISTORY

Internal Affairs. The attempt launched by Marshal Smigly-Rydz in 1937 to stabilize the existing minority, anti-democratic government through the establishment of a one-party state based upon the semi-Fascist National Unity Movement (see 1937 YEAR BOOK, p. 610) largely collapsed in 1938. The dissensions that developed within the newly organized Camp of National Unity in 1937 increased in the following year. Col. Adam Koc, founder of the movement, was forced to resign on Jan. 11, 1938, due to mounting opposition to his pro-Fascist policies. He was succeeded by Gen. Stanislaw Skwarczynski, who set forth the movement's objectives on February 21 as follows: Political organization of the nation by the movement in order to unite the Poles for national defense; industrial development and economic expansion; settlement of the Jewish problem by mass emigration; and the winning of colonies for Poland.

His program was considered too democratic and not sufficiently nationalistic by the pro-Fascist Union of Young Poland, and when he expelled the Union from the ranks of the National Unity Movement, a considerable section of former government supporters seceded from the party and joined with other Fascist and nationalist groups to form a new party of Nationalist Pilsudskists. This split within the government ranks encouraged the more democratic Opposition parties to renew their demands for liberalization of the Constitution and the electoral laws, under which the majority groups were excluded from voting. In this demand they found a supporter in President Moscicki, who gradually emerged as the leader of the pro-democratic elements in Poland. Meanwhile the lack of political capacities displayed by General Smigly-Rydz caused a marked decline in his prestige and influence upon internal affairs.

The government's subsequent announcement that free municipal and communal elections would be held between September and the spring of 1939 was attributed to the President's desire to broaden popular support of the regime and provide a safety valve for popular unrest. On September 13 President Moscicki dissolved Parliament and called new elections for November 6 and 13. He sought to enlist the co-operation of the Opposition parties in the elections by calling for liberalization of the electoral laws by the new Parliament. Despite government pressure, the Opposition parties again boycotted the parliamentary elections on the ground that the electoral machinery deprived them of direct representation.

Of about 500 candidates nominated for the 204 seats in the Sejm, 70 per cent were nominees of the government-sponsored Camp of National Unity. Of the group of army colonels, known as the Pilsudski Guard, that had controlled the government for over a decade after 1926, only a few succeeded in winning nominations by the electoral committees. Consequently the final electoral contests were main-

ly between government candidates and the Camp of National Unity held nearly three-fourths of the seats in the Sejm chosen on November 6. The 64 Senators elected on November 13 were also largely National Unity candidates. On November 22 President Moscicki completed the Upper House by appointing 32 additional Senators, most of them prominent non-party men. The new Parliament convened on November 28.

The municipal elections held in 52 cities and towns on December 18 showed an entirely different result. Freedom of voting enabled the liberal Opposition parties to capture 639 seats in the municipal councils as against about 383 won by the Camp of National Unity, 53 by Jewish groups, and 16 by the German minority. With this election self-government was restored in many communities formerly administered by government nominees. The strength displayed by the Opposition in the municipal elections and the growing necessity for national unity in the face of a possible European conflict brought increased pressure upon Parliament for an early liberalization of the electoral laws. However the peasants, comprising over three-fourths of the population and without representation in the government or Parliament, demanded not only electoral reform but a revision of the Constitution on democratic lines. They also demanded that the government permit the return of their leader, former Premier Witos, who was forced into exile eight years before to escape imprisonment.

Ukrainian Agitation. The program of the Camp of National Unity, reducing the minority groups to a civil status lower than that of the Poles in order to encourage Polonization, created further difficulty in maintaining national unity. Under the "gentlemen's agreement" of Dec. 5, 1935, the government agreed to consider Ukrainian autonomist demands "in a friendly spirit," granting the group representation in Parliament. But the National Unity program led the Ukrainian leaders to assert that their effort to win minority rights by compromise and peaceful methods had failed. In February, 1938, the Ukrainian National Party formally demanded complete self-government, including an independent parliament and army, for that part of South Poland in which some 6,000,000 Ukrainians constituted a majority of the population. It was not until December 21 that the government announced indirectly, through the speaker of the Sejm, that it was not prepared to grant the Ukrainian demands.

Meanwhile friction between Polish Nationalists and Ukrainians provoked several days of street fighting in Lwów, the capital of Eastern Galicia, early in November. Poland's effort to achieve a common frontier with Hungary through facilitating the incorporation of the Ruthenian (Carpatho-Ukrainian) districts of Czecho-Slovakia in Hungary provoked anti-Hungarian demonstrations among the Polish Ukrainians. Polish students and nationalists then organized attacks on Ukrainian centers. The riots were ended only after heavy property damage and many arrests. On November 19 Ukrainian leaders denounced the reprisals they declared the Polish Government had inflicted on the Ukrainian population for the anti-Polish activities of some Ukrainian organizations. They said great moral and material damage had been caused to Ukrainian cultural and economic institutions, that many young men had been arrested and humiliations inflicted upon old men and women. The widespread unrest and hostility to the Polish Government among the Ukrainians provided a solid

basis for the German-sponsored agitation started in Carpatho-Ukraine late in the year for the establishment of an independent Ukrainian state allied to the Reich (see CZECHO-SLOVAKIA and GERMANY under *History*).

Anti-Semitism. Intensified nationalism, depressed economic conditions, the grinding poverty of the peasantry, and the lack of openings in the professions and other middle class pursuits for Polish youth all contributed to the increase of anti-Semitism in Poland during 1938 (see JEWS). The March crisis with Lithuania was attended by violent anti-Jewish outbreaks. While not giving open support to the anti-Semitic movement, the Polish Government used it as a lever for demanding colonies and the emigration of the Jewish population to relieve the economic situation in Poland. On December 21 the government adherents in the Sejm signed a resolution asking the government to speed up the mass emigration of the Jews. The United States, Britain, and France were criticized for closing their possessions to large-scale Jewish settlement.

Economic Conditions. Economic and financial conditions became worse in 1938 as a result of rising prices in Poland, contracting markets for Polish grain exports, the financial cost of the September-October crisis over Czecho-Slovakia, and the temporary economic difficulties resulting from the incorporation of Teschen Silesia in Poland. To relieve peasant distress, the government restored export bounties on grain, flour, pulse, and oleaginous seeds as from August 1, purchased large grain reserves for the army, and undertook to regulate prices of primary necessities. A merchandise-credit agreement reached with Germany at the end of September provided an additional outlet for Polish grain while promoting new industrial investments in Poland on a credit basis.

The financial and exchange stringency was reflected in decrees forcing Poles to offer for sale to government institutions all assets in foreign countries, including real property; encouraging domestic investments; providing for the conversion of outstanding dollar loans at lower interest rates, etc.

Other Developments. The government accompanied its ameliorative measures with others designed to curb Opposition activities. On November 24 a series of decrees were issued prohibiting strikes, lockouts, and interference of any kind with the movement of foodstuffs from country to town; restricting freedom of the press in some respects and making it obligatory for newspapers to print government communiqués; dissolving the Masonic lodges and confiscating their properties; and making it a crime to spread false news about the financial situation, receive money from foreign governments for political activities in Poland, or to export goods of an inferior quality. The properties of B'nai B'rith, Jewish organization, were confiscated on November 27. The remains of the last King of independent Poland, Stanislas II Augustus Poniatowski, who died in exile in Leningrad (then St. Petersburg) in 1798, were returned to Poland on July 14, 1938.

Foreign Relations. By mobilizing its army and threatening to use military force, Poland succeeded in March in forcing the Lithuanian Government to abandon its persistent anti-Polish policies and to open the Lithuanian frontier to Polish commerce and other forms of intercourse (see LITHUANIA under *History* for details). The same methods enabled the Poles to take the rich industrial district

of Teschen from Czecho-Slovakia in October (see CZECHO-SLOVAKIA under *History*). Thus two of the major objectives of Polish foreign policy were attained.

By aiding in the partition of Czecho-Slovakia, however, Poland made her own position as against Germany much more precarious. The Reich won a strategically important base for possible future military operations against Poland's southern flank. At the same time friction between Poland and Germany over Danzig became more acute (see DANZIG and GERMANY under *History*).

Foreign Minister Beck sought to continue his policy of maintaining the balance of power between Germany and the Soviet Union in eastern Europe, playing Poland's diplomatic cards with ruthless realism. After aiding in the dismemberment of Czecho-Slovakia, he strove to block Germany's eastward expansion by the establishment of a common Polish-Hungarian frontier (see HUNGARY under *History*). This move failed due to the opposition of both Germany and Rumania to the inclusion of Ruthenia in Hungary. Beck then redoubled his efforts to build a neutral bloc between Russia and Germany under Polish leadership (see ESTONIA and RUMANIA). At the same time he countered the German propaganda among the Ukrainians and Nazi pressure in Danzig by effecting a partial rapprochement with the Soviet Union, with which Polish relations had long been cool.

On November 26 the Polish-Soviet non-aggression pact of 1932 was renewed and on December 20 Beck announced that negotiations for a Soviet-Polish trade agreement would begin in January.

The Franco-Polish alliance of 1921, which had been weakened by the German-Polish non-aggression pact of 1934, appeared to have been completely nullified by France's repudiation of her alliance with Czecho-Slovakia during the September crisis with Germany. Throughout the year Beck followed an anti-French policy, especially at Geneva, in his flirtations with the Rome-Berlin axis, and in joining in the dismemberment of Czecho-Slovakia. Poland's recognition of Manchoukuo's independence on October 18 was interpreted as a slap at both the League powers and the Soviet Union.

Consult Raymond Leslie Buell, "The Foreign Policy of Poland," *Foreign Policy Reports*, Dec. 1, 1938.

POLAR RESEARCH. Antarctic. The *Wyatt Earp*, a vessel intended to carry the fourth expedition of Lieut. Comdr. Lincoln Ellsworth into the Antarctic area, started from New York for Capetown on Aug. 16, 1938. Ellsworth later boarded the vessel at Capetown to proceed to Enderby Land, hoping to map the Enderby quadrant of Antarctica from the air, determine the full extent of the polar plateau and of the mountains of Victoria Land, and fly across the Antarctic continent a distance of 2000 miles to Little America.

Alfred Stephenson, summarizing the work done in 1934-37 by the Rymill expedition (*Crown Colonist*, May, 1938; "Extending the Colonial Empire Southwards"), stated that Alexander I Land had been followed southward along its eastern shore to lat. 72° 30', where, to the west it "seemed to terminate in a low glaciated point, being separated from the continent by a broad strait filled with ice." There seemed a probability that Alexander I Land was not joined to the continent; on the other hand, Graham Land to at least as far south as that latitude was judged to have been proved continuous. This judgment superseded the view, based on Sir Hubert Wilkins' flights of 1929-30, that Gra-

ham Land was probably a chain of islands, separated by supposed straits, of which he observed the inlets. The newly discovered strait running southward between Graham Land and Alexander I Land was named King George VI Sound; it offered to later expeditions a level route toward the Antarctic mainland, approximately along the meridian 68° W., suitable for travel by dog-sleds at rates from 18 to 25 miles a day, to within $17\frac{1}{2}^{\circ}$ of the Pole.

Arctic. The Russian North Pole expedition under Ivan Papanin (see 1937 YEAR BOOK) ended successfully, but after a time of peril, its drift through the Polar Sea upon the ice. Two Russian ice-breaking vessels, the *Murman* and the *Taimyr*, took the party aboard on Feb. 19, 1938, after repeated breaks in the supporting ice had forced it to shift quarters and to entrust itself to a comparatively small fragment of the mass on which it had originally landed. The party repeated the process employed by Nansen in his memorable drift (1894-96) aboard the *Fram*. The Russian expedition, however, employed an advantage that Nansen had not possessed: the party of four and its supplies were carried by airplane and deposited, approximately at the North Pole, on May 21, 1937. Thence they drifted, at first along the meridian of Greenwich and later parallel to the eastern coast of Greenland, where they were rescued somewhat north of the 70th parallel. They took more than seven months to drift to the 80th parallel and but 50 days to go the rest of the way. The slowness of the earlier drift afforded time for making many soundings in the area close to the Pole. A sounding on June 7 gave a depth of 4293 meters; deep soundings led the party to the opinion that "a deep circular valley" lay in the central part of the Polar basin. Warm currents heading up from the Atlantic Ocean were found at depths between 250 and 750 meters, throughout the trip. Meteorological observations, the main function of the expedition, were made by Fedorov four times a day. Polar bears, a sea lion, seagulls, and guillemots were seen as far north as the 88th parallel.

The undesigned drift of the *Sedov*, a Russian ice-breaker, in the Arctic Ocean, progressed by the end of 1938 to within a few degrees of the Pole. The vessel had become caught in the ice in Russian Arctic waters in the autumn of 1937; there was prospect of her emerging eventually, by a westward drift, to the coast of Greenland.

Reports from Moscow told in June of the discovery of written records, supposedly by Commander De Long and relating to his expedition of 1879-81 into the Arctic region by way of the Bering Sea. The records, with other material, were found on Henrietta Island, north of eastern Siberia. The manuscript was found in a copper cylinder, of which the cap had come loose, so that the paper had suffered much by water; later word from Moscow gave hope that, though the paper had been damaged by the water's action, the writing might at least in part be deciphered. Lieutenant Melville of the De Long expedition had left an account of placing such a cylinder under a cairn on the Island.

In Arctic areas of the New World there was in 1938 considerable localized research not directly related to the North Pole. A British party of three, led by David Haig-Thomas, after wintering among the Canadian Arctic islands, made journeys by sled in the spring. One trip ran from Thule, Greenland, across Amund Ringnes Island and back, a distance of 1500 miles. Zoological work was done in the

summer; the nest of the greater snow goose was for the first time discovered and photographed.

An expedition headed by Dr. Lauge Koch sailed from Copenhagen late in the summer, on the way to explore the northern extremity of Greenland; it was to spend the winter at a land station on its route up Greenland's eastern coast. Subsequently it was to travel by land to Peary Land, the area of its main work. In advance of the start of this expedition, Dr. Koch flew (May 15-16) from King's Bay, North Spitsbergen, over Peary Land and satisfied himself that Koch Fjord extended southeastward, almost connecting with Independence Fjord. Near Igloolik, Reynold J. O. Bray, a young English ornithologist belonging to a Canadian and British party of explorers, was drowned in September, in Foxe Channel, according to word received at the Hudson's Bay Co. post at Churchill in December. Louise A. Boyd, in the steamship *Veslekari*, sponsored by the American Geographical Society, took soundings in the waters lying between Jan Mayen and Spitsbergen for data as to a possible submarine height of ground between the two. In August the *Veslekari*, favored by the relative scarcity of obstructing ice, sailed along the eastern coast of Greenland to the Isle de France ($77^{\circ} 50' N.$), the next-to-highest latitude that had been reached on that coast by a vessel; the Duc d'Orleans, on the *Belgica* in 1905, had proceeded about 50 miles farther northward.

Dr. Hubert Garrigue, French scientist, set out in September on an expedition to resume the work, off the coast of Iceland, that had been interrupted by the loss of the Charcot party in 1936.

Clifford J. MacGregor, American meteorologist, returned with his party, in the schooner *A. W. Greely* (October 4), to Port Newark, N. J., from Reindeer Point, Greenland. He asserted that hourly observations of the weather, taken during the stay in western Greenland waters, had provided information about the drift of masses of cold polar air likely to affect weather in the United States; he favored establishing a set of six or more stations for observing the weather at divers points north of the 70th parallel and the re-establishment of the station at Point Barrow, as a means to bring precision to forecasts.

POLISH CORRIDOR. See DANZIG, GERMANY, and POLAND.

POLITICAL AND SOCIAL SCIENCE. THE AMERICAN ACADEMY OF. A national forum for the discussion of political and social questions, founded in Philadelphia in 1889, and incorporated in 1891. The organization takes no sides upon controversial questions. Its aim is to secure and present reliable information to assist the public in forming an intelligent opinion.

The 42d Annual Meeting, held April 1 and 2, considered the general subject "Present International Tensions." On October 27 the Academy was addressed on the subject of "The Future in Central Europe," by Mr. Brackett Lewis, Dr. Frederick Konrad Krüger, and Sir Willmott Lewis.

The *Annals*, issued bimonthly, is the official organ of the Academy. Each issue is devoted to a particular topic of economic, political, or social importance. Topics considered in 1938 were: "Our State Legislators"; "Consumer Credit"; "Social Problems and Policies in Sweden"; "Present International Tensions"; "Better City Government"; and "Freedom of Inquiry and Expression."

The Academy has established a monograph series, the first of which was a study on "Private Police" with special reference to Pennsylvania, pre-

pared by Dr. J. P. Shalloo; the second, a study on "The Negro as Capitalist" by Dr. Abram Harris, and the third, a study on "The Turkey of Ataturk" by Donald Everett Webster.

In the pamphlet series inaugurated by the Academy, the following publications have appeared: No. 1, *Economics of Planning*; No. 2, *Financing New York City*, by William Whyte; No. 3, *Some Statistical Aspects of Marriage and Divorce*, by Dr. I. M. Rubinow; No. 4, *Modernizing Our State Legislatures*, by A. E. Buck; No. 5, *The Economics of Isolation*; No. 6, *Constitutional Rights*; and No. 7, *Democracy versus the Totalitarian State in Latin America*, by Dr. Samuel Guy Inman.

The officers in 1938 were: President, Ernest Minor Patterson; Secretary, J. P. Lichtenberger; Treasurer, Charles J. Rhoads; Vice-Presidents, Herbert Hoover, Carl Kelsey, and Clarence A. Dykstra. Headquarters are at 3457 Walnut Street, Philadelphia, Pa.

POLITICAL ECONOMY. Subjects in the field of applied economics are treated in this volume under the following heads: BANKS AND BANKING; BUSINESS REVIEW; CHILD LABOR; CO-OPERATION; FINANCIAL REVIEW; LABOR ARBITRATION AND CONCILIATION; LABOR LEGISLATION; MINIMUM WAGE; OLD AGE PENSIONS; STRIKES AND LOCKOUTS; UNEMPLOYMENT; WOMEN IN INDUSTRY; WORKMEN'S COMPENSATION. See also such articles as: CHILD WELFARE; LABOR, AMERICAN FEDERATION OF; SOCIALISM; STATISTICS; TRADE UNIONS; WELFARE WORK. See also the article on AGRICULTURE and the various crops. Further discussions are to be found in articles on the several industries, minerals, public utilities, etc. Books on political science and economics for the general reader are to be found listed in the article LITERATURE, ENGLISH AND AMERICAN, under *Economics and Politics*.

POLITICAL SCIENCE, ACADEMY OF. An international learned society for advancing the political sciences and their application to political, economic, and social problems, founded in 1880 in New York City and incorporated in 1910. Its membership on Dec. 31, 1938, numbered 7363, of whom 6 were honorary members, 224 life members, 5803 individual members, and 1330 subscribing members, chiefly libraries and organizations. At the semi-annual meeting on Mar. 25, 1938, in New York City, "Essentials for Sustained Recovery" was discussed. At the fifty-eighth annual meeting on November 9 the topic under discussion was "Monopoly and Competition in Industry and Labor." The officers for 1938 were: Wesley C. Mitchell, president; Albert Shaw and R. C. McCrea, vice-presidents; Noel T. Dowling, secretary; John A. Krout, editor of publications; Leon Fraser, treasurer; and Miss Ethel Warner, director and assistant treasurer. Headquarters were in Fayerweather Hall, Columbia University, New York City.

POLO. See SPORTS.

PONAPE. See JAPANESE PACIFIC ISLANDS.

PONDICHÉRY. See FRENCH INDIA.

POPULATION. See each country and each state under *Area and Population*; AGRICULTURE.

PORTO SANTO ISLAND. See MADEIRA.

PORTS AND HARBORS. Probably the most notable event in this field during the year was the dedication on February 14 of the great dry, or graving, dock, as the English call it, at Singapore. This dock, 1000 ft. long, 130 ft. wide, and with its sill 35 ft. below low water, is not only a large dock but is a very important addition to the great British Naval Base of the Far East.

PORTUGAL. A republic of southwestern Europe. Capital, Lisbon (Lisboa).

Area and Population. The area is 35,582 square miles (continental, 34,386; Azores and Madeira, 1196), and the population was estimated at 7,301,000 on Dec. 31, 1936 (6,825,883 at the 1930 census). Living births in 1937 number 198,127 (27 per 1000); deaths, 117,291 (16 per 1000); marriages, 46,741 (6.4 per 1000). The 1930 census populations of the chief cities were: Lisbon (Lisboa), 594,390 (1936 estimate, 650,000); Oporto (Pôrto), 232,280; Setúbal, 46,398; Funchal (in Madeira), 31,352; Coimbra, 27,333; Braga, 26,692; Évora, 22,061; Ponta Delgada (in Azores), 18,022; Faro, 18,019; Covilhã, 15,460.

Education and Religion. About 60 per cent of persons 10 years of age and over were unable to read or write at the 1930 census. School attendance in 1935-36 was: Primary, 444,675; secondary, 18,365; technical, industrial, and commercial, 18,173; university, 6047. The great majority of Portuguese are Roman Catholics, but freedom of worship is granted other faiths.

Production. Agriculture, the principal occupation, is supplemented by fishing, mining, and manufacturing. Of the area of continental Portugal, 60.7 per cent was cultivated in 1933, 19.6 per cent was meadow, 15.4 per cent was uncultivated but cultivable, and 4.3 per cent was waste. Production of the chief crops in 1937 was: Wheat, 14,405,000 bu.; rye, 4,642,000 bu.; barley, 1,994,000 bu.; oats, 107,100 metric tons; corn, 324,500 metric tons; wine, 210,985,000 gal.; olive oil (1937-38), 27,739,000 gal. The production of cork in 1937 was estimated at 180,000 metric tons; wool, 3761 metric tons; canned sardines, 40,462 metric tons. The value of mineral production in 1938 was approximately 200,000,000 escudos (150,000,000 in 1937); about 13,000 persons were employed in the mines in 1938. Production in 1937 was (in metric tons): Coal, 282,770; pyrites, 350,108; tungsten ore (wolframite), 1845; tin ore (cassiterite), 1763; titanium ore (ilmenite), 1131; cement, 254,365. Industrial production in 1937 included 18,407 metric tons of paper, 65,089,000 lb. of cotton (net imports), 391,389 pairs of shoes, 2078 metric tons of enameled iron ware, and 41,395,000 lb. of macaroni and other alimentary paste.

Foreign Trade. According to preliminary figures, imports for consumption totaled 2,326,583,000 escudos in 1937 (1,994,285,000 in 1936) and exports of Portuguese products were 1,212,672,000 escudos (1,025,770,000 in 1936). Heavy iron and steel; coal, coke, and briquets; raw or carded cotton, oilseeds, and codfish were the leading 1937 imports, in order of value. The chief exports were (in current U.S. dollars): Canned sardines, \$8,532,000; port wine, \$8,352,000; textiles, \$6,452,000. The principal sources of 1937 imports were: United Kingdom, 18.3 per cent; Germany, 15.1; Portuguese colonies, 11.2; United States, 10.4 per cent. Of the exports, 22 per cent went to the United Kingdom, 11.3 to the Portuguese colonies, 11 to Germany, 10.4 to France, and 7.9 to the United States.

Finance. Actual budget receipts in 1937 were 2,424,000,000 escudos (ordinary, 1,935,000,000) and expenditures 2,420,000,000 escudos (ordinary, 1,930,000,000). The 1938 estimates placed receipts at 2,472,000,000 (ordinary, 1,994,000,000) and expenditures at 2,469,000,000 escudos (ordinary, 1,988,000,000). For 1939 ordinary revenues were estimated at 2,029,193,334 and extraordinary revenues at 786,000,000 escudos, while ordinary ex-

penditures were estimated at 2,019,792,792 and extraordinary expenditures at 793,462,500 escudos. The gross public debt on Dec. 31, 1937, totaled 7,232,050,000 escudos and the net debt 6,375,160,000 escudos (7,212,000,000 and 6,580,700,000, respectively, on Dec. 31, 1936). The average exchange value of the escudo was \$0.0448 in 1937 and \$0.0443 in 1938.

Transportation. In 1937 Portugal had about 2169 miles of railway line (including 450 miles of narrow gauge) and 19,402 miles of roads and highways (with 46,705 automobiles on Jan. 1, 1938). In 1938 the merchant marine consisted of 254 vessels of 100 tons or over, with a capacity of 261,142 gross tons. During 1937 a total of 9662 vessels of 31,691,150 gross tons entered Portuguese ports in the international and coastwise trade.

Government. The dictatorship established by a military-civilian directorate in 1926 was placed on a corporative basis by the Constitution promulgated Feb. 22, 1933. This provided for a President elected for seven years by "educated heads of families"; a National Assembly of 90 members elected for four years by the citizen-electors; and an appointive Corporative Chamber of 79 members representing local authorities and the various social interests. The Corporative Chamber reports and advises on all legislative proposals submitted to the National Assembly before discussion is initiated in the latter body. Cabinet members are responsible only to the Premier and he in turn to the President of the Republic. The Constitution forbids political parties as such, but the government-organized Party of National Union controls the electoral machinery and submits government lists for election to the National Assembly. The National Assembly met for the first time on Jan. 11, 1935. President in 1938, Gen. Antonio Oscar de Fragoso Carmona, who was re-elected Feb. 17, 1935, unopposed, for the term expiring Apr. 15, 1942. Premier, Minister of Finance, of War, of Foreign Affairs, and dominant spirit in the dictatorship, Dr. Antonio de Oliveira Salazar, heading a military-civilian cabinet reorganized Jan. 18, 1936.

History. Elections for the National Assembly were held Oct. 30, 1938, and the new Assembly convened on November 27. Of the registered voters, 671,157, or 83.8 per cent, cast their votes for the government list of candidates, which was the only one submitted to them. Premier Salazar hailed the result as an unqualified endorsement of the corporative state and the regime. Government-controlled newspapers, reporting that many former leaders of the disbanded liberal and democratic parties had also taken part in the election, pointed to this as a further indication of the political pacification of the country.

On January 12, however, the police reported the frustration of another of the frequent conspiracies against the Salazar Government, arresting a number of alleged ringleaders. Later the same month extraordinary precautions were taken against a threatened radical uprising. In an effort to check unrest among the lower classes, the government pushed work on several low-cost housing projects in Lisbon; some 602 dwellings completed during the year brought the total number of such houses constructed by the government to 1368. A decree published September 18 authorized the government to fix minimum wages for office workers and laborers if the salaries were lowered below reasonable levels.

With the apparent acquiescence of the government, adherents of Dom Duarte Nuño, pretender

to the throne of Portugal then residing in Hamburg, Germany, increased their open propaganda for his restoration. On November 11, Adm. Acevedo Coutinho, official representative of Dom Duarte in Portugal, introduced some 400 members of the nobility, financiers, writers, professors, politicians, and others to Princess Filipa de Braganza, sister of Dom Duarte, at a formal reception in Lisbon.

In addition to the internal political situation, two major problems continued to perplex the Portuguese Government and people during 1938—the safeguarding of their colonial empire and the policy to be adopted in the event of a European war. Suggestions emanating from British and other sources that Germany's colonial demands might be satisfied at the expense of Portugal aroused anger and alarm at Lisbon. Premier Salazar repeatedly declared that Portugal would not discuss the cession, sale, or lease of any of her colonies. His government took various steps to bind the colonies closer to the mother country. Late in May a minimum price for colonial cotton was guaranteed and a government Board of Colonial Cotton Exporters was established. Plans for stimulating production throughout the colonies were studied. Arrangements were made to open an air service between Portugal and Portuguese Guinea upon completion of the landing field at Bolama. A Lisbon-Angola air-mail service was opened November 13. A military mission was sent to Angola and Mozambique to develop a general plan for their defense. And in July President Carmona started a seven weeks' tour of Portugal's Atlantic and West African colonies.

Portugal placed main reliance for the protection of her colonies upon the British alliance, which was reaffirmed by Prime Minister Chamberlain on March 24. The danger that colony-hungry Germany and Italy might gobble up the Portuguese possessions nullified their efforts to woo Portugal away from Britain, despite the Salazar Government's support of German and Italian intervention on behalf of the Insurgent cause in Spain. The German-Italian failure was evidenced in Portugal's reliance upon Britain for aid in strengthening her military, naval, and air forces.

A British mission, composed of representatives of the War Office, Admiralty, and Air Ministry, spent from February to December in Portugal aiding in the reorganization of her defense forces. In February the Portuguese air force purchased 15 military planes in Britain. Purchases of other war equipment followed. In October, Premier Salazar declared that relations with Britain were "better than ever." Late the same month, Oswald Pirow, South African Minister of Defense, conferred at length with Portuguese officials in Lisbon on the common defense of Angola and South-West Africa. On November 5 the British Rear Admiral, René Charles Hugill, was appointed naval industrial director to organize the new naval arsenal and dockyards at Lisbon. On May 3 the Lisbon Government had announced a £2,500,000 naval building program.

Although the Loyalist Government in Spain announced that it would guarantee the integrity of Portugal and aid her in defense of her colonies, Premier Salazar agreed early in June to exchange diplomatic representatives with the Spanish Insurgent Government. On October 28 Dr. Salazar expressed hope for an early Insurgent victory "as the indestructible base for a policy of reciprocal security."

See GERMANY, GREAT BRITAIN, and SPAIN under

History; also the articles on the various Portuguese colonies.

PORTUGUESE EAST AFRICA. See MOZAMBIQUE.

PORTUGUESE GUINEA. A Portuguese colony in West Africa. Area, 13,944 square miles; population (1936 estimate), 416,000. Capital, Bolema. The principal commercial products are rice (1934-35, 22,400 metric tons), wax, oil, seeds, and hides. Exports in 1937, in metric tons, were: Groundnuts, 21,300; palm kernels, 5200; palm oil, 900. In 1936 imports were valued at 33,313,884 escudos; exports, 38,920,163 escudos (escudo averaged \$0.0451 for 1936). In 1937 there were about 1863 miles of roads. In 1935, 108 vessels (171,672 tons) entered, and 107 vessels (171,088 tons) cleared the ports. In the coasting trade, in 1935, 2348 vessels (51,416 tons) entered, and 2362 vessels (51,651 tons) cleared. For 18 months ended Dec. 31, 1936, revenue totaled 33,556,774 escudos; expenditure, 24,148,306 escudos; public debt (Dec. 31, 1937), 6,632,223 escudos (escudo averaged \$0.0448 for 1937).

PORTUGUESE INDIA. The Portuguese possessions in India, comprising Goa, Daman, and Diu. Total area, 1537 square miles; total population (1936 estimate), 600,000. Capital, Panjim (or New Goa). In 1936 it was estimated that 1300 metric tons of manganese ore were produced. Copra (200 metric tons estimated in 1937), coconuts, spices, cashu-nuts, salt, fish, and manganese are the main exports. Trade is largely transit. In 1937 the estimated value of merchandise imports (in old U.S. gold dollars) was \$4,300,000 (1936, \$3,500,000); exports, \$700,000 (1936, \$600,000). In 1935 there were 730 miles of roads and 51 miles of railway line. The revenue for 1938 was estimated to total 6,130,000 rupees. Governor-General, Gen. Craveiro Lopes.

POSTMASTERS' CIVIL SERVICE ACT. See UNITED STATES under *Congress*.

POTASH. See FERTILIZERS.

POTATOES. The 1938 crop of 27 countries reporting to the International Institute of Agriculture was estimated at 5,535,240,000 bu. produced on 29,029,000 acres. The yield was 8.6 per cent under the yield of 1937 but 8.8 per cent above the average for the five years 1932-36 and the acreage was practically the same as last year and only 1.6 per cent above the five-year average. The leading countries and their yields excluding the United States and the Soviet Republics were reported as follows: Germany, including Austria 1,969,430,000 bu., Poland 1,238,827,000 bu., France 628,096,000 bu., and Czechoslovakia 344,994,000 bu. The average production of the Soviet Republics for the four years 1932-35 was reported at 1,957,698,000 bu. Canada reported a yield of 59,623,000 bu. in 1938.

The 1938 potato crop of 369,297,000 bu. of the United States as reported by the U.S. Department of Agriculture compared with 394,139,000 bu. produced in 1937 and 394,139,000 bu., the average for the 10 years 1927-36. The 1938 harvested acreage of 3,007,600 acres was 5 per cent below the acreage harvested in 1937 and 10 per cent below the 10-year average. About 2 per cent of the planted acreage was abandoned as the result of floods, insect damage, and freezing. In some sections of Idaho potatoes were frozen in the ground and most of the potatoes dug after the freezing weather were lost in storage. In Montana, Wyoming, and Colorado a heavy psyllid infestation caused acreage abandonment and reduced yields. In the New England States, New York, Pennsylvania, and Wisconsin

the crop suffered extensively from late blight rot which continued in storage. The average yield per acre in 1938 was 122.8 bu., compared with 124.2 bu. in 1937 and 110.6 bu., the average for the 10 years.

The 1938 production of the 18 surplus late potato States was reported as 255,294,000 bu. harvested on 1,925,700 acres, the average yield being 132.6 bu. The leading States and their yields were as follows: Maine 39,600,000 bu., Michigan 30,000,000 bu., Idaho 28,750,000 bu., and New York 26,840,000 bu. The 12 other late potato States reported a yield of 38,782,000 bu. and of these Ohio led with a production of 12,626,000 bu. followed by Iowa with 5,684,000 bu., Indiana with 4,940,000 bu., and Illinois with 3,822,000 bu. The crop intermediate in maturity, estimated at 37,923,000 bu., was produced in seven States with New Jersey leading in yield with 10,530,000 bu. and Virginia, following with 10,349,000 bu. The 11 southern early potato States estimated their yield at 37,298,000 bu. North Carolina, the leading State, reported a yield of 8,690,000 bu. and Florida, ranking next, a yield of 4,488,000 bu. The 1938 certified seed-potato production of the country was reported at 11,206,068 bu. with Maine, the leading State, reporting a yield of 4,301,628 bu.

In the fiscal year ended June 30, 1938, the United States exported 124,745,000 lb. of potatoes and imported 1,889,000 lb. of potatoes, 39,072,000 lb. of seed-potatoes, and 6,774,000 lb. of potato starch.

POULTRY. See VETERINARY MEDICINE.

POWER PLANTS. Business conditions in 1938 were reflected by less activity in construction which reached a low point in June. An improvement was noted toward the close of the year when contracts were let for several important installations. These included two or three new central stations and several high-pressure extensions to existing stations in the utility field, also extensions to industrial power plants. The utilities have announced plans for adding about 600,000 kw in steam-plant capacity in 1939 and over 1,000,000 kw in 1940. This program is in line with the plans of the National Defense Power Committee which has set up certain standards for steam conditions and capacity of units in order to expedite production (see STEAM TURBINES).

The third high-pressure unit, consisting of a 900,000-lb. per hr., 1200-lb. pressure boiler, and a 110,000-kw turbine-generator, has just gone into service at the Rouge Plant of the Ford Motor Co., Detroit, which makes its present capacity 345,000 kw and gives it the distinction of being not only the largest industrial power plant in the world, but also the largest plant of any class operating at 1200 lb. pressure. There are a number of larger plants among central stations operating at lower pressures and many others of lesser capacity operating at this or higher pressures.

Steam pressures of 1200 to 1400 lb. per sq. in. predominate among the superimposed stations and 800 to 900 lb. among the newer stations, despite some exceptions in which the reverse holds. A large 2400-lb. central station installation in the Middle West, for which contracts were let more than a year ago, is still in the construction stage, and a smaller unit is nearing completion in an industrial plant to operate at around 2200-lb. per sq. in. The trend toward the more extensive use of high steam temperatures continues with 950 deg. F representing the present limit, although an experimental unit of 10,000 kw capacity was operated in commercial service for several years at 1000 to 1100 deg. F steam temperature.

The Port Washington Station of the Wisconsin Electric Power Co. completed its third year of operation and maintained its position as the most efficient steam-electric power plant in the world. In fact, it slightly bettered its previous record by averaging, for the year, a kw-hr with an expenditure of 10,788 Btu in fuel. This corresponds to a thermal efficiency of 31.6 per cent.

The high availability of modern large high-pressure boilers has been responsible for the employment of a single boiler per turbine in a number of plants, a recent example being the new generating station at Oswego, N. Y., in which an 80,000-kw turbine-generator will be supplied with steam at 1250 lb., 900 deg. F, by one boiler. The Port Washington Station, previously mentioned, has such an arrangement with a 690,000-lb. per hr. boiler supplying steam at 1350 lb. to an 80,000-kw turbine-generator. In this case the boiler and turbine availability is about 95 per cent.

In the railway field there has recently been completed for the Union Pacific R.R. a steam-electric locomotive in which the turbine is supplied with steam at 1500 lb. per sq. in. and 920 deg. F by a forced-circulation boiler. The turbine operates condensing and the new locomotive is expected to do about twice the amount of work of the conventional locomotive with the same expenditure of fuel. See ELECTRIC LIGHT AND POWER.

PRAIRIE PROVINCES. The popular name of the three Canadian provinces of ALBERTA, MANITOBA, and SASKATCHEWAN (qq.v.). See CANADA.

PRATT INSTITUTE. A nonsectarian educational institution in Brooklyn, N. Y., founded in 1887 and composed of four schools: Fine and applied arts, household science and arts, science and technology, and library science. The 1938 autumn enrollment was 4704. There were 242 members on the faculty. The library contained 145,670 volumes. President, Frederic B. Pratt, A.M., LL.D.

PRESBYTERIAN CHURCH IN THE UNITED STATES OF AMERICA. This is the largest body of the Presbyterian communion, being represented by churches in every State of the Union and having official mission stations in Alaska, Cuba, Puerto Rico, and 16 foreign lands. In 1938 its churches in the United States and abroad were organized into 42 synods and 276 presbyteries. Statistics for the year ending Mar. 31, 1938, showed a total communicant membership in full standing of 1,953,734, with adherents numbering approximately 5,000,000. The Sunday School enrollment totaled 1,483,191. The number of churches was 8883 and of ministers, 9632. Contributions during the year amounted to \$40,551,108, of which \$33,721,050 was for current expenses and \$6,830,058 for benevolences. The board of national missions received \$2,213,879; the board of foreign missions, \$2,011,665 (in addition to a special 1937 Centennial fund of a half million dollars); the board of Christian education, \$489,426; and the board of pensions (relief department), \$150,665, all from living givers. The church maintains 53 colleges, 12 theological seminaries, and 2 training schools for lay workers. It publishes three national official periodicals, *Monday Morning*, *Everyone*, and *Women and Missions*.

The 150th annual general assembly was held in Philadelphia, Pa., May 26 to June 1, 1938. The Rev. Charles Whitefield Welch, D.D., LL.D., pastor of Fourth Avenue Church, Louisville, Kentucky, was elected Moderator; and the Rev. Robert Brewster Beattie, D.D., pastor of the First Church, East Orange, New Jersey, was appointed

vice-moderator. The assembly commemorated the organization of the first General Assembly in 1788, renewed its approval of the raising before 1941 of a large sesquicentennial fund for the colleges of the church, elected a Stated Clerk in succession to the Rev. Lewis Seymour Mudge, D.D., LL.D., who retired as Stated Clerk Emeritus after 17 years of service; approved adherence by the church to the proposed World Council of Churches, united with the 1937 triennial convention of the Protestant Episcopal Church in declaring a common purpose "to achieve organic union between their respective churches"; sent down to the presbyteries for their consideration a proposed amendment to the constitution of the church which sets forth the church's renunciation of war but at the same time establishes the principle that God alone is Lord of the conscience of the individual; and adopted a pronouncement on the attitude of the church toward social problems of today.

The church has its headquarters, including the offices of the general assembly and the general council, in the Witherspoon Building, Philadelphia, Pa., in charge of the Rev. William Barrow Pugh, D.D., Stated Clerk. The board of Christian education and the board of pensions also are housed there, while the board of foreign missions and the board of national missions are located in the Presbyterian Building, 156 Fifth Avenue, New York City.

PRESBYTERIAN CHURCH IN THE UNITED STATES (South). This division of the Presbyterian denomination covers the territory commonly known as the Southern States. It was composed in 1938 of 17 Synods and 88 Presbyteries, with 3493 organized churches, 2463 ministers, and 497,824 members, a gain of 4513 over the previous year. 16,282 were received on confession of faith and 22,187 by certificate. There were 9260 adult baptisms and 5032 infant baptisms. The ruling elders numbered 16,734 and deacons, 19,085. Contributions for current expenses during the past year amounted to \$7,962,784, and for benevolences \$3,398,025. The total per capita gift was \$22.83, of which \$6.83 was for benevolences and \$16 for current expenses.

Foreign mission work is carried on in six countries: Africa, Brazil, China, Japan, Korea, and Mexico, among 36,000,000 people. 383 American missionaries constitute the foreign working force. On account of the state of war in China no statistics were available and further detailed information is not given for our foreign mission work. Most of our China missionaries remained at their posts in the midst of great dangers and rendered a noble service among the Chinese refugees. A splendid work is done in the fields of education and medicine through numerous schools and hospitals.

In the homeland the church maintains 4 theological seminaries, 1 Training School for Lay Workers (White), 2 training schools for colored people, 14 colleges, 9 junior colleges, 2 preparatory schools, 3 mission schools, 4 mountain schools, 2 Mexican mission schools, and 15 orphans' homes and schools. The official organ of the Church is the *Presbyterian Survey*, published by the Presbyterian Committee of Publication, Richmond, Virginia. Privately owned papers of the denomination are: *The Christian Observer* (Louisville, Ky.) and *Presbyterian of the South* (Richmond, Va.).

The Seventy-Eighth General Assembly of the Church convened in Meridian, Miss., May 19, 1938, with 338 Commissioners present. Mr. Willis M. Everett, Layman from Atlanta, Ga., was elected Moderator. The matter which is receiving the

major thought and effort is completion of the \$3,000,000 Accrued Liability Fund in order to make possible the operation of the Pension Fund for Ministers. More than two-thirds of this capital sum has been raised and a thorough church-wide campaign is in progress looking to consummation of this objective within the year. The meeting of the 1939 General Assembly will be held in Montreat, N. C., on May 25th. Rev. E. C. Scott, D.D. is Stated Clerk and Treasurer, with office at 1240 Liberty Bank Bldg., Dallas, Texas.

PRESBYTERIAN CHURCH OF AMERICA. THE. This division of Presbyterianism was organized on June 11, 1936, in Philadelphia, Pa. It is composed of 10 presbyteries, 65 organized congregations, 102 ministers residing in 22 states. It has 22 home missionaries who are laboring in 10 states and 9 ministers who are serving as foreign missionaries in 5 countries.

The last General Assembly was held from May 31 to June 2, 1938, in Quarryville, Pa. The Church has committees on Christian Education, the Constitution, Foreign Missions, Home Missions, and Church Extension. The Committee on Foreign Missions has its office at 506 Schaff Building, Philadelphia, Pa. The Rev. Robert S. Marsden, 506 Schaff Building, Philadelphia, is General Secretary. The Committee on Home Missions and Church Extension also has its office at 506 Schaff Building, Philadelphia, and the Rev. Robert S. Marsden is its Secretary.

PRESBYTERIAN CHURCH OF NORTH AMERICA. UNITED. A member of the family of Presbyterian Churches, of Secession and Covenantant origin, formed by the Union in Pittsburgh, Pa., in 1858 of the Associate and Associate Reformed Churches.

The General Assembly of the church convened in Cleveland, Ohio, on May 25, 1938. On that date there were reported in the United States 11 synods, 53 presbyteries, 861 congregations, 894 ministers, 5299 ruling elders, and a church membership of 180,065. The total membership, including missionary fields, was 247,103. The Sabbath School enrollment was 164,827, while the young people's societies numbered 1066 with a membership of 22,231. Contributions for the year 1937-38 totaled \$4,302,652 and missionary contributions \$1,276,683.

The Assembly adopted the report of its Commission appointed to conduct a survey of the values and customs of public worship for the purpose of enriching the worship program of the Church and referred the matter to the Board of Administration for further education of all congregations, for the creation of a more worshipful atmosphere. Active steps were taken looking toward the enlargement of the denomination's missionary work in America.

The denomination supports 325 men and women in four foreign mission fields and 225 men and women in homeland mission fields. It carries on medical work in 25 foreign hospitals and dispensaries, conducts educational work in 303 schools at home and abroad, and in 1937-38 reached and influenced the lives of more than 44,000 young men and women in schools and colleges. The colleges in the United States are: Westminster College at New Wilmington, Pa.; Muskingum College at New Concord, Ohio; Monmouth College at Monmouth, Ill.; Tarkio College at Tarkio, Mo.; Sterling College at Sterling, Kans., and Knoxville College at Knoxville, Tenn. The colleges in foreign mission fields are: Gordon College, Rawal Pindi, India; Assiut College, Assiut, Egypt; and Cairo Girls College, Cairo, Egypt. Denominational

journals are the *United Presbyterian*, for adults, and the *Christian Union Herald* for the young people.

The moderator of the General Assembly of 1938 was the Rev. Ralph Atkinson, D.D., of Pasadena, Calif. The Rev. O. H. Milligan, D.D., of Avalon, Pittsburgh, Pa., is Stated Clerk. Headquarters of the Board of Administration are at 705 Publication Building, Pittsburgh, Pa.

PRICES. See AGRICULTURE.

PRINCE EDWARD ISLAND. A maritime province of Canada. Area, 2184 square miles; population (1938 estimate), 94,000 compared with 88,038 (1931 census). During 1936 there were 1977 births (21.5 per 1000), 1024 deaths (11.1 per 1000), and 595 marriages (6.5 per 1000). Chief towns: Charlottetown, the capital, 12,361 inhabitants in 1931; Summerside, 3759; Souris, 1063. In 1936 there were 19,537 students enrolled in the primary and secondary schools, and colleges. There are two colleges—the Prince of Wales College (the head of the provincial school system) and St. Dunstan's.

Production. The estimated gross value of agricultural production for 1937 amounted to \$12,870,000 (\$15,765,000 in 1936) of which field crops represented \$7,284,161 (\$10,311,000 in 1936). Fur farming is an important industry and for the year ending June 30, 1936, there were produced a total of 64,581 pelts (almost all silver fox) valued at \$2,119,706. Livestock in the province (June 1, 1937): 28,800 horses, 99,500 cattle (including 46,100 milch cows), 49,600 sheep, 43,900 swine, and 878,300 poultry. In 1937 the fishing industry had 3310 men employed, the value of the fish caught totaled \$870,299. Forest production (1936) equaled 12,550 M cu. ft. valued at \$520,483. In 1936, from the 233 manufacturing plants, employing a total of 996 employees, the net value of products was \$1,055,201 (central electric stations, and dyeing, cleaning, and laundry work ceased to be regarded as "manufacturing" industries for 1936).

Government. For the year 1936, ordinary revenue totaled \$1,718,466; ordinary expenditure, \$1,743,120; net funded debt, \$4,713,168. The executive head of the government is the lieutenant-governor who is advised by an executive council of 9 members who are also members of the legislative assembly of 30 members elected for 5 years (15 are elected by real property holders and 15 by universal male and female suffrage). In the Dominion parliament at Ottawa, the province is represented by 4 Senators (appointed for life) and 4 members in the House of Commons. Lieutenant-Governor, George D. DeBlois (appointed Dec. 28, 1933); Premier, Thane A. Campbell (Liberal). See CANADA.

PRINCETON UNIVERSITY. A nonsectarian institution of higher learning for men at Princeton, N. J., founded in 1746. The total enrollment in the autumn of 1938 was 2716, of whom 2441 were undergraduates and 275 were advanced students. Of the undergraduates, 2113 were candidates for the degree of Bachelor of Arts and 328 for the degree of Bachelor of Science in Engineering. Of the advanced students, 244 were in liberal arts and sciences and 31 in the Schools of Architecture and Engineering. The faculty numbered 389. The total of endowment and other non-expendable funds in June, 1938, was \$30,138,877; the total operating income \$3,022,980; and the total operating expenditures \$2,905,543. Gifts and bequests for the year ended June, 1938, totaled \$2,015,390, with \$1,526,853 for endowment, \$262,392 for other funds, \$189,041 for current expenses,

\$20,139 for student aid, \$15,297 for buildings, and \$1667 unallocated. The library contained 920,000 volumes. President, Harold Willis Dodds, Ph.D.

PRINCIPE. See SÃO THOMÉ AND PRINCIPE.

PRINTS. The important place the Graphic Arts now hold was evidenced by the fact that more than half of the exhibits sent from this country to the Venice biennial International in the summer of 1938 were prints. Furthermore, they, rather than the paintings displayed in the American pavilion, met with special commendation. The artists represented were with one exception (that of Childe Hassam) living, and the representation was by groups rather than single examples. An etching by John Taylor Arms, "La Bella Venezia," was bought by the King of Italy and presented to the Museum of Modern Art in Venice.

Two International exhibitions of prints were held in this country, one at Los Angeles, at the Museum of History, Science, and Art, under the auspices of the Print Makers Society of California, in the spring; the other at the Art Institute of Chicago the last of the year. Both comprised about 200 prints and the latter included works by artists of 20 countries.

An exhibition of lithographs in black and white and color by members of the Senefelder Club of London (of which Joseph Pennell was one of the founders), was held in the Arts Club of Washington and later in other cities.

Under the Joseph Pennell bequest the Library of Congress was enabled to make numerous additions to its collection of works by contemporary artists, the selection being made, in accordance with conditions set forth in the will, by the Head of the Division of Fine Arts (Leicester B. Holland) in consultation with a distinguished etcher (John Taylor Arms) and a distinguished lithographer (Stow Wengenroth) named by Mr. Holland, Mr. Minnigerode, Director of the Corcoran Gallery of Art, and Mr. Ruel P. Tolman, Acting Director of the National Collection of Fine Arts, in agreement. The Pennell funds for the upbuilding of the collection of Whistleriana and also the completion of the Pennell collection likewise became available in 1938, by the settlement of the Pennell estate, and made possible further acquisitions.

Wesleyan College, Ohio, received in 1938, through an anonymous donor, a collection of prints valued at \$250,000, as well as a fund to pay the salary of a curator. This collection covers examples of the entire history of print-making and may be drawn upon by other colleges for loan exhibitions. Its value was enhanced to the Wesleyan students during the current scholastic year by a series of lectures on it given by outstanding authorities.

More prints were made and more exhibitions of prints held in 1938 than in previous years, partly through impetus given by Government patronage. Under the WPA Art Project, headed by Holger Cahill, graphic arts work-shops were set up in several of the eastern art centers. In one of these a new graphic process combining features of the mezzotint with that of the aquatint was developed. To it the name "Carborundum tint" was given. Interesting examples of prints produced by this new method were shown in an exhibition of 200 prints in various media by WPA workers set forth in the National Museum in Washington in September. As a whole this exhibition showed great technical facility on the part of the exhibitors.

Mid-year in 1938 it was officially announced by the WPA Art Project that since the setting-up of

its Graphic Arts Section in August, 1935, 21,174 prints had been produced and allocated to tax-supported institutions, schools, libraries, etc. throughout the country—an astoundingly large output.

In accordance with established custom various print organizations published prints during the year for distribution to their members. The American College Society of Print Collectors thus issued etchings by Roi Partridge—"Water Willows"—and by John C. Vondrous—"View from Charlea IV Bridge, Prague"; The Society of American Etchers, a drypoint by Armin Landeck entitled "Manhattan Nocturne"; The Print Makers Society of California, a drypoint, "Fall Ducks," by Richard E. Bishop; The Prairie Print Makers, an etching, "Job," by William Auerbach-Levy, and the Connecticut Academy of Fine Arts, an etching, "Willemstad, Curaçao," by Philip Kappel.

A notable exhibition of Naval Historical prints was shown in the United States National Museum, in June, 1938, under the auspices of the Naval Historical Foundation. The works shown were by famous print makers, in many instances after paintings by well-known artists. They were drawn from a collection of over 1200, assembled, before the Great War, by Admiral von Fischel of the German Navy, which was purchased from his son by Mrs. Ferdinand Eberstadt of New York and given to the Naval Historical Foundation with headquarters at Washington.

Other outstanding print exhibitions of the year were a second "Print Lovers' Hundred," comprising works by old masters and contemporary print makers shown at Knoedler's in New York; a much-discussed collection of prints by "Artists of Aloofness" in the New York Public Library; 50 prints, described as an anthology covering the years 1933-38, circulated by the American Institute of Graphic Arts, and annual displays held by the Society of American Etchers in New York and the Art Alliance in Philadelphia, not to mention museum shows or those of a local character.

Bolton Brown, lithographer and lithographic printer, lately deceased, was memorialized by an exhibition, organized by his colleagues, held at the Kleeman Galleries, New York City.

Serious loss was occasioned in the field of the graphic arts by the deaths of Troy Kinney, Donald Shaw McLaughlan, and S. Arlent Edwards. Mr. Kinney was best known for his etchings of dancers and the dance; Mr. McLaughlan, Canadian by birth, for his etchings of typical American landscape; Mr. Edwards, born in London but long resident in the United States, for his mezzotint engravings, for the most part printed in color.

Among the noteworthy publications of the year was *Flower and Fruit Prints of the 18th and 19th Centuries* by Gordon Dunthorne which, in addition to 70 full-page reproductions, many in color, gave a *catalogue raisonné* of sources and included identifications and informative material not heretofore available.

In the British publication *Fine Prints of the Year*, works by 40 American print makers were listed and reproduced.

Print prices were high in 1938 and buying brisker than for some years (For exceptional instances see ART SALES).

PRISON ASSOCIATION, AMERICAN. A confidential body organized in 1870 and incorporated in 1871 under the laws of the State of New York. The objects of the association are as follows: 1. Improvement of the laws in relation to public offenses and offenders, and the modes of procedure

by which such laws are enforced. 2. Study of the causes of crime, the nature of offenders and their social surroundings, the best methods of dealing with offenders and of preventing crime. 3. Improvement of the penal, correctional, and reformatory institutions throughout the country, and of the government, management, and discipline thereof, including the appointment of boards of trustees and other officers. 4. The care of, and providing suitable and remunerative employment for, paroled and discharged prisoners and probationers, and especially such as may or shall have given evidence of reformation.

The association, the duly qualified medium for the registration of the opinions of prison administrators in the United States, holds an Annual Congress in some city on this continent, attended usually by representatives of more than 40 States of the Union.

The American Prison Association maintains a free clearing house, which is prepared to furnish advice and information on prison, reformatory, workhouse, and jail administration, construction of penal and correctional buildings, and in general on the treatment of the offender both inside and outside of institutions. General Secretary, E. R. Cass, 135 East 15th St., New York City.

PRISON INDUSTRIES REORGANIZATION ADMINISTRATION. See **CRIME.**

PRODUCERS' CO-OPERATIVES. See **CO-OPERATION.**

PROHIBITION. See **LIQUOR TRAFFIC.**

PROPORTIONAL REPRESENTATION. A voting system, first proposed in 1859 by Thomas Hare in England, and later advocated by John Stuart Mill, by which an elector, instead of being restricted to a single choice among candidates for office, may express several successive ones; and if his first choice fails of election or does not need the vote, it is added to others which may have been cast for the voter's second choice and so on through the other choices, first, second, third, fourth, etc. After gaining a considerable foothold in Continental Europe, it was first applied in the United States at Ashtabula, O., in 1915 and was gradually extended to other cities, including Boulder, Colo., 1917; Kalamazoo, Mich., 1918; Sacramento, Cal., 1920 (in the two latter it was declared unconstitutional by the respective state supreme courts); Cincinnati, O., 1924 (where it is recognized as the bulwark of the commission-manager system); Hamilton, O., 1926, Toledo, O., 1934, and New York City, 1936 (1936 *NEW INTERNATIONAL YEAR BOOK*, p. 399) where it was adopted by popular vote. The attempt of the Constitutional Convention to nullify that action aroused intense opposition among the voters of both state and metropolis and was emphatically repudiated at the polls (see **REFERENDUM**).

The proposed new charter for Philadelphia, framed by a Commission appointed by Governor Earle under an act of the legislature, and released on September 1, after 15 months of labor, provides for election of the 11 council members by Proportional Representation; the Commission declared:

The experiences of New York, Cincinnati, Toledo, Wheeling, and other cities using this principle in their elections demonstrates that a better type of candidate runs for office. A new vital interest in the election of council is invariably experienced when P. R. is adopted; especially is this true of the independent voter. The possibility of election fraud is greatly reduced, because of the central count, because of the checks in counting that go with it, and because of the great costs and risk that would be incurred in attempting to steal an election.

See *HOAG, Proportional Representation* (1926).

PROTESTANT EPISCOPAL CHURCH.

The major events in the life of the Episcopal Church in the year 1938 stemmed largely from actions of the Church's General Convention late in 1937. The election of a new Presiding Bishop, the Rt. Rev. Henry St. George Tucker, Bishop of Virginia, to whom was restored the presidency of the Church's National Council, gave to the Church a leadership which had been lacking in recent years. Bishop Tucker immediately began the reorganization of National Council along lines outlined by General Convention and by the close of the year this work had advanced sufficiently far to indicate a more effective leadership in the national administrative body of the Church.

The Forward Movement inaugurated at the General Convention of 1934 was continued by the Convention of 1937 for another three years. This Movement in 1938 came under the active leadership of the Presiding Bishop and went forward in its task of "reinvigorating the life of the Church and rehabilitating its work."

The Commission on Approaches to Unity appointed by the General Convention of 1937 with the Bishop of California, the Rt. Rev. Edward L. Parsons as chairman, met with a similar group appointed by the General Assembly of the Presbyterian Church in America. The two groups at a meeting in New York, October 27-28, agreed on a proposed statement on reunion and a Concordat designed as a step in carrying out the declared purpose of the two Churches for reunion. The Concordat now awaits action by the next General Assembly of the Presbyterians and the next General Convention of the Episcopalians. In the meantime it is expected that Church people everywhere will give their consideration to the proposals made by the Commissions.

The Episcopal Church also participated in various ecumenical movements, notably the preliminary conference held in Utrecht, Holland, in the spring of 1938 to establish a World Council of Churches, and in the thirtieth anniversary celebration in November of the Federal Council of Churches in America. At this latter meeting the Presiding Bishop made an address, the first time that the head of the Episcopal Church has participated in these gatherings.

In 1938 there were an unusually large number of changes in the House of Bishops. Five Bishops died: the Rt. Rev. Philip Cook, Bishop of Delaware, and sometime President of the National Council; the Rt. Rev. K. G. Finlay, Bishop of Upper South Carolina; the Rt. Rev. Hiram Richard Hulse, Missionary Bishop of Cuba; the Rt. Rev. William G. McDowell, Bishop of Alabama; and the Rt. Rev. Warren Lincoln Rogers, Bishop of Ohio. At its meeting early in November, 1938, the House of Bishops accepted the resignations on account of age or health of these Bishops: The Rt. Rev. Robert H. Mize (Salina), the Rt. Rev. John W. Nichols (Suffragan, Shanghai), the Rt. Rev. William L. Gravatt (West Virginia), the Rt. Rev. E. D. Shaylor (Nebraska), the Rt. Rev. David Lincoln Ferris (Rochester), the Rt. Rev. Irving Peake Johnson (Colorado), the Rt. Rev. Theodore Dubois Bratton (Mississippi), the Rt. Rev. Warren Lincoln Rogers (Ohio), the Rt. Rev. James Craik Morris (Louisiana), and the Rt. Rev. Edward T. Demby (Suffragan, Arkansas). In four cases the retiring Bishops were succeeded at once by their Coadjutors. Those who assumed diocesan responsibility in this way were the Rt. Rev. Robert E. L. Strider (West Virginia), the Rt. Rev. B. H.

Reinheimer (Rochester), the Rt. Rev. Fred Ingley (Colorado), and the Rt. Rev. William M. Green (Mississippi).

During the year 11 Bishops were consecrated and four Bishops-elect were awaiting consecration. The newly consecrated Bishops were the Rt. Rev. Karl Morgan Block (Coadjutor, California), the Rt. Rev. William A. Brown (Southern Virginia), the Rt. Rev. Charles C. J. Carpenter (Alabama), the Rt. Rev. Edmund P. Dandridge (Coadjutor, Tennessee), the Rt. Rev. Raymond A. Heron (Suffragan, Massachusetts), the Rt. Rev. R. Bland Mitchell (Arkansas), the Rt. Rev. Malcolm E. Peabody (Coadjutor, Central New York), the Rt. Rev. Henry D. Phillips (Southwestern Virginia), the Rt. Rev. William Payne Roberts (Shanghai), the Rt. Rev. Beverley D. Tucker, brother of the Presiding Bishop (Ohio), and the Rt. Rev. Robert F. Wilner (Suffragan, Philippine Islands). The Bishops-elect awaiting consecration at the close of 1938 were the Rev. A. H. Blankingship (Cuba), the Rev. Spence Burton, S.S.J.E. (Suffragan, Haiti), the Rev. Richard A. Kirchhoffer (Coadjutor, Indianapolis), and the Rev. Arthur R. McKinstry (Delaware). These changes left five sees vacant—Easton (Maryland), Louisiana, Nebraska, Upper South Carolina, and Salina.

At the close of its annual meeting in November, 1938, the House of Bishops, "conscious of the weighty obligation resting upon spiritual leaders in a time of world crisis, a crisis that involves the deep interest of Christian civilization and of humanity for which the Church contends, with deep humility and a solemn sense of its responsibility," issued a statement to the Church on its considered judgment in regard to certain vital matters. Among the issues discussed were the instability and insecurity of world peace, the persistent persecution of helpless peoples, the Church's Mission especially in the Orient, and the place of youth in the Church.

The Church's work in the Orient, especially in China, was greatly upset by the continuance throughout 1938 of the undeclared war in the Yangtze Valley. Hardly any piece of work in the great line of missions extending from Shanghai inland up the Yangtze Valley to the Wuhan cities and beyond escaped disruption: congregations were scattered, regular ministrations became impossible; schools and hospitals were bombed, and forced to find temporary shelter in quieter places. Hua Chung College, for example, was forced to move 567 miles from Wuchang to Kweilin. Nevertheless, there was abundant evidence of the very real vitality of the Chinese Church. Chinese pastors and other leaders remained with their congregations, ministering to them in new and unusual ways as circumstances required; American missionaries stuck to their posts and rendered particularly notable service to thousands and thousands of refugees; all, Chinese and American workers alike, were alert to opportunities presented by the situation to preach the Gospel of Christ to countless Chinese newly receptive to that Gospel.

In America Church people responded to the special needs in the Orient by generous gifts to the \$300,000 China Emergency Fund authorized by the General Convention of 1937. Early in December, 1938, gifts to this fund amounted to \$220,000 and there was every indication that the goal would be reached early in 1939.

In 1938 the total number of communicants of the Episcopal Church in 8048 parishes and missions was 1,439,968, an increase of 15,831 over the preceding year. The clergy numbered 6347; 150 priests

were ordained during the year while the 15 theological seminaries reported 263 candidates for Holy Orders. In the 5000 Church schools 487,035 pupils were enrolled. Baptisms during the year numbered 61,963, and confirmations 67,642. The government of the Church centers in a General Convention which meets triennially, the next session (the fifty-third) to be held in Kansas City, Mo., in October, 1940. Between sessions of the Convention the affairs of the Church are conducted by the National Council.

The headquarters of the National Council which is the Board of Directors of the Domestic and Foreign Missionary Society are in the Church Missions House, 281 Fourth Avenue, New York. The President of the National Council is the Presiding Bishop, the Rt. Rev. Henry St. George Tucker, Bishop of Virginia.

PROTOZOA. See ZOOLOGY.

PRUSSIA, prush'a. A former constituent republic of Germany. On Jan. 30, 1933, the National Socialists (Nazis) seized the government and later set aside the constitution, and abolished popular government and the Diet. The government of the Reich passed a law on Jan. 30, 1935, which placed Prussia under the absolute rule of a governor (Statthalter) who appoints the cabinet. Area, as of Jan. 1, 1935, 114,120 square miles; population (June 16, 1933), 39,934,011. Capital, Berlin (4,242,501 inhabitants in 1933). Livestock (1937): 2,400,800 horses (exclusive of army horses), 11,747,700 cattle, 2,924,400 sheep, 16,027,600 swine, 1,467,900 goats. The budget for 1938-39 was balanced at 1,897,000,000 reichsmarks. On Dec. 31, 1937, the public debt amounted to 1,147,000,000 reichsmarks.

PSYCHICAL RESEARCH. See PARAPSYCHOLOGY.

PSYCHOLOGY. Psychological research is concerned increasingly with the real problems of real human beings. According to M. Bentley, who this year became Consultant for Psychology at the Library of Congress, "the most obvious and central fact in the activities of man and other animals" is "the fact that the organism sees and hears . . . , cautiously inspects, understands and interprets significant situations, desires, searches out, chooses and pursues, predicts means and ends of movement, and is caught up in insoluble predicaments." The commonly neglected functions of searching, inspecting, and anticipating have been studied in six recent researches at Cornell under Professor Bentley's direction. Even "where a repeated stimulus seems to the superficial observer merely to lead on to one and the same responsive type of movement," the trained observers of S. G. Longwell discovered a rich variety of psychological performance.

The trend toward practical research is exemplified in investigations looking toward highway safety. T. W. Forbes and T. M. Matson have studied driver judgments in passing on the highway. A. A. Sharp has investigated traffic violations. H. R. DeSilva, creator of the Mechanical Tests for Drivers, has worked out a clinical treatment for traffic violators. S. M. Newhall has discovered that an uncompensated blind spot may cause traffic accidents, when a cigar or other object prevents compensation by the other eye. E. Allgaier finds the abilities involved in driving are highest between 20 and 40. M. A. Wilson has prepared a bibliography of highway safety (U.S. Dep. Agric. Misc. Publ., 1938, 296). *Psychology and the Motorist* by H. A. Toops and S. E. Haven (Columbus, O.: Adams) points to the need of radical improvements in design of auto and road, in habits of driv-

ers and pedestrians, and in traffic regulations. A national bureau for co-operative research is suggested.

The white rat remains the favorite subject of animal experimenters, but guinea pigs, dogs, chicks, cats, monkeys, chimpanzees, and even ants are used. N. R. F. Maier has been studying reasoning in rats. J. Uhrlich has discovered a social hierarchy in albino mice. I. L. Child of Yale has investigated taboo formation in monkeys. Z. Y. Kuo found that kittens would not eat rats reared in the same cage with them till they had seen other cats kill and eat rats. *Bird Flocks and the Breeding Cycle* by F. F. Darling (New York: Macmillan) is a contribution to avian sociology. *The Behavior of Organisms* by B. F. Skinner (New York: Appleton-Century) formulates a system based in part on the author's experiments.

Researches combining psychology with biochemistry are increasingly fruitful. Several investigators this year have studied effects of male hormone. Several others have investigated the relationship between vitamin-A deficiency and dark adaptation and night blindness. *Les Yeux et la Vision* by M. L. Verrier (Paris: Alcan) reports recent experimental data which seem to render the traditional dualistic theory of vision untenable.

Hearing: Its Psychology and Physiology by S. S. Stevens and H. Davis (New York: Wiley) is the first comprehensive treatment of hearing since the subject became an exact science through modern electrical methods.

There have been many new books on experimental psychology, including *Recent Experiments in Psychology* by L. W. Crafts, T. C. Schneirla, E. E. Robinson, and R. W. Gilbert (New York: McGraw-Hill); *Introduction to Methods in Experimental Psychology* by M. A. Tinker and K. H. Baler (New York: Appleton-Century); *A Laboratory Manual in General Experimental Psychology* by N. L. Munn; and *An Introduction to Experimental Psychology* by P. Finner (New York: Prentice-Hall). In *Contemporary Experimental Psychology* by W. L. Valentine (New York: Farrar & Rinehart) each chapter centers about one important psychological problem and the practical results in everyday life that would follow from its solution. *Experimental Foundations of General Psychology* by W. L. Valentine (New York: Farrar & Rinehart) is written for use in a first course. *Working with Psychology* by F. L. Ruch and Neil Warren (New York: Scott, Foresman) is a guidebook for use with an introductory text. *Elements of Psychology* by A. C. Reid (New York: Prentice-Hall) adheres largely to the traditions of structural psychology. *An Introduction to General Psychology* by J. B. Stroud (New York: Prentice-Hall) utilizes the new anthropological approach. *Mind in Transition* by J. K. Hart (New York: Covici, Friede) is subtitled *Patterns, Conflicts, and Changes in the Evolution of the Mind*. Among other new books are *An Introduction to the Fields of Psychology* by E. S. Dexter and K. T. Omwake (New York: Prentice-Hall); *Psychology in Everyday Life* by W. C. Varnum (New York: McGraw-Hill); *General Psychology* by W. J. H. Sprott (New York: Longmans, Green); *The Science of Human Behavior* by W. T. Wait (New York: Ronald Press); *Psychological Development* by N. L. Munn (New York: Houghton, Mifflin); and *Psychology and Life* by F. L. Ruch (Chicago: Scott, Foresman). *Psychology of Music* (New York: McGraw-Hill)

is written by C. E. Seashore, pioneer experimenter in this field.

Child Psychology and Educational Psychology. The humanizing of administration, reorientation of the educational task, and better provision for emotional development are among the many suggestions made by W. C. Ryan in *Mental Health Through Education* (New York: Commonwealth Fund). C. C. Crawford and J. A. Carmichael find evidence that homework in elementary schools is unnecessary. W. S. Learned and B. D. Wood recommend that high schools and colleges abandon the pseudostandards of time and credits. In *Emotion and the Educative Process* (Washington: Amer. Council on Educ.), D. A. Prescott reports a study revealing basic personality needs, conditions which frustrate them, and the influence of affective factors upon learning. Experiments of O. H. Mowrer at Yale and R. K. White at Iowa show that children adjust better under guided democratic government than under autocratic adult management. In *Teachers and Behavior Problems* (New York: Commonwealth Fund), E. K. Wickman points out that the teacher's reaction often intensifies maladjustment, and suggests a program of re-education for improving teachers' attitudes. *Developing Teacher Personality That Wins* by C. M. Sanford (Evanston, Ill.: Row, Peterson) offers helpful suggestions.

Among new texts are *Fundamentals of Educational Psychology* by O. B. Douglas and B. F. Holland (New York: Macmillan); *Educational Psychology*, written by 25 experts and edited by C. E. Skinner (New York: Prentice-Hall); *The Psychology of Learning Through Experience* by H. V. Race (New York: Ginn); *Experience and Education* by that veteran psychologist, social philosopher, and educational pioneer, J. Dewey (New York: Macmillan).

In *Directing Learning* (New York: Appleton-Century), R. W. Frederick, C. E. Ragsdale, and R. Salisbury contend that the ability to go on learning throughout life is more important than anything else the school can teach. They therefore stress training for self-directed study and problem solving. *Psychology of Elementary School Subjects* by W. H. Gray (New York: Prentice-Hall) integrates important experimental work, both early and recent.

C. H. Town's research studies from the Psychological Clinic of the Children's Aid Society of Buffalo and Erie County reveal unpredictable types of mental growth incompatible with the traditional theory of the constancy of the I.Q. S. S. Hawk has shown that within six months the I.Q. can be improved as much as 40 points by suitable speech training. *The Psychology of Speech* by J. Eisenson (New York: Crofts) is an elementary introduction to the psychology underlying the problems of speech. *The Cure of Stammering, Stuttering, and Other Functional Speech Disorders* by J. L. Orton (New York: Fortune's) will interest specialists. *Voice for Speech* by F. W. Orr (New York: McGraw-Hill) is a practical guide for voice training explaining the anatomical, physiological, and psychological factors involved. G. D. Stoddard has shown that mental growth is stimulated more by enrichment of experience than by verbal training. H. M. Skeels found that the intelligence of children placed in foster homes when less than six months of age has a zero correlation with the true mother's I.Q. M. Lightenstein and A. W. Brown found a downward trend in I.Q. for successive age groups in an area of low economic status in Chicago.

J. C. Hill contends that until a satisfactory environment is obtained for all children eugenic measures need not be considered. In an orphanage with minimum play facilities, B. L. Wellman found a trend toward feeble-mindedness, whereas in another group of children initially equal to the first group and living under the same regime except that they attended preschool, the trend was toward normality.

The older conception of intelligence as a unitary trait is giving place to the recognition of many variable factors. L. L. Thurstone reports 12 such factors in *Primary Mental Abilities* (Psychometr. Monogr., 1938, No. 1). K. Maxfield has studied retardation of blind children, H. S. Lane of deaf children. Social workers will be interested in *What of the Blind?* edited by H. Lende (New York: American Foundation for the Blind); *Child Guidance Procedures* by the staff of the Institute for Juvenile Research, Chicago (New York: Appleton-Century), and *Manual for the Diagnostic Child Study Record* by P. A. Witty and D. Kopel (Evanston, Ill., Northwestern Univ. Psycho-Educ. Clinic). *Student Guidance Techniques* is a handbook for counselors in high schools and colleges by D. G. Paterson, G. G. Schneider, and E. G. Williamson (New York: McGraw-Hill).

Helpful to parents are *Baby's Point of View* by E. J. Partridge (New York: Oxford Univ. Press); *The Psychology of Early Growth* by A. Gesell, H. Thompson, and C. S. Amatruda (New York: Macmillan), a comprehensive, scientific, yet fascinating work; *Parents in Perplexity* by J. Carter (New York: Amer. Ass. for Adult Educ.); and *The Adolescent* by A. H. Arlitt (New York: McGraw-Hill). F. K. Shuttleworth has prepared a large indexed graphic and pictorial atlas of *The Adolescent Period* (Monogr. Soc. Res. Child Devel., 1938, 3, No. 3), and A. A. Greulich, H. G. Day, S. E. Lachman, J. B. Wolfe, and F. K. Shuttleworth, *A Handbook of Methods for the Study of Adolescent Children* (Monogr. Soc. Res. Child Devel., 1938, 3, No. 2). R. Benedict of Columbia contends that "the adolescent period of Sturm und Drang is due to our discontinuous cultural institutions and dogmas" and does not occur in societies where the child is taught nothing he will later have to unlearn (Psychiatry, 1938, vol. i, pp. 161-167).

Psychopathology and Mental Hygiene. The rising optimism of contemporary psychiatry is reflected in the numerous attempts to cure schizophrenia, once accepted as incurable. Psychologists, physicians, and biochemists in many lands have collaborated in diagnostic and therapeutic studies of schizophrenia this year. H. Strecker and R. Freudenberg have written reviews of the insulin therapy with bibliographies (J. Ment. Sci., 1938, 84, 146-155 and 165-176).

Among new books on psychoanalysis are *Clinical Aspects of Psychoanalysis* by R. LaFargue (London: Hogarth Press), *Dream Analysis* by E. F. Sharpe (New York: Norton), and *The Meaning of Psychoanalysis* by R. LaFargue (London: Hogarth Press). *The Basic Writings of Sigmund Freud* (New York: Modern Library) is edited by A. A. Brill.

A Biological Approach to the Problem of Abnormal Behavior by M. Harrington (Lancaster, Pa.: Science Press) rejects Freudianism and attempts a mechanistic interpretation of the functioning and modification of adaptive systems. *The Psychology of Human Conflict* by E. R. Guthrie (New York: Harper) presents an interesting theory of opposing action tendencies within the mus-

cles, the personality disorders that may result, and the methods of reconditioning. J. McV. Hunt has traced psychosis to conflict of social origin in the case of a neighborhood group of boys, some of whom were taught sexual perversions and some of whom attended religious revivals. Only those exposed to both influences developed psychoses.

In the mental hygiene field are *The Autobiography of a Purpose* (Garden City: Doubleday Doran) by the late W. A. White, *Mental Hygiene for Nurses* by E. L. Vincent (Philadelphia: Saunders), *Psychology as Applied to Nursing* by L. A. Averill and F. C. Kempf (Philadelphia: Saunders), *Knowing Yourself and Others* by D. McLean (New York: Holt), *In the Name of Common Sense: Worry and Its Control* by M. N. Chappell (New York: Macmillan), *The Treatment of Moral and Emotional Difficulties: A Practical Guide for Parsons and Others* by C. Valentine (New York: Macmillan), and *Managing Yourself* by M. Wright (New York: Whittlesey House). *Designs for Personality* by M. E. Bennett and H. C. Hand (New York: McGraw-Hill) is a high-school text. *Psychology and Religion* by C. G. Jung (New Haven: Yale Univ. Press) borders on philosophy. *The Quest of the Overself* by P. Brunton (New York: Dutton) is a western application of Oriental psycho-spiritual self-analysis. *The Troubled Mind* by C. S. Bluemel (Baltimore: Williams and Wilkins) is a simplified description of psychoneuroses and psychoses for the layman.

Social Psychology. The social and economic factors which largely determine personality are brought out in many new books, including *Social Psychology* by J. M. Reinhardt (Philadelphia: Lippincott), *Personal and Social Adjustment* by W. L. Uhl and F. F. Powers (New York: Macmillan), *Social Psychology* by D. Katz and R. L. Schanck (New York: Wiley), *The Psychology of the Growing Personality* by F. M. Gregg (Lincoln, Neb.: Personality Press), *Social Behavior and Child Personality* by L. B. Murphy (New York: Columbia Univ. Press), and *Social Life and Personality* by E. S. Bogardus and R. H. Lewis (New York: Silver, Burdett). In *Personality in Formation and Action* (New York: Norton), W. Healy defines personality as "an integrated system of habitual adjustments to the environment" and traces the influencing factors from the prenatal period through all the formative years. *Life and Growth* by A. V. Keliher (New York: Appleton-Century) is a text on social relations, life functions, and sex for high schools and junior colleges. New books on marriage include *The Art and Science of Marriage* by E. B. Tietz and C. K. Weighert (New York: McGraw-Hill), *Plan for Marriage: An Intelligent Approach to Marriage and Parenthood*, proposed by members of the staff of Vassar College and edited by J. K. Folsom (New York: Harpers), *Love and Marriage* (New York: Liveright), essays edited by A. Forbath, and *Psychological Factors in Marital Happiness*, by L. M. Terman of Stanford University (New York: McGraw-Hill).

The Family and the Depression is a study of 100 Chicago families by R. S. Cavan and K. H. Ranck (Univ. Chicago Soc. Sci. Stud., 1938, No. 35). P. Eisenberg and P. F. Lazarsfeld have studied the psychological effects of unemployment, and E. N. Bartlett those of WPA employment. *Scholastic, Economic, and Social Backgrounds of Unemployed Youth* by W. F. Dearborn and J. W. M. Rothney (Harvard Bull. Educ., 1938, No. 20) and *Character and Personality of Children from Broken Homes* by N. Wallenstein (New York: Teachers

Coll., Columbia) are significant studies. G. E. Outland has studied 3352 transient boys and found that a majority were native-born white boys from crowded homes. *The Runaway Boy in the Correctional School* by Z. C. O'Connor (New York: Columbia Univ.) raises a challenging question. *Children in Court* by M. Hatfield, a juvenile court judge, condemns the old court system. In *Mental Conflicts and Personality* (New York: Longmans, Green), M. Sherman emphasizes the origin of conflicts from environmental stresses in youth and explains their relation to adult maladjustments which produce antisocial behavior. In *Crime and the Community* (Boston: Ginn), F. Tannenbaum interprets the criminal as a normal person in an abnormal society. L. Wood in *Responsibility and Punishment* (J. Crim. Law Criminol., 1938, 28, 630-640) contends that drastic social reforms are necessary, including the alleviation of poverty and unemployment, the control of disease, the supervision of marriage, and the dissemination of birth-control information.

The fact that stereotyped public opinion often constitutes a barrier to needed reforms has led many psychologists to measure opinions and attitudes and the methods by which they may be modified. G. H. S. Razran of Columbia has invented a method for "conditioning away social bias by the luncheon technique." R. Stagner has attempted an analysis of public opinion on the prevention of war. There have been many studies of organized propaganda. *Propaganda from China and Japan* is a case study in propaganda analysis by B. Lasker and A. Roman (New York: Institute of Pacific Relations). J. Jastrow, veteran psychologist and debunker, has written *The Betrayal of Intelligence* (New York: Greenberg), a protest against exploiters of the American public and a plea for the use of intelligence in distinguishing between truth and sales talk. D. McGregor attempted to study public opinion among members of a C.I.O. union concerning policies directly affecting them (lay-off policies, "share the work," etc.) and found wide disagreement among "rank and file" members and no clearly crystallized public opinion.

Vocational Psychology and Testing. Helpful for the business man are *Psychological Aspects of Business* by E. K. Strong (New York: McGraw-Hill) and *Psychology in Modern Business* by H. W. Hepner (New York: Prentice-Hall). In *Men Must Work* (New York: Appleton-Century), L. Brophy gives advice on employment problems. In *Human Nature at Work* (New York: Harper), J. L. Shepherd shows how personnel relations can be improved by understanding the problems of the individual worker, especially in terms of security, recognition, etc. E. C. Robbins has suggested that personnel workers should be prepared by applying the fundamental principles of democracy to the working situation. In *The Industrial Worker* (Cambridge: Harvard Univ. Press), T. N. Whitehead reports an experiment showing that social factors affect the efficiency in light physical work much more than most physical factors. W. A. Lurie has found that extra-individual factors exert a preponderant influence in vocational adjustment. *The Problem of Vocational Guidance* by H. Schneider (New York: Stokes) is a useful text. *My Vocation* by "Eminent Americans," edited by E. G. Lockhart (New York: Psychological Corporation) is a symposium covering 23 distinct occupations, each described by 25 of the most eminent Americans in the field. The National Occupational Conference has published

several new pamphlets covering various occupations, including housework, journalism, accounting, advertising, architecture, and other professions. F. E. Clark proposes a study of occupations from an historical approach, emphasizing co-operation or collective attainments instead of individual acquisitions or success, picturing change instead of a static condition, and attempting to anticipate future demand.

New tests for the personnel worker and the educator appear frequently. The Tyler-Kimber Study Skills Test, which measures proficiency in the location and extraction of information, will perhaps have greater diagnostic value than the vast flock of tests which measure chiefly the knowledge already acquired. The revised edition of G. Hildreth's *Bibliography of Mental Tests and Rating Scales* (New York: Psychological Corporation) lists more than 4000 published and unpublished tests and scales. E. B. South has prepared a *Dictionary of Terms in Measurement and Guidance* (New York: Psychological Corporation). J. W. Dunlap and A. K. Kurtz have newly revised their statistical slide rule which permits immediate determination of probable and standard errors of the coefficient of correlation, probability that an obtained difference is due to chance, and other statistical data usually requiring long, tedious, arithmetical computation. A test scoring machine is now used in scoring several tests.

Periodicals. Outstanding among new periodicals is *Psychiatry: Journal of the Biology and Pathology of Interpersonal Relations* (Baltimore: The William Alanson White Psychiatric Foundation). The publishers interpret the field of psychiatry broadly to include much of social psychology, anthropology, and political theory. Among other new periodicals are *Revista de Neuro-Psiquiatria* (Review of Neuropsychiatry), a quarterly edited by H. Delgado and J. O. Trelles (Lima, Peru: S. A. Prensa, Banquijano); *Die Irrenpflege: Zeitschrift zur Berufsbildung des Pflegepersonals* (The Care of the Insane: Journal for the Vocational Development of the Custodial Personnel), edited by Ladame (Zurich: Genossenschaftsdruckerei); *Zeitschrift für Arbeitspsychologie und praktische Psychologie im allgemeinen* (Journal for Industrial Psychology and Practical Psychology in General), edited by H. Rupp (Neustadt in Sachsen: Julius Missbach); and *Zeitschrift für Altersforschung: Organ für Erforschung der Physiologie und Pathologie der Erscheinungen der Alters* (Journal for Old Age Study: Organ for the Investigation of the Physiology and Pathology of the Phenomena of Aging), edited by E. Abderhalden and M. Bürger (Dresden, Leipzig: Theodor Steinkopff). A new psychological review was started this year in Rumanian at Cluj.

Organizations. The American Psychological Association held its forty-sixth annual meeting at Ohio State University, September 7-10. The National Institute of Psychology, the Psychometric Society, the Psychological Corporation, the Society for the Psychological Study of Social Issues, and the American Association of Applied Psychologists all met at the same university the same week.

The Tenth International Medical Congress for Psychotherapy was held in London this year. The American Psychiatric Association held its ninety-fourth annual meeting at San Francisco, June 6-10. Section I (Psychology) of the American Association for the Advancement of Science met in Richmond, Va., December 27-29. Beside the usual programs, there was a symposium on "Recent Ad-

vances in the Psychology and Physiology of Audition," led by E. A. Culler of Rochester. The Society of Experimental Psychologists met at the University of North Carolina at Chapel Hill, April 7 and 8. The Eastern Branch of the American Psychological Association met at New York University, April 1-2. The Rocky Mountain Branch met at the University of Colorado, July 23. The Washington-Baltimore Branch has been meeting the last Thursday of each month. The Michigan Psychological Association held its annual meeting March 17-19. The Midwestern Psychological Association met at the University of Wisconsin, April 22-23. The Minnesota Society for Applied Psychology has been meeting monthly. The New York State Association of Applied Psychologists held its annual meeting in May. The Psychologists' League of New York City has met monthly. The Southern Society for Philosophy and Psychology met at the University of Tennessee, April 15-16. The Western Psychological Association met at the University of Oregon, June 17-18.

PSYCHOPATHOLOGY. See **PSYCHOLOGY.**

PUBLIC AFFAIRS, INSTITUTE OF. An organization inaugurated in 1927 at the University of Virginia for the purpose of advancing an enlightened public opinion on current political, social, and economic questions of a national character, but enlarged in 1932, after the closing of the Institute of Politics at Williamstown, to include international problems as well.

The attendance at the 1938 session, which was held from July 3 through July 16, consisted of 1573 registered members and visitors, representing 30 States and 12 foreign countries. Membership in the Institute is open to men and women who have taken part in public life and to all those interested in the discussion of public affairs.

The general topic of the 1938 session was "Economic Stability and Social Security." The international part of the program included addresses and round tables on the following subjects: "International Good Will Through Economic Stability," "Inter-American Aspects of Economic Stability and Social Security," "The Church Faces an Insecure World," and "The Challenge of the Far East to World Security." The national program was composed of round tables on "The Administration of the Social Security Program: Unemployment Compensation," and "The Future of American Democracy."

The officers of administration in 1938 were: John Lloyd Newcomb, president of the University of Virginia; Robert Kent Gooch, acting director of the Institute; and Marjorie McLachlan, secretary of the Institute. Headquarters are at the University of Virginia, Charlottesville, Virginia.

PUBLIC FINANCE. A radical change in the budget philosophy of the Roosevelt Administration occurred during 1938. Until that year, the Administration regarded large-scale Federal spending and a heavy Federal deficit to be financed through loans as a pump-priming measure. The oft-expressed theory was that an increase in government expenditures during a depression would help to inaugurate a revival of private business activity, and when the latter was achieved government spending could be curtailed and a budget surplus would develop, due to increased tax revenues, that would permit repayment of the added national debt incurred during the depression period. The new budget philosophy, as clearly expressed in the President's annual message to Congress on Jan. 4, 1939, contemplates the stabilization of Federal expenditures around \$9,000,-

000,000 a year, while the elimination of the resulting huge budget deficits is to be accomplished only when there is an increase in national income. The President estimated that national income had to rise above \$80,000,000,000, thus exceeding the 1929 record level, if tax revenues were to be large enough to meet this \$9,000,000,000 annual expenditure. The annual budget message contained, for the first time, a table showing how large Federal receipts are likely to be at different levels of national income.

As a result of the ambitious spending-lending program launched by the President in April, the indicated deficit for the fiscal year ending June 30, 1939, was increased from the initial estimate of \$1,088,000,000 to \$3,972,000,000. This was the largest peacetime deficit in the history of the country, except for the deficit of \$4,550,000,000 incurred in 1936. However, the latter is not really comparable, as it included the cash payment of the veterans' adjusted compensation certificates effected in that year. If we leave out the cash payment of the bonus, therefore, the deficit for the 1939 fiscal year was the largest on record except for the World War period.

While the Administration thus adopted a program of chronic huge Federal expenditures, with revenues permitted to take care of themselves as business conditions varied, some revulsion of feeling against the fiscal innovations of recent years was apparent in Congress and in public sentiment. In the face of strong resistance from the Administration, the Revenue Act of 1938 greatly liberalized taxation of capital gains and largely ended the undistributed profits tax. The more conservative trend of the elections in November, 1938, was at least partly attributed by many observers to uneasiness over the steady increase in the national debt to new high levels and the absence of even an expressed intention of bringing revenues and expenditures into balance within the near future. As the new Congress met after the turn of the year, strong resistance to the maintenance of large relief expenditures in the face of improving business conditions was apparent, although many members of Congress in both parties continued ready to appropriate large sums of money for favored projects of their own, including some not covered in the budget as submitted by the President.

The President's annual budget message of Jan. 5, 1939, contained a tabular summary of Treasury finances for the decade 1931-40 inclusive, covering the era of continuous deficits brought on by the severe depression of the early thirties and the deliberate heavy spending program adopted during the latter years of this period; see p. 626.

Federal Revenues. The total income of the Federal government in the fiscal year ending June 30, 1938, amounted to \$6,242,000,000, which compared with \$5,294,000,000 in the preceding fiscal year. While the relatively prosperous business conditions during most of 1937 contributed largely to this improvement, the increase in Federal revenues was chiefly due to the higher yields of the social security taxes. Receipts from taxes levied under the Social Security Act and Railroad Retirement Act aggregated \$754,000,000, as against only \$252,000,000 the year before. Income tax collections during the year totaled \$2,635,000,000, as compared with \$2,158,000,000 the year before. Miscellaneous revenue taxes increased by \$99,000,000. On the other hand, a sharp decline in customs receipts occurred as a result of the contraction in foreign trade during the year.

The chief sources of Treasury revenue for the

**ACTUAL AND ESTIMATED RECEIPTS AND EXPENDITURES OF THE GOVERNMENT FOR THE
FISCAL YEARS ENDING JUNE 30, 1931-40 (000,000 OMITTED)**

	<i>Estimated</i>					<i>Actual</i>					
	1940	1939	1938	1937	1936	1935	1934	1933	1932	1931	
<i>Receipts</i>											
Internal revenue:											
Income tax	\$ 1,903	\$ 2,086	\$ 2,635	\$ 2,158	\$ 1,427	\$ 1,099	\$ 818	\$ 746	\$ 1,057	\$ 1,860	
Tax on unjust enrichment	6	6	6	6	6	6	6	6	6	6	
Miscellaneous internal revenue	2,333	2,173	2,280	2,181	2,009	1,657	1,470	858	504	570	
Taxes under Social Security Act	686	611	604	252	.....	.....	.....	.....	.....	.....
Taxes upon carriers and their employees	124	109	150	.....	77	521	353	.....	.....	.....
Processing tax on farm products	.....	.....	.....	.....	77	521	353	.....	.....	.....
Railroad Unemployment Insurance Act	5	.....	.....	.....	.....	.....	.....	.....	.....	.....
Customs	404	335	359	486	387	343	313	251	328	377	
Miscellaneous receipts	208	200	208	211	216	180	162	225	117	383	
Total receipts	\$ 5,669	\$ 5,520	\$ 6,242	\$ 5,294	\$ 4,116	\$ 3,800	\$ 3,116	\$ 2,080	\$ 2,006	\$ 3,190	
<i>Expenditures</i>											
<i>Ordinary</i>											
Legislative, judicial, and civil ...	865	799	712	689	675	562	458	584	756	647	
National defense	1,126	1,017	980	895	880	663	494	633	664	667	
Veterans' pensions and benefits ..	539	540	572	1,128	2,348	604	554	849	973	943	
Interest on the public debt	1,050	976	926	866	749	821	757	689	599	612	
Total, ordinary expenditures	\$ 5,537	\$ 5,251	\$ 4,646	\$ 4,663	\$ 5,309	\$ 3,457	\$ 2,651	\$ 2,851	\$ 3,163	\$ 2,987	
<i>Extraordinary</i>											
Supplemental item:											
New national defense program ..	210	.....	.....	.....	.....	.....	.....	.....	.....	.....
Public works	1,044	1,229	880	1,102	914	766	625	472	499	421	
Unemployment Relief	2,019	2,741	1,996	2,527	2,372	2,363	1,853	360	.....	.....
Total, extraordinary expenditures	\$ 3,458	\$ 4,241	\$ 2,980	\$ 3,779	\$ 3,357	\$ 3,553	\$ 3,360	\$ 1,013	\$ 1,372	\$ 684	
Total expenditures, exclusive of debt retirement ..	\$ 8,995	\$ 9,492	\$ 7,626	\$ 8,442	\$ 8,666	\$ 7,010	\$ 6,011	\$ 3,864	\$ 4,535	\$ 3,671	
Net deficit	\$ 3,326	\$ 3,972	\$ 1,384	\$ 3,148	\$ 4,550	\$ 3,210	\$ 2,895	\$ 1,784	\$ 2,529	\$ 481	
Increase in gross public debt	3,326	3,967	740	2,647	5,077	1,648	4,514	3,052	2,686	616	
Gross public debt at the end of each fiscal year ..	\$44,458	\$41,132	\$37,165	\$36,425	\$33,778	\$28,701	\$27,053	\$22,539	\$19,487	\$16,801	

1938 fiscal year, and estimates for the 1939 and 1940 fiscal years, were as tabulated below.

Federal Expenditures. The aggregate of Federal expenditures during the fiscal year ended June 30, 1938, exclusive of debt retirement, was \$7,626,000,000, which compared with \$8,442,000,000 during the preceding year. Of these expenditures, a substantial amount went into the purchase of Government securities for reserve funds. During the year ended June 30, 1938, holdings of Government obligations by the Old-Age Reserve Account, the Unemployment Trust Fund, and other reserve funds rose by fully \$1,117,000,000, so that on a cash basis the net deficit for the year was not the \$1,384,000,000 reported, but only \$267,000,000.

The largest decline in expenditures for the 1938

fiscal year, as compared with the year ended June 30, 1937, was the fall of \$799,000,000 in recovery and relief outlays. This reflected the program of reducing expenditures due to business recovery which prevailed during 1937, a policy that was abruptly changed toward the end of the fiscal year. National defense outlays of the 1938 fiscal year aggregated \$980,000,000, an increase of \$85,000,000 over the year before. While plans for a sharp increase in such outlays were laid during the year, they were not brought to fruition until the following fiscal year.

Estimated expenditures for the fiscal year that began July 1, 1938, were sharply higher because of the enlargement of recovery and relief expenditures.

**RECEIPTS FOR THE FISCAL YEAR 1938 AND ESTIMATED RECEIPTS FOR THE FISCAL YEARS
1939 AND 1940**

	<i>Actual, 1938</i>	<i>Estimated, 1939</i>	<i>Estimated, 1940</i>
Internal revenue:			
Income taxes	\$2,634,618,138.71	\$2,086,000,000	\$1,903,000,000
Tax on unjust enrichment	5,666,571.57	6,500,000	6,500,000
Capital stock tax	139,348,566.58	127,000,000	123,400,000
Estate tax	382,175,325.84	321,200,000	329,200,000
Gift tax	34,698,739.01	26,800,000	33,000,000
Alcoholic beverage taxes	567,669,408.73	563,000,000	607,300,000
Tobacco taxes	567,777,409.79	565,560,000	610,060,000
Stamp taxes	46,232,990.72	52,300,000	58,560,000
Manufacturers' excise taxes	416,753,516.33	379,310,000	427,220,000
Miscellaneous excise taxes	117,502,271.93	137,800,000	144,630,000
Social Security taxes	604,448,645.90	610,500,000	686,300,000
Carriers Taxing Act of 1937	150,131,981.38	109,300,000	123,750,000
Railroad Unemployment Insurance Act .....	.....	.....	4,950,000
Customs	359,187,249.57	335,000,000	403,900,000
Miscellaneous revenue receipts	169,477,327.08	158,671,715	141,433,142
Repayments of investments	33,815,806.05	38,544,410	63,556,190
Total general and special accounts receipts (unrevised)	\$6,241,661,226.99	\$5,520,070,000	\$5,669,320,000

The total extraordinary outlays for the fiscal year ended June 30, 1939, were estimated at \$4,241,000,000, as compared with \$2,980,000,000 the year be-

fore. The detailed report of actual expenditures during the 1938 fiscal year, with comparative estimates for 1939 and 1940, was as follows:

EXPENDITURES FOR THE FISCAL YEAR 1938 (UNREVISED), AND ESTIMATED EXPENDITURES FOR THE FISCAL YEARS 1939 AND 1940

GENERAL AND SPECIAL ACCOUNTS <i>Expenditures</i>	<i>Actual, 1938</i>	<i>Estimated, 1939</i>	<i>Estimated, 1940</i>
I. General:			
Departmental: ¹			
Legislative establishment	\$ 25,779,939.60	\$ 22,721,050	\$ 22,235,200
Executive proper	479,019.68	469,800	446,700
State Department	19,327,280.05	21,617,000	20,244,200
Treasury Department	152,075,169.02	160,785,820	167,340,100
War Department (nonmilitary)	2,964,605.98	3,419,000	1,675,000
Department of Justice	42,039,253.53	43,019,800	50,552,100
Post Office Department	2,909,134.52	.....	.....
Department of the Interior	98,877,813.99	114,515,830	122,578,100
Department of Agriculture	112,774,127.32	127,427,600	128,546,100
Department of Commerce	41,177,583.75	32,933,000	50,900,500
Department of Labor	18,102,336.65	18,175,900	21,997,000
Shipping Board	2,972,975.36	.....	.....
United States Maritime Commission	1,949,424.00 ^a	45,000,000	80,500,000
Rural Electrification Administration:			
Loans	9,159,343.23	45,000,000	40,000,000
Other	1,468,169.18	2,069,700	2,485,000
Civil Aeronautics Authority .....	.....	13,000,000	19,220,000
Independent offices and commissions	41,583,202.79	47,854,540	49,155,000
Unclassified items	46,884.13	.....	.....
	569,787,414.78	698,009,040	777,875,000
Adjustment for disbursing officers' checks out- standing	438,209.47	.....	.....
Total departmental	\$ 570,225,624.25	\$ 698,009,040	\$ 777,875,000
Public buildings ¹	60,817,513.97	48,347,000	57,711,500
Public highways ¹	152,036,509.61	191,644,100	190,510,000
River and harbor work and flood control ¹	164,995,448.61	204,308,300	208,632,300
Reclamation projects ¹	39,907,512.71	59,065,100	57,009,000
Panama Canal	11,361,129.66	11,954,200	10,524,000
Postal deficiency (current)	43,407,438.40	.....	.....
Postal deficiency (prior years) ²	851,422.78	56,566,000	53,331,000
Railroad Retirement Board:			
Administrative expenses	2,613,296.73	2,619,000	3,228,000
Railroad unemployment insurance administra- tion fund .....	.....	2,300,000	8,400,000
Annuity payments	3,985,323.28 ^a	.....	.....
Social Security Act:			
Administrative expenses:			
Social Security Board	19,613,584.38	22,244,500	22,815,000
Department of Commerce	8,513.70	75,000	95,000
Department of Labor	336,379.18	318,000	348,000
Grants to States:			
Social Security Board	254,769,184.91	291,000,000	318,800,000
Department of Labor	7,833,235.95	8,600,000	8,300,000
Treasury Department	8,892,079.88	8,000,000	8,000,000
Unclassified	10.61	.....	.....
United States Housing Authority ¹	165,424.32	.....	4,500,000
District of Columbia (United States share)	5,000,000.00	5,000,000	5,000,000
National defense: ¹			
Army	404,701,839.33	447,298,400	450,059,100
Navy	569,455,393.71	594,908,750	687,498,800
Veterans' Administration ¹	581,764,663.30	549,462,100	546,668,000
Agricultural Adjustment program:			
Agricultural Adjustment Administration	334,458.59 ^a	59,600,000	49,000,000
Agricultural Adjustment Administration	17,001,480.91	.....	.....
Agricultural Adjustment Administration (act Aug. 24, 1935)	38,156,532.69	200,000,000	90,000,000
Agricultural contract adjustments	2,992,126.87	377,000	310,000
Soil Conservation and Domestic Allotment Act Price Adjustment Act of 1938	303,852,184.12	400,000,000	400,000,000
Federal Crop Insurance Act:			
Administrative expenses .....	.....	3,000,000	5,000,000
Subscriptions to capital stock of Federal Crop Insurance Corporation .....	.....	5,000,000	.....
Unclassified	8,556.65 ^a	.....	.....
Farm Tenant Act:			
Loans	2,275,429.47	20,000,000	22,000,000
Other	776,319.23	6,800,000	8,800,000
Unclassified	92.08 ^a	.....	.....
Civilian Conservation Corps ¹	324,986,035.04	290,000,000	285,000,000
Farm Credit Administration: ¹			
Crop loans	4,156,442.16	12,705,000	13,000,000
Other	4,016,787.73	6,372,880	7,366,100
Unclassified	18,293.78 ^a	.....	.....
Tennessee Valley Authority	42,002,238.16	43,000,000	40,000,000
Interest on the public debt	926,280,713.67 ^b	976,000,000	1,050,000,000
Refunds:			
Customs	16,156,340.00	16,000,000	17,500,000
Internal revenue	32,791,660.60	35,008,500	38,018,000
Processing tax on farm products	10,232,689.76	15,000,000	15,000,000
To States of taxes collected under title IX of the Social Security Act	40,561,886.43	.....	.....
Subtotal	\$ 4,660,648,348.45	\$ 5,330,582,870	\$ 5,610,298,800

EXPENDITURES FOR THE FISCAL YEAR 1938 (UNREVISED), AND ESTIMATED EXPENDITURES
FOR THE FISCAL YEARS 1939 AND 1940—(Continued)

	Actual, 1938	Estimated, 1939	Estimated, 1940
II. Recovery and relief:			
Agricultural aid:			
Federal Farm Mortgage Corporation—reduction in interest rate on mortgages	5,726,515.05	8,000,000	7,300,000
Federal land banks:			
Capital stock	4,736,775.00	150,000	.....
Subscriptions to paid-in surplus	32,977,497.53	9,390,000	.....
Reduction in interest rates on mortgages ..	32,114,033.21	20,378,000	29,700,000
Commodity Credit Corporation:			
Restoration of capital impairment	94,285,404.73	.....	.....
Other	66,965.57	.....	.....
Relief:			
Federal Emergency Relief Administration: ^a			
Reconstruction Finance Corporation funds ..	31,310.94	.....	.....
Other	4,337,769.82	2,000,000	.....
Civil Works Administration	222,101.04	210,000	205,000
Civilian Conservation Corps	1,396,512.57	.....	.....
Department of Agriculture, relief	2,472.25	.....	.....
Public works (including work relief):			
Reclamation projects	25,498,296.95	34,282,350	10,670,000
Public highways	84,575,923.50	40,420,400	22,280,000
River and harbor work and flood control	33,639,018.24	16,101,100	.....
Rural Electrification Administration	4,565,206.87	1,692,600	.....
Works Progress Administration (including National Youth Administration) ..	1,472,499,478.21	1,562,933,000	.....
Public Works Administration, grants (act June 21, 1938) .....	.....	275,000,000	340,000,000
Other:			
Administrative expenses, Public Works Administration	15,109,011.28	26,000,000	16,500,000
Legislative establishment	515,895.17	135,000	.....
State Department	1,650,879.27	275,000	.....
Treasury Department:			
Public buildings	15,889,790.32	11,555,000	4,200,000
Other	24,750,372.42	26,184,180	4,364,000
War Department (nonmilitary)	316.97	.....	.....
National defense:			
Army	26,863,051.55	47,604,000	30,000,000
Navy	26,822,907.09	41,726,500	9,000,000
Department of Justice	1,210,708.29	8,250,000	5,750,000
Department of the Interior	32,407,750.59	45,596,200	7,930,000
Department of Agriculture	27,342,732.98	28,332,400	1,241,000
Department of Commerce	569,517.13	6,440,800	1,150,000
Department of Labor	7,528,698.21	1,980,100	.....
Veterans' Administration	213,071.61	6,325,000	7,000,000
Independent offices and commissions	13,065,141.33	13,358,100	3,875,000
District of Columbia	9,332.44	.....	.....
Unclassified items	223,839.46	.....	.....
Aid to home owners:			
Home loan system:			
Reconstruction Finance Corporation funds:			
Home loan bank stock	4,734,900.00	.....	.....
Federal savings and loan associations	11,797.85	.....	.....
Emergency housing	22,457,595.22	100,000	.....
U.S. Housing Authority	20,487,826.32	8,385,900	.....
Federal Housing Administration:			
Reconstruction Finance Corporation funds ..	11,725,002.46	13,000,000	10,000,000
Other	16.99	.....	.....
Farm Security Administration	180,149,108.66	179,889,200	5,000,000
Miscellaneous:			
Reconstruction Finance Corporation:			
Disaster Loan Corporation stock	4,000,000.00	2,000,000	.....
Loans and grants to States, municipalities, etc., under act July 21, 1932	254,374.30 ^a	.....	.....
Other	3,405,199.62	.....	.....
Export-Import Bank of Washington	2,703.70	.....	.....
Administration for Industrial Recovery	4,522.24 ^a	.....	.....
Subtotal	\$ 2,237,563,551.87	\$ 2,437,694,830	\$ 516,165,000
III. Revolving funds (net):			
Agricultural aid:			
Farm Credit Administration:			
Reconstruction Finance Corporation funds:			
Crop production loans	633,621.71 ^a	400,000 ^a	200,000 ^a
Regional agricultural credit corporations ..	7,918,444.60 ^a	3,684,000 ^a	1,497,000 ^a
Loans to joint stock land banks	75,487.51 ^a	56,300 ^a	.....
Farm Credit Administration	201,387.21	210,000	193,000
Unclassified	964.54	.....	.....
Other	4,220,899.84 ^a	2,800,000 ^a	1,500,000 ^a
Public works:			
Loans and grants to States, municipalities, etc.	136,875,352.65	105,675,000	25,000,000
Loans to railroads	3,276,579.88 ^a	.....	.....
Loans (act June 21, 1938) .....	.....	40,000,000	15,000,000
Subtotal	\$ 120,952,670.86	\$ 138,944,700	\$ 36,996,000
IV. Transfers to trust accounts, etc.:			
Old-age reserve account	387,000,000.00	503,000,000	570,000,000
Railroad retirement account	146,402,587.18	107,000,000	115,000,000
Government employees' retirement funds (United States share):			
Civil service retirement fund	72,392,000.00	74,244,000	86,329,000
Foreign service retirement fund	188,000.00	187,600	199,400

EXPENDITURES FOR THE FISCAL YEAR 1938 (UNREVISED), AND ESTIMATED EXPENDITURES FOR THE FISCAL YEARS 1939 AND 1940—(Continued)

	Actual, 1938	Estimated, 1939	Estimated, 1940
Canal Zone retirement fund	500,000.00	500,000	500,000
Alaska Railroad retirement fund	175,000.00	175,000	175,000
Subtotal	\$ 606,657,587.18	\$ 685,106,600	\$ 772,203,400
V. Debt retirements:			
Sinking fund	65,115,550.00 ^a	100,000,000	100,000,000
Received from foreign governments under debt settlements	210,000.00	.....	.....
Estate taxes, forfeitures, gifts, etc.	139,400.00 ^b	.....	.....
Subtotal	\$ 65,464,950.00	\$ 100,000,000	\$ 100,000,000
Total expenditures exclusive of supplemental items	\$ 7,691,287,108.36	\$ 8,692,329,000	\$ 7,035,663,200
Supplemental items .....	.....	900,000,000	2,060,000,000
Grand total, expenditures, general or special accounts	\$ 7,691,287,108.36	\$ 9,592,329,000	\$ 9,095,663,200
Excess of expenditures over receipts	\$ 1,449,625,881.37	\$ 4,072,259,000	\$ 3,426,343,200
Summary			
Excess of expenditures (+) or receipts (—)	+1,449,625,881.37	+4,072,259,000	+3,426,343,200
Less public debt retirements	65,464,950.00	100,000,000	100,000,000
Excess of expenditures (+) or receipts (—) (excluding public debt retirements)	+1,384,160,931.37	+3,972,259,000	+3,326,343,200
Trust accounts, increment on gold, etc., excess of receipts (—) or expenditures (+)	— 254,999,624.40	+ 46,461,758	— 53,208,071
Less national bank note retirements	+1,129,161,306.97	+4,018,720,758	+3,273,135,129
	51,478,739.50	5,497,305	.....
Total excess of expenditures (+) or receipts (—) (excluding public debt retirements)	+1,077,682,567.47	+4,013,223,453	+3,273,135,129
Increase (+) or decrease (—) in General Fund balance	— 337,555,984.31	— 46,461,758	+ 53,208,071
Increase (+) or decrease (—) in the public debt	+ 740,126,583.16	+3,966,761,695	+3,326,343,200
Public debt at beginning of year	36,424,613,732.29	37,164,740,315	41,131,502,010
Public debt at end of year	37,164,740,315.45	41,131,502,010	44,457,845,210

^a Excess of credits (deduct).^b Includes \$22,507,108.04, representing one year's interest at 4½ per cent on \$500,157,956.40 face amount of bonds issued to the United States Government life insurance fund pursuant to sec. 5 of the Adjusted Compensation Payment Act of Jan. 27, 1936.¹ Additional expenditures on these accounts are included under "Recovery and relief" and "Revolving funds (net)."
² The figures for the fiscal year 1938 represent payments and repayments of \$8,780,085.63 and \$7,928,662.85, respectively, on account of adjustments of grants for prior years. The net adjustment is \$851,422.78.³ Includes expenditures made by Federal Surplus Commodities Corporation from funds provided for the Federal Emergency Relief Administration.

Treasury Financing Policy. The Treasury's financing problems during 1938 were very simple, despite the decision of the Administration to embark once again upon extraordinary expenditures for recovery and relief on a large scale. One reason for this was the fact that the deficit assumed substantial proportions, on a cash basis, only late in the year. Secondly, the elimination of the inactive gold fund in April not only relieved the Treasury of the necessity for financing the purchase of imports of the yellow metal, but also increased its cash balance by the \$1,183,000,000 held in the inactive fund on April 14. On that date, the Treasury transferred to the gold certificate fund of the Federal Reserve System this entire sum, as well as \$209,000,000 of gold held in its working balance.

Contrary to past experience, the announcement of the spending-lending program did not affect adversely prices of Government bonds. Rather, the reduction in reserve requirements and the end of the gold sterilization policy that were announced simultaneously with the new spending-for-recovery program in a special message to Congress on April 14 assured that excess reserves of the banks, which had been scaled down sharply in 1937, would soon rise to new high levels. Hence, prices of Government securities developed persistent strength during the balance of the year.

During the fiscal year ended June 30, 1938, Government securities held outside of the social security and other reserve funds actually declined by

GROSS PUBLIC DEBT ON JUNE 30 OF 1937 AND 1938, AND ESTIMATED GROSS DEBT ON JUNE 30 OF 1939 AND 1940

[In millions of dollars]

	Estimated 1940	1939	Actual 1938	1937
Market Operations				
Held by:				
Public (banks, insurance companies, trust companies, corporations, individuals, etc.)	35,449	33,073	30,144	30,677
Federal Reserve System	2,564	2,564 ^a	2,564	2,526
Government Agencies	601	601 ^a	565	451
Government Trust Funds	1,260	1,260 ^a	1,217	1,212
	39,874	37,498	34,490	34,866
Special Issues				
Held by:				
Old-Age Reserve Account	1,751	1,172	662	267
Unemployment Trust Fund	1,480	1,209	872	312
Railroad Retirement Account	81	76	66	...
Employees' Retirement Funds	551	463	396	316
Veterans' Funds	564	557	549	538
Other	157	157 ^a	130	125
	4,584	3,634	2,675	1,558
Gross debt	44,458	41,132	37,165	36,424

^a As of Dec. 1, 1938, and it is assumed for the purpose of this statement only that they will remain at these amounts throughout the fiscal years 1939 and 1940.

\$376,000,000, owing to sharp increases in the amount of special Treasury issues held by the Old-Age Reserve Account and the Unemployment Trust Fund. For the fiscal year ended June 30, 1939, an increase in the gross Federal debt of \$3,967,000,000 is anticipated. Of this amount, the Treasury expects to raise \$959,000,000 by sale of special obligations to reserve and trust accounts, and \$600,000,000 are to be obtained from cash sales of baby bonds.

A table on page 629 shows the gross public debt outstanding on June 30, 1937, and on June 30, 1938, and estimates for the closing dates of the two succeeding fiscal years.

The Treasury embarked upon a policy of financing certain of its agencies independently of the budget during the year. The Commodity Credit Corporation and the United States Housing Authority are to be financed in this way. The President has proposed that this principle be applied also to the Reconstruction Finance Corporation, the Export-Import Bank, the Home Owners' Loan Corporation, the United States Maritime Commission, and other agencies, so that only the losses incurred from their operation would enter into the budget. This would constitute a move toward the division

of the Federal budget into ordinary and extraordinary divisions, such as has been adopted by many countries abroad, not always with reassuring results.

The Public Debt. The gross public debt of the United States outstanding at the end of the calendar year 1938 amounted to \$39,427,183,901. This represented an increase of \$2,147,892,383 over the gross debt of \$37,279,291,518 outstanding at the end of 1937. Despite this increase in the debt, the persistence of unprecedentedly low money rates resulted in only a very small increase in the sum required to meet the interest on the Treasury's obligations.

The floating debt at the end of the year amounted to \$2,389,366,000. This constituted a decrease as compared to the year before, as the volume of outstanding Treasury bills was reduced because of the abandonment of the policy of paying for imported gold with funds borrowed in this manner. Certificates of indebtedness sold to the Unemployment Trust Fund increased, however.

The public debt at the end of the year was as follows:

PRELIMINARY STATEMENT OF THE PUBLIC DEBT, DEC. 31, 1938

BONDS:

3% Panama Canal loan of 1961	\$ 49,800,000.00	
3% Conversion bonds of 1946-47	28,894,500.00	
2½% Postal Savings bonds (16th to 49th series)	117,867,240.00	
		\$ 196,561,740.00

TREASURY BONDS:

4¼% bonds of 1947-52 ...	\$ 758,945,800.00	3¼% bonds of 1949-52 ...	491,375,100.00
4% bonds of 1944-54 ...	1,036,692,900.00	2½% bonds of 1955-60 ...	2,611,095,150.00
3¾% bonds of 1946-56 ...	489,080,100.00	2¾% bonds of 1945-47 ...	1,214,428,950.00
3¾% bonds of 1943-47 ...	454,135,200.00	2¾% bonds of 1948-51 ...	1,223,495,850.00
3¾% bonds of 1940-43 ...	352,993,450.00	2¾% bonds of 1951-54 ...	1,626,687,150.00
3¾% bonds of 1941-43 ...	544,870,050.00	2¾% bonds of 1956-59 ...	981,827,050.00
3¼% bonds of 1946-49 ...	818,627,000.00	2½% bonds of 1949-53 ...	1,786,143,150.00
3% bonds of 1951-55 ...	755,432,000.00	2½% bonds of 1945 ...	540,843,550.00
3¼% bonds of 1941 ...	834,453,200.00	2½% bonds of 1948 ...	450,978,400.00
3¼% bonds of 1943-45 ...	1,400,528,250.00	2¾% bonds of 1958-63 ...	918,780,600.00
3¼% bonds of 1944-46 ...	1,518,737,650.00	2½% bonds of 1950-52 ...	866,397,200.00
3% bonds of 1946-48 ...	1,035,874,400.00	2¾% bonds of 1960-65 ...	591,089,500.00
		2% bonds of 1947 ...	701,073,400.00
			24,004,585,050.00

United States Savings bonds (current redemption value):

Series A—1935	179,213,979.00	
Series B—1936	329,696,266.00	
Series C—1937	433,007,316.50	
Series C—1938	438,972,806.25	
Unclassified sales	60,657,527.09	
		1,441,547,894.84

Adjusted Service bonds of 1945	297,609,000.00	
Adjusted Service bonds (Government life insurance fund series)	500,157,956.40	
		797,766,956.40

Total bonds 26,440,461,641.24

TREASURY NOTES:

2¼% series A—1939, maturing June 15, 1939	1,293,714,200.00
1¾% series B—1939, maturing Dec. 15, 1939	526,232,500.00
1½% series C—1939, maturing Mar. 15, 1939	13,061,050.00
1½% series D—1939, maturing Sept. 15, 1939	426,554,600.00
1½% series A—1940, maturing Mar. 15, 1940	1,378,364,200.00
1½% series B—1940, maturing June 15, 1940	738,428,400.00
1½% series C—1940, maturing Dec. 15, 1940	737,161,600.00
1½% series A—1941, maturing Mar. 15, 1941	676,707,600.00
1½% series B—1941, maturing June 15, 1941	503,877,500.00
1½% series C—1941, maturing Dec. 15, 1941	204,425,400.00
1½% series A—1942, maturing Mar. 15, 1942	426,349,500.00
2% series B—1942, maturing Sept. 15, 1942	342,143,300.00
1½% series C—1942, maturing Dec. 15, 1942	232,375,200.00
1½% series A—1943, maturing June 15, 1943	629,116,900.00
1½% series B—1943, maturing Dec. 15, 1943	367,859,800.00
	8,496,371,750.00
3% Old-age reserve account series, maturing June 30, 1941 to 1943	862,300,000.00
3% Railroad retirement account series, maturing June 30, 1942 and 1943	75,700,000.00
4% Civil service retirement fund, series 1939 to 1943	459,900,000.00
4% Foreign Service retirement fund, series 1939 to 1943	3,519,000.00
4% Canal Zone retirement fund, series 1940 to 1943	4,001,000.00
4% Alaska Railroad retirement fund series, maturing June 30, 1941, to 1943	532,000.00
2% Postal Savings System series, maturing June 30, 1940, 1942, and 1943	52,000,000.00
2% Government life insurance fund series, maturing June 30, 1943	6,700,000.00
2% Federal Deposit Insurance Corporation series, maturing Dec. 1, 1939, and 1942	105,000,000.00
	10,066,023,750.00

PRELIMINARY STATEMENT OF THE PUBLIC DEBT, DEC. 31, 1938—(Continued)

CERTIFICATES OF INDEBTEDNESS:

4% Adjusted service certificate fund series, maturing Jan. 1, 1939	22,200,000.00	
2½% Unemployment trust fund series, maturing June 30, 1939	1,064,000,000.00	1,086,200,000.00

TREASURY BILLS (MATURITY VALUE):

Series maturing:	Series maturing—Continued	Series maturing—Continued.	
Jan. 4, 1939.. \$100,125,000.00	Feb. 8, 1939.. \$100,729,000.00	Mar. 8, 1939.. \$100,983,000.00	
Jan. 11, 1939.. 100,041,000.00	Feb. 15, 1939.. 100,544,000.00	Mar. 15, 1939.. 100,716,000.00	
Jan. 18, 1939.. 100,029,000.00	Feb. 23, 1939.. 100,323,000.00	Mar. 22, 1939.. 100,632,000.00	
Jan. 25, 1939.. 100,467,000.00	Mar. 1, 1939.. 100,304,000.00	Mar. 29, 1939.. 101,032,000.00	
Feb. 1, 1939.. 100,241,000.00			1,306,166,000.00

Total interest-bearing debt outstanding \$38,898,851,391.24

MATURED DEBT ON WHICH INTEREST HAS CEASED:

Old debt matured—issued prior to Apr. 1, 1917 (excluding Postal Savings bonds) \$	3,911,140.26	
2½% Postal Savings bonds	39,920.00	
3½%, 4%, and 4¼% First Liberty Loan bonds of 1932-47	13,260,850.00	
4% and 4¼% Second Liberty Loan bonds of 1927-42	1,295,700.00	
4¼% Third Liberty Loan bonds of 1928	2,056,250.00	
4¼% Fourth Liberty Loan bonds of 1933-38	20,248,750.00	
3¾% and 4¼% Victory notes of 1922-23	648,400.00	
Treasury notes, at various interest rates	19,755,850.00	
Certificates of indebtedness, at various interest rates	4,754,450.00	
Treasury bills	35,166,000.00	
Treasury savings certificates	232,400.00	
		101,369,710.26

DEBT BEARING NO INTEREST:

United States notes	346,681,016.00	
Less gold reserve	156,039,430.93	
	190,641,585.07	
Deposits for retirement of national bank and Federal Reserve bank notes	231,043,333.50	
Old demand notes and fractional currency	2,031,728.28	
Thrift and Treasury savings stamps, unclassified sales, etc.	3,246,153.39	
		426,962,800.24

Total gross debt \$39,427,183,901.74

COMPARATIVE PUBLIC DEBT STATEMENT

[On the basis of daily Treasury statements]

	Mar. 31, 1917, pre-war debt	Aug. 31, 1919, when war debt was at its peak	Dec. 31, 1930, lowest post-war debt	Dec. 31, 1937, a year ago	Dec. 31, 1938
Gross debt	\$1,282,044,346.28	\$26,596,701,648.01	\$16,026,087,087.07	\$37,279,291,518.10	\$39,427,183,901.74
Net balance in general fund	74,216,460.05	1,118,109,534.76	306,803,319.55	2,972,840,959.12	3,083,505,924.62
Gross debt less net balance in general fund	1,207,827,886.23	25,478,592,113.25	15,719,283,767.52	34,306,450,558.98	36,343,677,977.12
Gross debt per capita	12.36	250.18	129.66	287.17 ^a	301.68 ^b
Computed rate of interest per annum on interest-bearing debt outstanding (per cent) ..	2.395	4.196	3.750	2.568	2.586

^a Revised.

^b Subject to revision.

PUBLIC UTILITY HOLDING ACT. See ELECTRIC LIGHT AND POWER.

PUBLIC WORKS ADMINISTRATION (PWA). See MUNICIPAL OWNERSHIP; RELIEF; SEWERAGE AND SEWAGE PURIFICATION; WATERWORKS AND WATER PURIFICATION; UNITED STATES under *Administration*.

PUERTO RICO, pwēr'tō rē'kō. A West Indian island forming a territory of the United States; acquired from Spain on Dec. 10, 1898. Capital, San Juan. Two small adjacent islands, Vieques and Culebra are included with Puerto Rico in jurisdiction and statistics.

Area and Population. Having an area of 3435 square miles, Puerto Rico is inhabited by 1,773,207 persons (estimate for July 1, 1937); it had 1,723,534 inhabitants according to the census of Dec. 1, 1935. The density of its population is among the highest in the group of agricultural countries. The number of inhabitants to the square mile was 521, as estimated for 1937; this number had increased from 280.3 for 1899 and 506.8 for 1935. The birth rate, calculated for 1937, was 38.3 to the thousand; the death rate, 20.9. Nearly 4 out of 9 of the popu-

lation were below the age of 15 years. The rise in the population by reason of a great excess of births over deaths during a long succession of years would have been greater but for a considerable aggregate emigration of natives to the Continental United States and to some of its possessions. An official tabulation for 1937 gave the number of the colored inhabitants as 414,936 and grouped the remainder as white.

The populations of the chief cities (census of 1935) were: San Juan, 137,215; Ponce, 60,867; Mayagüez, 44,907; Caguas, 22,599; Rio Piedras, 16,849; Guayama, 16,075; Arecibo, 14,332; Bayamón, 13,873; Aguadilla, 11,133. Of all the population of Puerto Rico, 563,616 (1935) were classed as urban; 1,159,918 as rural. The two groups had numbered, respectively, 489,584 and 1,054,329 in 1930. Thus, while the rural majority had made a greater absolute gain in number, the urban had increased at a higher rate. Spanish continues to be the prevailing language of the population, but English is widely used; the predominant religious allegiance is to the Roman Catholic Church.

Education. The number of pupils enrolled in

the public schools, as totaled at the end of the academic year 1937-38, was 278,265. This comprised 12,329 in high schools, 114,068 in urban elementary schools, 124,699 in rural elementary schools, 11,164 in "second unit" rural schools, 8502 in adult schools, and 7503 in adolescent schools. The total enrollment exceeded by 33,854 that of a year earlier, which in turn had fallen about 10,000 below that of the year preceding it. These fluctuations attended the cessation in 1936 of the Federal Emergency Relief Administration's grants for the pay of additional teachers and, in the year 1937-38, an extra appropriation of \$1,150,000 for elementary education, made by the Insular Legislature, and grants of funds through the Puerto Rico Reconstruction Administration. Accredited private schools, 51 in number, reported for the year 1936-37, 2075 high-school pupils, 8070 elementary pupils, and 717 in kindergartens. University practice schools had 422 secondary and 359 elementary pupils; evening high schools and extension classes, 881 adult students. For the year 1937-38 the expenditures of the public-school system, per capita of enrolled pupils, totaled \$25.27.

The Governor's report for 1938 noted, with regard to education, that the total of enrollments in the public schools came to but 45 per cent of the number of inhabitants aged from 5 to 18 years. The lack of higher enrollment was attributed to insufficient school facilities in rural areas, where two out of three of the young in the designated age-group were said not to be attending school. While attendance at school during a period of elementary education was a legal requirement, it remained needful to effect the extension of the school system into the less accessible localities until schools should come within the reach of all required by law to attend. The Governor recommended as essential a program of school extension to be financed by Insular and by Federal funds through a succession of years. Two particular difficulties attended the task of bringing schools into the reach of all the population: the very high proportion of actual or potential schoolboys and schoolgirls to the whole population rendered the cost of public education much higher, in proportion to the people's income, than in the case of a typical State in the Union; the rivalry of English and Spanish languages, in the schools' curriculum, at the same time tended to increase the amount of study needful to a given degree of progress to learning in either tongue.

Spanish was still, in 1938, the predominant language of the public schools, being the pupils' original speech. Some English was taught, however, even in elementary grades. A plan that went into effect in the year 1937-38 started the teaching of English, among the other subjects, in the lower elementary grades and sought to build up the English part of the instruction as the pupil advanced, to a maximum of half or more of the school-time, assigned to instruction in English (as a subject or as a medium) in the seventh and eighth grades.

Production. Puerto Rico's production of sugar in 1938 attained 1,077,149 tons; this exceeded previous yearly totals, except that for 1934, which was 1,103,822 tons. The growing of sugar cane and the extraction of sugar from the cane formed, together, the principal industry of the island; this industry produced, for the whole product of 1938, at its estimated average price, about \$75,000,000. However, the production of the year exceeded the exports of sugar by about 50 per cent, a margin far in excess of that needful to supply the local demand, so that the amount realized from exports of

sugar, for 1938, attained only \$50,144,811, materially less than the sums thus realized in 1936 and in 1937. The production of tobacco in 1938 totaled 44,069,272 lb., a considerably higher figure than any other year's total subsequent to the 50,000,000 lb. of 1927. The average price paid to growers, however, was but 11 cents a lb., which fell short of the average price for any of the previous 17 years. The tobacco of 1938 thus had a farm value of about \$4,870,000. Among other crops, coffee yielded, in 1938, 16,639,200 lb., and much fruit was grown, some for the export market in canned form or otherwise.

Intense as was the cultivation that must provide livelihood to a dense population gaining its support primarily from agriculture, less than half of the rural land was cultivated in 1938. About 1,000,000 acres were in pasture and woodland; about 300,000, cultivated to sugar cane; nearly 250,000 to coffee, and about the same area to minor crops; somewhat over 60,000 to tobacco; and about 10,000 was occupied by coconut trees.

Efforts were under way in 1938 to promote more advantageous cultivation of the land in some respects. The growing of cucumbers for the United States market had the lead among undertakings to supply vegetables for export, but it met with difficulties in January and February on account of a waterfront strike which shut off the handling of vegetables for six weeks. In advocacy of farmers' giving more attention to growing food crops for their own subsistence it was pointed out that the island still imported a certain amount of foodstuffs for which it was capable of raising substitutes.

Overseas Trade. For the fiscal year ended with June 30, 1938, the imports into Puerto Rico totaled \$93,314,783 from all sources, and \$84,987,994 from the United States alone. The year's exports totaled \$82,077,178 altogether and \$79,808,113 to the United States. Yearly exports fell below imports for the first time after 1927. For the year 1937 imports had totaled \$98,859,969 in all and \$90,288,508 from the United States; exports, \$114,953,827 in all and \$112,857,749 from the United States. The yearly exportation of sugar decreased to 735,541 tons (1938) from 959,510 tons (1937); in value, to \$50,144,811, from \$71,390,088. The drop in this item, regularly making the bulk of the island's exports, accounted for most of the deficiency of the total value of 1938 exports as compared with those of 1937. The exports of tobacco (all but a small part unmanufactured) attained, for 1938 (calendar year), \$9,211,423; those of fresh fruits, \$1,882,350; rum, \$2,772,155; cotton manufactures (chiefly garments), \$9,377,939; silk manufactures (mainly garments), \$2,029,963.

Finance. For the fiscal year ended with June 30, 1938, the insular government's revenues amounted to \$16,380,975; they consisted chiefly of internal revenue totaling \$12,917,925. Disbursements for the fiscal year, to the total of \$16,946,823, included the following: Education, \$5,432,410; health, \$1,722,601; insular police, \$1,922,084; Attorney-General's office, \$1,253,523. The cash balance on hand on June 30, 1938, was \$2,158,127, as against \$2,683,623 a year earlier. Taxable property in Puerto Rico was assessed, as of Apr. 1, 1938, at the aggregate valuation of \$301,016,501. Outstanding debt of the insular government totaled, June 30, 1938, \$28,533,846, being in the main insular bonds to a total of \$27,400,000; net of sinking-fund assets, the debt was \$25,055,205.

Transportation. Railway line in Puerto Rico, approximating 922 miles, included 574 miles of

sugar railways built to serve the sugar industry. The insular government maintained (1938) 1379 miles of highways. These did not include municipally maintained highways. The city of San Juan was regularly served by airplanes of Pan American Airways, which made four trips a week from Miami. Connection by airplane was maintained with other points in the West Indies and with South America. The Grace line included San Juan as a port of call and three of its vessels sailing between New York and South America touched there regularly in the course of the year, while the New York and Porto Rico Steamship Company added a vessel to its fleet calling at San Juan.

Government. Governed in accordance with the organic act of Mar. 2, 1917 (the Jones Act), as later amended from time to time, Puerto Rico has as its chief executive a governor appointed by the President of the United States; the inhabitants received by the organic act the status of United States citizens. They elect, by adult suffrage, a legislature composed of a Senate of 19 members and a House of 39 Representatives, all chosen for four years. A commissioner, also elected by popular vote, represents the island in the U.S. Congress. The Governor of Puerto Rico in 1938 was Maj. Gen. Blanton Winship.

HISTORY

Nationalist Terrorism. The most conspicuous occurrence of the year was an attempt to shoot Governor Winship to death while he attended a public ceremony in Ponce on July 25, marking the anniversary of the arrival of the United States' forces under Gen. Nelson A. Miles in Puerto Rico in 1898. A band of possibly a dozen men, officially identified as Nationalists, fired pistols at Winship as he stood in the reviewing stand while a force of the Puerto Rican National Guard marched past. Winship was not hurt, though a bullet went through a leg of his trousers; Col. Luis Irizarri of the National Guard, who sat behind Winship, was killed by a bullet, and one of the alleged assassins, Angel Esteban Antongiorgi, was shot to death by police returning the fire. A detective who leaped forward to protect the Governor was wounded. Two men known in connection with previous outbreaks of violence attributed to the Nationalists, Tomas Lopez de Victoria and Elifaz Escobar, and two more described as Nationalists were immediately arrested, and a number of others were arrested subsequently. A gathering of 40,000 spectators remained on the scene, and the ceremonies, including a speech from Governor Winship, were carried out as planned.

Five of the men arrested after the attempt to kill Winship were tried, by the end of the year, for the murder of Colonel Irizarri; all were convicted of murder and sentenced to imprisonment for life. Four more remained to be tried; some of those who had been arrested testified for the prosecution, giving evidence that implicated a number of men who had not been arrested on the scene of the crime. Lopez de Victoria, prominent among the convicted men, was said to have given the command, as a captain of Nationalist cadets, which led to the affray of Palm Sunday, 1936, in Ponce, in which 21 persons were killed; Escobar had previously been acquitted of participation in the outbreak of 1936. As the law of Puerto Rico did not provide capital punishment, the convicted defendants received the heaviest punishment allowed.

The attempt to assassinate the Governor plainly was the work of extremists in the Nationalist party.

It started a tendency of the moderates in that party to break with the extremists. The party's acting president, R. Medina Ramos, issued a denial (Aug. 1) that the party had authorized the attack on the Governor's life. Later, attorneys professing Nationalist principles declined to act as counsel for some of the men charged with the killing of Irizarri, and in some instances the defendants had to be represented by assigned counsel.

Relations with Federal Government. A lower rate of exportation from Puerto Rico to the United States tended to cut down business, employment, and public revenues to some extent, and to augment the demand for public expenditure. The Federal Secretary of Agriculture put the island's allotment of sugar for exportation to the States at 819,344 tons for 1938; while only some 22,000 tons less than the quota for 1937, the figure for 1938 left Puerto Rico unable to dispose of an unusually great surplus, the result of a big harvest of cane. In this situation Puerto Rican commercial opinion had reason to oppose the existing concessions as to quotas and tariffs that had been made to Cuban sugar. The suggestion in September that the Federal administration might make further concessions to Cuban sugar naturally bore on this situation. The Federal act of 1938 for the regulation of the wages and hours of labor, moreover, was so framed as apparently to apply to Puerto Rico: according to an observation credited to Governor Winship, the same Federal administration that wanted and got a law setting minimum wages far above the level attainable from Puerto Rico's existing sources of production was supplying food in the same island, for the support of indigent families, at the average rate of \$1.70 a month for the family of five; the comparison implied the possible difficulty of forbidding persons supported on this scale from working for less than 25 cents an hour. Governor Winship was credited in the press with making persistent endeavor to render evident to authorities in Washington the interests and sentiment of the people that he governed on salient points in the relations between Puerto Rico and the Federal Government.

The death (October 15) of Antonio R. Barceló, Senator and for many years insular political leader, deprived the island of one of its best-known spokesmen, whose health and activity had, however, for some years been impaired. The Federal First Circuit Court held (December 18) that a great number (1012) of laws passed by the Puerto Rican Legislature after 1902 were invalid; these laws had been passed as joint resolutions, a practice that had been commonly used when the legislators found themselves short of time to prepare regular legislative bills; the court held that the power to proceed thus did not reside in the Legislature. Stevedores at the port of San Juan went on strike (January 3), interrupted the loading and unloading of ships for five weeks, and obtained (February 10) a rise in wages to 40 cents an hour, from 32 cents. A naval commission visited the island in September, in the course of a general survey of the naval bases of the United States and their defensive needs.

Legislation. The Legislative Assembly convened on February 14 in its second regular annual session. It established the permanence of appointments of teachers in public schools, allowing a preliminary period of probation in the cases of new teachers. As an addition to the insufficient revenue of the University of Puerto Rico, a tax of $\frac{1}{8}$ cent a gallon was imposed on production of molasses and

the proceeds were assigned to the University. Another similar tax, at $\frac{1}{4}$ cent a gallon, was assigned to the cost of work to combat malaria and hookworm and of assistance to insolvent mothers and abandoned children. A measure was passed to create a Labor Relations Board. The issue of \$1,000,000 of bonds was authorized for the purpose of purchasing the Rio Blanco Hydroelectric works from the Porto Rico Railway, Light, and Power Company. Three measures were enacted to promote the undertaking of projects for building improved housing.

A special session of the Assembly met on August 10 at the call of the Governor. It failed to restore the penalty of death, as he had recommended after the Nationalist attack in Ponce. Efforts were made to provide the insular Government with more revenue through the period of depressed business as the Governor had proposed.

PULITZER PRIZES. A series of awards established in 1915 by the will of Joseph Pulitzer, publisher of the *New York World*, presented annually by Columbia University on recommendation of the advisory board of the Pulitzer School of Journalism, for outstanding achievements in letters and literature. In 1938, as announced on May 2, the awards in literature were: Novel, *The Late George Apley*, by John P. Marquand; play, *Our Town*, by Thornton Wilder; history, *The Road to Reunion*, by Paul H. Buck; verse, *Cold Morning Sky*, by Marya Zaturenska; biography, *Pedlar's Progress*, by Odell Shepard, and *The Border Captain*, and *Portrait of a President*, two volumes on Andrew Jackson by Marquis James. In journalism, awards were made to Arthur Krock, chief Washington correspondent of the *New York Times*, "for distinguished service as a foreign or Washington correspondent during the year"; to W. W. Waymack, associate editor of the *Des Moines Register and Tribune*, "for distinguished editorial writing during the year"; to the Bismarck (N. D.) *Tribune*, for its news reports and editorials entitled "Self Help in the Dust Bowl"; to Ray Sprigle, of the *Pittsburgh Post Gazette*, for a distinguished example of a reporter's work. Mr. Sprigle exposed the one-time membership of Justice Hugo L. Black, of the Supreme Court of the United States, in the Ku-Klux Klan; to the *Edmonton Journal*, for the fight it waged in having declared unconstitutional the Alberta press act. For distinguished examples of a cartoonist's work, Vaughn Shoemaker of the *Chicago Daily News*, for his cartoon "The Road Back." Three traveling scholarships were awarded to graduates of the school "who shall have passed their examinations with the highest honor and are otherwise deserving." Also a scholarship to an art student "who shall be certified as the most promising and deserving by the National Academy of Design, with which the Society of American Artists has been merged."

PURDUE UNIVERSITY. A State technological institution in Lafayette, Ind., founded in 1869. The enrollment for the autumn of 1938 was 6778; registration in the 1938 summer session was 1564. There were 500 members on the faculty. The endowment amounted to \$340,000, and the income for the year was \$2,889,835. The library contained 140,156 volumes. New buildings under construction during 1938-39 were: A music hall and auditorium, a chemical engineering building, and additions to the Women's Residence Hall group, the Cary Halls for Men, and the Purdue Memorial Union Building. President, Edward C. Elliott, Ph.D.

PYROMETALLURGY. See METALLURGY.

QATAR. See ARABIA.

QUEBEC, kwé-bék'. An eastern province of Canada. Area, 594,534 square miles; population (1938), 3,172,000 compared with 2,874,255 (1931 census). Quebec had 13,281 Indians in 1934. During 1936 there were 75,285 births (24.3 per 1000), 31,853 deaths (10.3 per 1000), and 21,654 marriages (7.0 per 1000). Chief cities (with 1931 population figures in parentheses): Quebec, the capital (130,594), Montreal (818,577), Verdun (60,745), Three Rivers (35,450), Hull (29,433), Sherbrooke (28,933), Outremont (28,641), Westmount (24,235). In 1936 there were 695,680 students enrolled in schools of all kinds, including 30,570 students in the colleges and universities. The province has four universities (McGill, Bishop's, Laval, and Montreal).

Production. The estimated gross agricultural revenue for 1937 was \$191,510,000 (\$189,970,000 for 1936) of which field crops represented \$81,629,000 (\$91,276,000 in 1936). Other important items included in the 1936 agricultural production total were dairy products, \$52,284,000; farm animals, \$23,626,000; poultry and eggs, \$8,215,000; maple products, \$2,482,000. Livestock in Quebec (1937): 279,900 horses, 1,764,100 cattle (inc. 962,400 milch cows), 658,000 sheep, 773,900 swine, and 7,603,100 poultry. Fur production for the year ended June 30, 1936, totaled 295,606 pelts valued at \$2,470,998. The output of the forests during 1936 equaled 931,505 M cu. ft. valued at \$47,417,044. In 1937 the value of the fisheries catch was \$1,892,036.

Mineral production (1938 preliminary figures): Gold 883,060 fine oz. (valued at \$31,061,635); silver, 1,204,604 fine oz.; asbestos, 289,820 tons; copper, 113,819,618 lb. Building materials: Clay products, valued at \$1,036,270; lime, 126,648 tons; cement, 2,730,317 bbl.

Mineral production (1937) was valued at \$65,160,215 of which gold (711,480 fine oz.) accounted for \$24,894,685; asbestos (410,025 tons), \$14,505,541; copper (94,653,132 lb.), \$12,378,737; zinc (8,566,927 lb.), \$419,951; silver (908,590 fine oz.), \$407,784; selenium (208,531 lb.), \$360,759. In 1936, from the 7969 manufacturing plants, with a total of 194,876 employees, the net value of products was \$377,514,998 (central electric stations, and dyeing, cleaning, and laundry work ceased to be regarded as "manufacturing" industries in 1936).

Government. For the year ended June 30, 1938, revenue amounted to \$53,344,037; expenditure, \$50,335,750; net funded public debt, \$219,697,689. The government is vested in a lieutenant-governor who is advised by a responsible ministry, a legislative council of 24 members (appointed for life by the lieutenant-governor), and a legislative assembly of 90 members elected for a term of five years by popular vote of the people (women do not vote nor are they eligible for election to the legislature). Quebec is represented in the Canadian parliament at Ottawa by 24 members in the Senate and 65 members in the House of Commons. Lieutenant-Governor, Esioff L. Patenaude (appointed May 3, 1934); Premier, Maurice Duplessis (Union Nationale).

History. The Fascist tendencies displayed by Premier Duplessis' Government continued to arouse alarm in anti-Fascist circles in Canada and the United States during 1938 (see 1936 and 1937 YEAR BOOKS for background material). Duplessis had been swept into power on a strong wave of French-Canadian nationalism aroused by depressed economic conditions and the domination of the province's economic life by Anglo-American finan-

cial and business interests. He also benefited from resentment at corruption within the preceding Taschereau Government.

In fulfillment of his campaign pledges, the Premier on April 11, 1938, announced the arrest of a number of former officials of the Taschereau regime on charges of graft and corruption. He made no effective move, however, to carry out his promise to curb "foreign" financial and business interests through the reform of monopolies and public utilities. On the contrary, he enjoyed the support of these interests in pursuing his labor and anti-radical policies. From Nov. 9, 1937, when the Padlock Law was first enforced, to the end of July, 1938, the Quebec police were reported to have conducted some 300 raids on the homes, offices, and shops of Communists, Socialists, trade union leaders, and other alleged radicals. Much printed material was seized, homes and offices were in many cases padlocked, and radical and liberal activities were suppressed.

Democratic and anti-Fascist elements throughout Canada denounced these measures as a violation of civil rights and a step toward destruction of Canadian democracy. The Duplessis Government justified them as necessary to combat alien and subversive movements repugnant to the sentiments of the great majority of French Canadians. The Dominion Government was strongly urged by liberal groups to disallow the Quebec Padlock Law but it declined to do so for fear of alienating French-Canadian support in the next Dominion election. The issue was left to be decided by the courts on a concrete case. In December the Montreal police ordered landlords to evict all tenants with communistic tendencies.

Meanwhile the Duplessis Government was under fire from various French-Canadian groups. Some of the Premier's former political associates attacked him for not carrying out his pledge to curb monopolies and public utilities. The extreme nationalists, led by Abbé Lionel Adolphe Groulx of the University of Montreal, who advocated the secession of Quebec to form an independent French-Canadian state, rejected the Premier's policy of full provincial autonomy within the confederation. But the Separatist movement, which gained rapid headway in 1937, waned considerably in 1938 as a result of the disapproval voiced by the French-Canadian clergy. Extreme nationalism prompted the Quebec Legislature in 1937 to make French rather than English the accepted text for all statutes. But the law caused so much inconvenience and was so widely denounced that Premier Duplessis had it repealed in March, 1938. The government's anti-union measures, aimed chiefly at C.I.O. and other international unions, were in some instances opposed by the French Catholic workers' syndicates who co-operated with the international unions in fighting the measures.

In an effort to undermine the international unions, and apparently as a first step toward the corporative state favored by the Catholic clergy of the province, the government undertook to extend existing labor legislation. Under the Fair Wages Act of 1937 a government board on Dec. 28, 1937, issued minimum wage and hour regulations affecting nearly 80 per cent of the province's 670,000 workers and increasing their annual wage payments by \$26,000,000, according to the official estimate. The provisions of this measure evoked protests from both employers and workers. Accordingly they were revised in new regulations effective May 15, 1938. Under these, four industrial

zones were established in the province with separate minimum wage scales for each.

The Fascist party established in Quebec in 1937 by Adrien Arcand, editor of a semi-official newspaper of the Duplessis Government and business associate of the Premier, split into two factions in May. But in July Arcand's majority faction united with the Fascist movement organized in Ontario and Manitoba, the new movement taking the name of National Unity Party.

The practice followed by some French-Canadian judges in annulling marriages in Quebec Province not performed in accordance with Roman Catholic canon law was repudiated in a decision issued by Chief Justice R. A. E. Greenshields of the Quebec Superior Court on June 8. The chief justice declared that "the blessing of the church has nothing whatever to do with the validity of marriage."

See CANADA under *History*.

QUEENS-CHICORA COLLEGE. A college for women in Charlotte, N. C., founded in 1857; nonsectarian in purpose but under the direction of the Presbyterian Church. The enrollment for the autumn term of 1938 was 432. There were 35 members of the faculty. The income for the year was: From endowment \$15,000; from benevolences \$10,000; from student fees \$60,000. The library contained approximately 14,000 volumes. President, William H. Frazer, D.D., Litt.D., LL.D.

QUEENSLAND. An Australian State. Area, 670,500 square miles; population, exclusive of full-blood aboriginals, 996,219 (Mar. 31, 1938, estimate), compared with 947,534 (1933 census). During 1937 there were 19,162 births, 9006 deaths, and 8353 marriages. The principal cities are Brisbane (capital), with 318,430 inhabitants (including suburbs) on Dec. 31, 1937; Rockhampton, 30,000 (1936); Townsville, 28,535 (1936); Toowoomba, 27,968 (1936); Ipswich, 22,885 (1936). During 1936 the 1720 State schools had 118,483 pupils in average daily attendance. In 1935 in the 239 grammar, high, and private schools, there were 29,913 students in average attendance; 14 technical schools had 13,492 students on the roll, and Queensland University had 1165 students in the same year.

Production. Sugar cane, wheat, maize, hay, potatoes, cotton, grapes, tobacco, pineapples, and oranges are the main agricultural products. In 1937-38 the estimated production from 373,000 acres under wheat totaled 3,749,000 bu. Sugar produced (1936) totaled 744,676 tons. The chief dairy products for 1936-37 were butter, 87,474,757 lb.; cheese, 7,789,890 lb.; bacon and ham, 20,229,728 lb. Wool (greasy) produced during 1936-37 totaled 153,766,368 lb. Livestock in the State (Dec. 31, 1937, estimate): 22,200,000 sheep, 6,000,000 cattle, 441,000 horses, and 290,000 pigs.

The estimated value of mineral production for 1937 was 4,392,492 Australian pounds, of which copper accounted for £A308,968; tin, £A202,614; coal, £A934,107; gold, £A1,104,760; silver and lead, £A1,172,531. In 1936-37, from the 2883 factories, with 48,216 employees (including working proprietors), the estimated net value of production was £A17,184,522 (Australian £ averaged \$3.9594 for 1936; \$3.9394 for 1937).

Government. For the year ended June 30, 1938, revenue totaled £A17,340,000; expenditure, £A17,568,000; public debt, £A125,782,000. Executive power is vested in a governor, assisted by an executive council of ministers who are also members of the legislative assembly. Parliament consists of a legislative assembly of 62 members elected by universal adult suffrage for three years. The legis-

lative assembly elected on Apr. 2, 1938, was estimated to be composed of 43 Laborites and 19 members of Independent Labor, United Australia, and Country parties. Governor, Col. Sir Leslie Orme Wilson (appointed June, 1932; reappointed June, 1937); Premier, William Forgan Smith. See AUSTRALIA.

QUEENS MIDTOWN TUNNEL. See TUNNELS.

QUICKSILVER. The war in Spain seriously affected the production of quicksilver in that country. During the first nine months of 1938, 1750 metric tons were produced in Italy against 1715 in the corresponding period of 1937. Exports in 1938 amounted to 54,161 lb. valued at \$50,184. According to the U.S. Bureau of Foreign and Domestic Commerce, the United States in 1938 imported 179,522 lb. of quicksilver valued at \$132,610.

RACE. See ANTHROPOLOGY.

RACING. See SPORTS under Turf.

RADCLIFFE COLLEGE. A nonsectarian college for women in Cambridge, Mass., founded in 1879. The enrollment for the autumn of 1938 was 1040. Instruction was given by approximately 400 teachers from Harvard University. The productive funds amounted to \$5,663,842 and the income, including tuition, for college purposes, was \$541,288. The library contained 80,000 volumes, exclusive of pamphlets. President, Ada Louise Comstock, A.M., Litt.D., LL.D., L.H.D.

RADIO. At no time since the *Titanic* disaster in 1912 made the world initially radio-conscious has radio had the opportunity it had in 1938 to demonstrate its enormous potentialities. Through the facilities of radio broadcasting systems peoples in all parts of the world in effect occupied reserved seats in the amphitheater of world affairs in which the European crisis of the fall of 1938 was such a vital and far-reaching drama. Also, there was the quietly efficient but nonetheless dramatic recurrence of amateur radio as the first means of communication available in disaster areas, such as those of midcontinent and California floods, and the Long Island-New England hurricane. In February, 1938, and again in the winter months at the end of the year "Radio Delhi" of the Indian State Broadcasting Corporation was received strongly in the United States on 9.53 megacycles, establishing records for strong signals. March 5 brought in the first radio signals from Pitcairn Island, establishing communication contacts with that remote point, and capturing the imagination of the world with reminiscences of the mutiny on the *Bounty* several generations ago. In July, short-wave radio kept the listening world in touch with Howard Hughes in his record globe-circling flight. So far as United States listeners report, efforts to maintain short-wave contact with an explorer's expedition into the Belgian Congo have been unsuccessful, whereas contact with another expedition in Netherlands New Guinea has been eminently successful at 14,000 kilocycles. Propaganda broadcasts over short-wave foreign stations have been persistent. Two of the outstanding characteristics of broadcast programs in the United States have been, on the one hand, many delightful symphony and other musical programs, and on the other hand, a widespread rash of "quiz" programs.

For broadcast receivers, 1938 improvements include devices eliminating the common external radio antenna, and devices by means of which a day's programs may be pre-set and tuned in automatically by a clock-operated mechanism. Another development was the appearance on the market of

several high-fidelity radio receivers susceptible of satisfactory usage within the service areas of the high-fidelity broadcasting stations. A radio and associated self-contained control device were put on the market by means of which the radio, once turned on, can be operated or turned off from any point in the house.

A new type of radio transmission and reception designated as wide-band frequency modulation is under experimental development. In this system audio modulation is provided by varying the frequency of the radio-frequency carrier, the rate depending on the audio frequency and the magnitude depending on the audio amplitude. This system reduces noise background by eliminating noise-amplitude variations in the receiver and renders insignificant the frequency-modulated noise components. Utilizing a carrier frequency of from 41 to 44 megacycles, the entire audio spectrum from 16 to 15,000 cycles per second or more is transmitted with high fidelity, fidelity in fact so high as to require the development of a new and highly superior loudspeaker in order that the full possibilities might be realized. Improvements in short-wave radio equipment, both transmitters and receiver, have reduced their size and bulk and consequently increased their portability and range of possible use, as well as increasing the range and quality of their service. Two-way police communication has become more common. According to press reports, a U.S. Forest Service investigator has developed a radio-operated device which enables forestry headquarters to call a forester or fire warden at a remote point even though the latter's radio receiver may be turned off.

A fundamental radio development growing out of communication research is a sonic altimeter which reads directly and continuously in feet from 50 to 5000 the actual clearance existing between an airplane in flight and the earth underneath. This device operates on the principle of sending out a radio impulse and picking it up again when it is reflected back from the terrain. The time interval required for this reflection is translated into feet of clearance between plane and ground and so indicated on an instrument. Other aviation radio developments include improvements in facilities for two-way communication between plane and ground and still further extensions in development and operation of radio beams for flight control. Radio devices for the successful consummation of blind landings have been developed to a point where the results are distinctly encouraging. Facsimile transmission by radio was enormously improved during the year. The common application of this process is to the transmission of pictures, but increasingly has to do with the facsimile transmission of almost anything else from bank checks to printed pages.

For the purpose of considering various phases of telephone, telegraph, and radio operations on an international basis, an international conference was held in Cairo, Egypt, early in February, 1938. Among important matters considered was that of short-wave broadcasting, a subject that has become of major importance in the political strategy of many nations. The delegates were asked to find a way of allotting wider frequency bands for short-wave broadcasting without seriously curtailing allocations for other purposes. Allocation of frequency bands for aviation radio also presented numerous problems particularly with respect to Europe. In so far as wire communication is concerned, outstanding questions before the conference related to telegraph tariffs and the conventions

underlying word counts. Like those that have preceded it at intervals during the past 60 years, the fundamental objective of the 1938 conference was to establish binding agreements among the sovereign powers that would facilitate international communication development. See TELEVISION.

RAILROAD RETIREMENT ACT. See OLD-AGE PENSIONS.

RAILROAD UNEMPLOYMENT INSURANCE ACT. See UNEMPLOYMENT.

RAILROAD WAGE DISPUTE. See LABOR ARBITRATION.

RAILWAY ACCIDENTS. Casualties on steam railroads in connection with the operation of trains in the United States during the calendar year 1937, as reported by the Interstate Commerce Commission, resulted in the death of 5118 persons, as compared with 5174 in 1936, and in the injury of 20,149 persons, as against 19,592 in 1936. Of the persons killed, 516 were employees, 18 were passengers, 2515 were trespassers, and 2069 non-trespassers. At crossings of public highways and railways in 1937, 1875 persons were killed and 5136 injured, or a total of 7011 casualties occurred in 4489 accidents. This is the largest number both with respect to number of accidents and resulting casualties since 1930. Automobiles were involved in nearly 90 per cent of these accidents in 1937. Major railway accidents throughout the world in the calendar year 1938 follow:

March 8. At Tarragona, Spain, passenger and freight trains crashed, killing 19, hurting 168.

March 14. A passenger and a freight train colliding at Bicocca, Sicily, was the cause of 12 deaths, besides injuring several persons.

April 4. Near Plumtree, Southern Rhodesia, the Rhodesian Mail Express collided with a freight train; 23 were killed.

April 6. Eighty were killed, and many hurt at a railroad accident near Yencheng, China.

June 20. The crack passenger train *Olympian* of the Chicago, Milwaukee, St. Paul, and Pacific R.R. plunged through a bridge over Custer Creek, Mont., that had previously been weakened by heavy rains; 48 persons were killed and a large number hurt. See FLOODS.

July 25. A train wreck at St. Trond, Belgium, was the cause of 5 deaths, and injuries to 15 persons.

August 1. The streamlined trains *Commodore Vanderbilt* and *Mercury* of the New York Central R.R., crashed at Toledo, O., injuring about 20.

August 1. Near Balaclava Station, Jamaica, B.W.I., one of the worst train wrecks of the year took place; 52 persons were killed, and 70 hurt.

August 14. At Querétaro, Mexico, 5 were killed and 8 injured in a railroad accident.

August 22. A train derailed between Trichinopoly and Madura, India, was the cause of 20 deaths and the injuring of 100 persons.

September 21. Twelve persons were killed and 100 injured, when two passenger trains of the Southern Pacific R.R. crashed at Niland, Cal.

October 6. At Viborg (Viipuri), Finland, 14 were killed when a tank of sulphur dioxide exploded in a freight-passenger train collision.

December 19. At Barbacena, midway between Rio de Janeiro and Belle Horizonte, Brazil, a head-on collision between a freight train and an express caused the death of 35 persons and the injuring of over 100.

December 25. One of the worst railway accidents of the year occurred at Eulua, Rumania, on Christmas Day. It was officially admitted that 93 persons had been killed and 340 injured.

RAILWAYS. The background for the railway activities of 1938 was: Freight traffic (ton miles) was 20 per cent less in 1938 than in 1937. Passenger business (passenger miles) was less by nearly 12 per cent in 1938 than in 1937. The net railway operating income was \$362,000,000, which was 39 per cent less than 1937. After fixed charges the deficit for the railways in 1938 was \$125,000,000 as compared with an income of \$98,000,000 in 1937. One hundred and eleven companies, operating 78,000 miles of line, 31 per cent of the total mileage of

the United States, were in receivership or trustship at the end of the year. Net indebtedness of the railways to the government was \$469,000,000 at the end of November, 1938, an increase for the 11 months of \$63,000,000. The number of employees averaged during 1938 about 940,000 which was 174,000 less than in 1937, but during 1938 there was a strongly expressed public opinion that railways should no longer make savings in expenses by laying off men. The average pay for railway employees in 1938 was \$1847, which was the highest on record for the country.

Public opinion, in forbidding railway managements to radically reduce their labor forces, took away from the managements a power that was considered essential. It was as if railway reserves had been wiped out. Railway reserves were almost never in cash. They were in the form of property so well maintained that maintenance expenses, in large part shop and track men's wages, could be greatly reduced for a limited period.

By laying off labor, shop expenses could be reduced to less than a quarter of what they had been. A track gang could be cut from seven men to one without serious detriment to the property and in this way a saving could be made that would enable the company to pay the interest on its debt (bonds) during a period of light traffic. Laying off men with the resulting suffering of the men and their families was painful to many railway officers but the school in which they had been brought up required that property rights—bondholders' interest—must come ahead of human considerations.

It was this change in emphasis as to what really *fixed* charges consisted of, that gave 1938 significance in railway history. During the year the railways had been refused permission to raise their rates. That was not a new experience and inability to lower the *rate* of wages was not a new experience. It is true that the Transportation Act had provided that in consolidations employees should not be laid off but few consolidations had taken place. It was not a law that so drastically affected railways in 1938; it was the application of the spirit of the New Deal that threatened to revolutionize the conduct of the business.

On Jan. 1, 1938, there were 71,562 miles of railway in receivership and during the year the Erie, with a double-track main line from New York to Chicago, was allowed to go into receivership through the failure of the Chesapeake and Ohio, which controlled the company, to lend the money necessary to meet maturing obligations.

This demonstrated the fact that neither private capital nor the Government ventured to support the railways in the desperate situation. The physical properties had been undermaintained for eight years. Bus and truck competition were eating into the revenue that due to the depression was inadequate for solvent operation of the railways alone.

The government administration at Washington had verbally acknowledged the seriousness of the situation but had taken no action. Government officials, including the Interstate Commerce Commission, were fully aware that an emergency existed but no plan to meet it was brought forward. At a meeting of the New England Council Senator Burton K. Wheeler suggested that bondholders temporarily forego interest so that the physical properties could be rehabilitated. For the first time in the history of railways in the United States it is proposed that property rights be used instead of men's jobs as a cushion against economic shocks.

In the spirit prevalent in 1938 of "let someone

else do it" the National Industrial Traffic League, largely made up of shippers, passed a resolution calling on the railways to give "more intelligent" effort to adjust their rates and services to the changed conditions brought about by bus and truck competition. The resolution is recorded not because there is anything either constructive or destructive in it but to indicate the general attitude toward railways in 1938.

A committee was appointed by President Roosevelt to study and report on the railway situation. The committee consisted of Carl R. Gray, president of the Union Pacific R.R.; M. W. Clement, president of the Pennsylvania R.R.; Ernest E. Morris, president of the Southern Railway; George M. Harrison, chairman of the Railway Labor Executives' Association; B. M. Jewell, president of the railway employees' department of the American Federation of Labor, and D. B. Robertson, head of the Brotherhood of Locomotive Firemen and Enginemen. In November, 1938, it was announced that the committee had made "a satisfactory start" on its work.

In connection with the failure of the National Government to bring forward any plan it should be borne in mind that the European crisis had to be met, relief had to be carried on, and the conflict between state and national authority was still in process of being fought out.

There were a few definite proposals made regarding railways. The Railway Business Association, manufacturers of railway equipment and supplies, at its annual meeting in November, 1938, passed a resolution asking "a definite subsidy to the railroads, limited to a period of from three to five years, and based upon a defined proportion, say 25 per cent of their expenditures for maintenance of way and structures during the preceding year." Railway officers thought that to base the subsidy on the preceding year's expenditures was quite unfair since at that time maintenance was being cut to the bone and the roads that in normal times had the highest standard of maintenance were making the deepest cuts so that the roads that had pursued the soundest policy over a series of years would be penalized by receiving the smallest subsidy.

There was evidence that owners of railway securities were in a mood to accept the dictates of public opinion and make property sacrifices in order to tide over an emergency. The Lehigh Valley R.R. management asked the bondholders of the company to assent to a reduction for five years of 75 per cent of the maturing semi-annual coupon payments. This would reduce, for the period, a 5 per cent annual interest rate to $1\frac{1}{4}$ per cent. But the 75 per cent, described as "extended interest," was to retain its lien unimpaired; that is to say, it must be repaid sometime after the five-year omission of its payment. The company expressed the belief "that the present situation may be temporary."

To this request 80 per cent of the bondholders have assented and, with the previous approval of the court and the Interstate Commerce Commission, the plan is operative under the law of 1935, which requires the consent of 75 per cent or more of security holders affected to make such a plan binding.

A similar proposal was placed before the security holders of the Baltimore and Ohio. In the B. & O. plan only 20 per cent of the face value of maturing coupons was to be paid.

A possible definitive solution of the steam railway problem of the United States is suggested in

the report of the Committee appointed by the President of the United States Sept. 20, 1938. The committee consisted of M. W. Clement, president of the Pennsylvania R.R., Carl R. Gray of the Union Pacific R.R., Ernest E. Norris of the Southern Ry., George M. Harrison, B. M. Jewell, and D. R. Robertson. The first three are railway executives and the other three represent railway labor. The report was dated Dec. 28, 1938. There were 64 pages of report. A vital part was: "We recommend appropriate legislation which will provide uniform regulation, similar in character and scope, for all modes of transportation—rail, highway, pipe-line, air, and water (coastal, intercoastal, inland, and Great Lakes)."

The report as a whole implies that bus rates should be fixed high enough to cover the interest on the cost of the highways used by the busses as part of their machine for transportation and that barge rates should be fixed high enough to cover the interest on the cost of improvements to waterways. The total cost of transportation to the whole public would be no higher, necessarily, than it is now but by transferring interest on highway costs and interest on waterway improvement costs from general taxes to a direct charge against transportation it would enable the steam railways to compete successfully against busses, trucks, and barges.

Loans to Railways and National Defense. On Dec. 12, 1938, the Interstate Commerce Commission sent to the railway managements a questionnaire as to the nature and extent of maintenance and capital expenditures necessary to handle the volume of traffic that they actually handled in 1937.

The committee of six mentioned above seems to infer that this questionnaire of the ICC indicates that the government is interested in the advisability of loans by the government to the railways. In its recommendations the committee suggested that the Reconstruction Finance Corporation be authorized to loan the railways such money as the given railway has a reasonable chance of paying back, the rate of interest being 2 per cent and to be a charge ahead only of dividends and contingent interest charges. This latter is important and quite unusual. It would be a distress loan made without any attempt to slip a charge in ahead of that of first mortgage bonds.

In connection with the discussion of government loans to railways it was pointed out that such loans might well be considered an integral part of national defense. Although in 1938 this was in the discussion stage only, it marks an awareness on the part of the general public of a function of steam railways heretofore overlooked. Local needs have so often obscured the importance of a well-balanced transportation system to a country the size of the United States, that even the raising of such a question is worthy of note.

Railway Age, from a study of the situation, says that the money is needed for freight and passenger cars, locomotives, structures, track, and signals.

It was the discussion of financial problems that was of interest to the general public but there were some among the railway officers who thought that the permanent stability of steam railroad industry could be attained along lines suggested by past railroad history. It was pointed out that:

The Union Pacific had been converted from a bankrupt to a highly prosperous railroad by supplying a main line with feeders at both ends.

The Southern Railway had been made to function as a profit earner by concentrating traffic on a well-built main line, Atlanta, Ga., to Washington, D. C.

The New York, New Haven, and Hartford in the face of severe competition had been enabled to earn a profit by building a yard at the east end and another at the west end, and thus concentrating traffic on the main line connecting these two yards.

A freight train of 30 cars each loaded with 40 tons of revenue freight moving 500 miles, even if the ton mile rate is as low as half a cent per ton mile, will bring in gross of \$3000.

It was the thought of railway officers that systems based on such main lines as here suggested would be profitable steam railway systems. The feeder lines could be either light steam lines or truck lines or combinations of the two. It was contended that while there would be some shift in the manner in which labor was employed there need not be wholesale unemployment. It would be, in effect, adapting steam operation so that it would perform the work for which it had unequaled facilities.

Even railway officers, who were not dependent on the favor of bankers for their jobs, pointed out that reducing interest charges would not solve the present problem. In the first eight months of 1938 net operating income (the amount left after paying expenses of operation and taxes) was 155 million dollars, that is, at the rate of 233 million dollars a year. This is 6 per cent on 4 billion—the Interstate Commerce valuation of the railways is 20 billion dollars.

Some idea of the theories of the majority of the Interstate Commerce Commission as to reducing interest charges may be had from the reorganization of the Spokane International which they approved during 1938. In this case 4½ per cent first lien income bonds were to be issued. The interest on these bonds was to be cumulative against available net income if earned and not paid up to 13½ per cent. The new bonds were to be exchanged, 600 dollars new bonds and 6 shares of new stock for 1000 face value of old bonds. Eastman objected because no provision was made for new financing but Eastman was in the minority.

Earnings. The following table shows the earnings and expenses of all railways in 1938 and 1937.

	1938 millions	1937 millions
Freight revenue	\$2,845	\$3,378
Passenger revenue	405	443
Mail revenue	96	98
Express revenue	48	57
All other	156	190
Total	\$3,550	\$4,166
Maintenance of way	\$ 425	\$ 496
Maintenance of equipment	668	827
Traffic	103	105
Transportation	1,352	1,510
General and other	162	181
Total	\$2,710	\$3,119

Although new capital has been restricted since 1929 some progress has been made in improving the railway plant. A report on the Delaware and Hudson welded rail, described in the 1937 YEAR BOOK, says the rails "have shown stability in line and surface without apparent ill effects from the rail continuity."

The substitution of Diesel-electric locomotives for some steam locomotives is the most radical change that has taken place in 1938 in the motive-power situation of the railways.

On October 31 the Seaboard Air Line (the company is in receivership), exhibited the first of its new 6000-h.p. Diesel-electric locomotives for the southbound run of its finest train, the Orange Blossom Special.

The run is from Washington, D. C., to Miami, Fla. The train consists of 3 sections of the locomotive, 3 Pullmans, 1 coach, 1 diner, and 1 combination passenger and baggage coach. The locomotive was built by the Electro-Motive Corporation. It is comprised of three 2000-h.p. units coupled together and operates from a single control station in the leading unit. The complete locomotive is 210 ft. long, 13 ft. 11 in. high, 9 ft. 10 in. wide, and, equipped for service, weighs 900,000 lb. Each of the three units carries 1200 gal. of fuel oil and 1000 gal. of water to cool the engines and to heat the train. On the run from Washington to the south of Florida, nearly 700 miles, there are only two fueling stops. In each unit there are two Diesel engines, each of which drives a 600-volt direct-current electric generator which furnishes current for the motors. Two motors are mounted on each of the six-wheel trucks, making 12 motors for a three-unit locomotive. Regular service was begun on Dec. 15, 1938.

Thus for the first time passengers were able to travel from New York City to Florida resorts on trains powered by electricity, the Pennsylvania Railroad's electric locomotives pulling the train from New York to Washington and there turning it over to the Seaboard Air Line's Diesel-electrics.

The changes in the design of steam locomotives were slight. For instance, the Southern Pacific passenger locomotives delivered in 1937 had 73½-inch driving wheels and with the booster had a total tractive force of 74,710 lb. and those delivered in 1938 had 80-inch drivers and a tractive force of 75,000 lb.

Changes in the design of passenger cars continued in the direction of streamlining of trains and detailed comfort for travelers.

On June 16, 1938, the Twentieth Century Limited of the New York Central, streamlined completely, arrived on time in Chicago on the new schedule of 16 hours from New York, and on the same morning the Broadway Limited of the Pennsylvania, also streamlined, also on a 16-hour schedule, and also on time, arrived in Chicago from New York. The schedule of each train was half an hour faster than the one that had been in effect. The Century ran in two sections, the first of 10 cars and the second of 15 cars. The Broadway ran in one section with 11 cars. The Century carried 225 passengers and the Broadway carried 99. The Century reached a top speed of 85 miles an hour and the Broadway a top speed of 90 miles an hour. Both trains are all-room trains, the first in the country.

The Union Pacific's City of Los Angeles, running from Chicago to Los Angeles, was re-equipped and now consists of a two-unit Diesel-electric locomotive and 11 remodeled cars, one of which, the observation-lounge car "Copper King," has several new features. The rear end of the car is designed to prevent the formation of a low-air pressure space back of the train which would tend to pull up dust from the roadbed and obscure vision. Besides being air-conditioned the car is "light conditioned" by means of 29 Polaroid variable density windows, the first installation of this kind to be developed. These circular windows, 27 in. in diameter, may be adjusted to admit any desired amount of light by turning a knob at each window. The train consists of one auxiliary-baggage-dormitory car; one chair car seating 40; one chair car seating 48; one diner-kitchen car seating 32; one diner seating 60; three 11-section sleepers with accommodations for 22 passengers each; two 7-bedroom

2-compartment cars holding 18 passengers each and the observation-lounge car, seating 41. The total capacity is 190 revenue passengers, 88 in the coaches, and 102 in the sleepers. Details are given here because they show a new trend of thought in American railway practice. It is comparable to the attention that automobile manufacturers give to dashboard design.

Walter E. Dunham, General Superintendent Car Department of the Chicago and North Western, sums up the situation as follows:

True aerodynamics (design) by reduction of cross section, full shrouding, and full trailing construction has not been acceptable to the public. It also has serious operating objections. Instead of reducing the cross section, particularly the internal clearances, there has been with each new streamlined train a gradual return to the former generally accepted interior horizontal and even vertical clearances. By maintaining the former extreme outer widths and taking advantage of possible thinner side construction, the interior width has been increased.

As to the arranging and equipping of the interior, that is another story. . . . The ordinary fixed type of coach seat is being discontinued and the individual adjustable reclining seat of the duplex type is returning to its own, with the swiveling feature added in some instances, so that the passenger may obtain a direct side view from the car if desired. The electric water cooler gives an opportunity to provide also cooling compartments for such uses as infants' special feeding formulas, etc., thus making traveling especially with small children less of a "nightmare" for mothers than it used to be.

With the furnishing of such comfortable coach service for long-distance traveling, including overnight trips, there has developed the use of amusement or lounge cars for coach passengers.

The 1938 lightweight 50-ton capacity box car of the Union Pacific exemplifies new freight-car construction. It has a completely welded underframe of corrosion-resistant low-alloy steel. It weighs 36,900 lb., 8300 lb. less than the 1937 standard of the American Association of Railroads. Mayari R, Bethlehem, low-alloy steel was used throughout the entire car except open-hearth carbon-steel center sill. The cubic capacity is 3735 ft. Thus the lightweight is 9.88 lb. per cubic foot of capacity and the maximum load is nearly three times the tare weight. The car is 40 ft. 6 in. long, 9 ft. 2 in. wide, and 10 ft. floor to roof at sides. The Mayari R sheets, 0.05 in. thick, were used for the roof and sides. A roof for a box car $\frac{1}{20}$ in. thick was a radical departure from the practice heretofore followed in the United States.

Developments in the refrigerator car include the ice bunker, ice hatch, removable bulkhead, application of insulation, and a new method of using dry ice in combination with water ice. The ice bunkers have floor pans which are continuations of the Johns-Manville membrane floor. A well trap of galvanized steel is used. The ice grate support is built up of pressed low-alloy high-tensile steel sections fusion welded together to form a single unit. The ice grate support is carried on shelves at the side of the car, which are a part of the car framing. There are three ice-grate sections in each bunker, which sections are built up of $\frac{1}{8}$ inch inverted V pressed grate bars welded to $\frac{3}{16}$ inch grate-bar ties. These sections are bolted to the supports and are readily removable.

There is one dry-ice container in each bunker at diagonally opposite corners of the car. Each container has a capacity of 300 lb., and is so designed that CO₂ gas can be exhausted either into the car or the atmosphere.

The container can be applied to old as well as to new cars as it is inserted through the hatch and rests on the ice grate. In the combination of dry-ice and water ice in ice bunkers, tests show a lower uniform temperature to be obtained with less con-

sumption of water ice so that the cost of both dry ice and water ice is lower than the cost of water ice alone as used in a conventional ice bunker.

The length of the 40-ton alloy-steel refrigerator car is 41 ft. 2 $\frac{3}{4}$ in. and the length inside lining is 39 ft. 10 $\frac{1}{8}$ in. The length between bulkheads 33 ft. 2 $\frac{3}{4}$ in. Thus the total cubic capacity between ice bunkers is 2130 cu. ft. The width over side sills is 9 ft. $\frac{1}{2}$ in. The height from top of rail to top of running board is 13 ft. The tare weight, weight of empty car, and trucks is 44,200 lb.

The bottom course of insulation applied on the $\frac{5}{8}$ in. blind floor is a 2 in. blanket of Fiberglas faced with muslin and covers the full width and length of the car in one piece. The top course of the insulation is in a panel form of 2 in. Fiberglas covered on both sides with Silalkraft paper.

In this car one side and end is insulated with Johns-Manville Stonefelt and the other side and end with Fiberglas. The sides and ends are insulated with two courses of 2 in. Stonefelt or Fiberglas. They are applied in panels. This construction enables repairs to be made to the steel sides without removing the side lining. By applying the lining vertically, the boards at the damaged panel only need be removed.

The inside lining consists of 2 $\frac{5}{32}$ in. by 3 $\frac{1}{4}$ in. tongue and groove fir applied vertically on sides and ends. The ceiling is formed of 2 $\frac{5}{32}$ in. by 3 $\frac{1}{4}$ in. tongue and grooved fir applied transversely and nailed to yellow pine roof purlines bolted to clips, fusion welded to the roof carlines. The floor consists of 1 $\frac{1}{4}$ in. by 5 $\frac{1}{16}$ in. tongue and grooved fir laid transversely and spiked to the floor nailers. Over this floor is applied Johnsville membrane flooring.

The details of the improvements in steam railway equipment that have been selected for description were chosen because they were steps toward the solution of problems that have been uppermost in the minds of railway officers for 50 years. There were many other improvements. Such trends of thought follow tradition.

Some railway men recognize, however, that to simply improve the tools of steam railway transportation is like improving the design of sailing ships after sailing ships have been made obsolete by other forms of transportation.

The experiment undertaken in 1938 by the New York, New Haven, and Hartford is along lines of co-operation with the newer forms of transportation in an attempt to preserve only that part of steam railway operation that is inherently more economical than any other form known.

The New Haven undertook to carry loaded and empty truck trailers between Boston and New York at a rate of \$32.50 loaded and \$16.25 for the returning empty. The traffic was encouraged by the railway company by building ramps at which flat cars could be loaded with trailers at both Boston and New York. How revolutionary this is can only be appreciated by one familiar with the traditions of railway men. Cut-throat competition was standard practice for railways before 1938. Compelled to make joint rates with competitors by the Interstate Commerce Commission, they gave such poor service to competitors' freight cars that in large part they nullified the Commission's orders. This is to be contrasted with the co-operative action of the New Haven in 1938.

Electrification. The new work of electrification undertaken by the Pennsylvania Railroad includes the main line from Paoli, 20 miles west of Philadelphia, through Lancaster to Harrisburg for pas-

senger service to and from the west; the low-grade freight line from Morrisville, Pa., near Trenton, N. J., via Columbia to Enola Yard near Harrisburg, the freight line from Columbia, Pa., following the Susquehanna River to Perryville, Md., and the freight line from Monmouth Junction to South Amboy, N. J., with connecting branches and yards. This new work involves the electrification of 315 miles of line and 773 miles of track.

In general the same type of system of delivering power to the moving trains will be employed in the extension as is now in use. An 11,000-volt, single-phase, 25-cycle trolley wire supported by a catenary type messenger construction is used over the center of each track. Transmission from power-supply points to substations is over 132,000-volt, single-phase, 25-cycle, two-wire transmission circuits supported on the same structures which carry the catenary system. Substations are 8 to 10 miles apart and in some cases as much as 13 miles apart. Power is supplied at seven separate points and, except at the railroads' own power plant at Long Island City, is purchased from power-supplying companies. Upon completion of the new work the Pennsylvania will have a total of 2677 miles of electrified track. See ELECTRICAL TRANSPORTATION.

New Construction and Lines Abandoned. There were only 38 mi. of railway completed in 1938, comparing with 148 mi. completed in 1937, with 24 in 1933, and with 6026 in 1902. There were 1897 mi. of railway abandoned in 1938, comparing with 1140 abandoned in 1937. The miles of railway abandoned 1917 to 1938 inclusive was 22,140.

Of the total 38 mi. completed during 1938 the largest single project was that of the Virginian (a coal carrier) between Simon, W. Va., and Kopperstown—19.33 mi. The next largest, involving a series of connections at Oakland, Cal., totaling 11.54 mi., was built to enable the Southern Pacific to operate its electric trains over the new Bay Bridge between Oakland and San Francisco. The remainder of the mileage consisted of short lines to reach industries or of construction made necessary by revisions of other facilities.

At least two widely different conclusions are drawn from the extent to which railways are being abandoned in contrast to the restriction of new railway building. One is that the railways have been so unfairly treated that they are now failing to do their part in the development of the country. The other is that railways by adjusting themselves to new transportation needs are successfully helping to develop the transportation needs of the country. If the figures for railway building and abandonment are considered in conjunction with improvements of equipment and service the evidence seems to indicate that the railways are merely changing the character of their development. They are meeting the needs of the times.

Locomotives Ordered. According to the records of *Railway Age* there were 287 locomotives ordered in 1938 comparing with 481 ordered in 1937. Of the 287 ordered in 1938, 35 were for Canada (some of those were exported from there to other countries) and 24 were exported to other countries from the United States. There were 300 locomotives built in the United States in 1938 and 570 in 1937. These figures are very carefully compiled by *Railway Age*, but may be subject to slight correction.

Freight Cars Ordered. In 1938 there were 21,883 freight cars ordered (61,504 in 1937). Of those in 1938, 16,539 were for service in the United States and 4897 for service in Canada; the remaining 447

were for export. Freight cars built in the United States totaled 18,022, as against 76,124 in 1937.

The largest order placed with outside builders was that of the Southern Railway which included 3064 40-ton box cars and 3377 drop-bottom, 50-ton, gondola cars.

Passenger Cars Ordered. There were 293 passenger cars ordered in 1938 as against 928 ordered in 1937. The passenger cars built during 1938 in the United States totaled 264.

Signaling. *Railway Age* says: "Automatic signaling is justified on 6000 miles of line not now so equipped, but the great opportunity in this field is to utilize new systems of signaling, such as modern interlocking, remote control, centralized traffic control, cab signaling and car retarders."

Material Costs. Although prices for materials bought by railways were a little higher in the early part of 1938 than during 1937, there was a considerable drop in the latter part of 1938. Thus the price of bituminous coal for locomotives to all roads, as reported to the Interstate Commerce Commission, averaged 3 per cent more at the mine in 1938 than in 1937 and 5 per cent more with freight and handling charges included, but coal at the end of 1938 was \$1.91 a net ton at the mines, or 5 per cent less than in January, 1938, and the December, 1938, price, with transportation added, was \$2.52, or 4 per cent less than at the beginning of the year.

Cross ties and lumber prices in 1938 were about 10 per cent less than the average in 1937 and at the end of the 1938 year they were 18 per cent less than at the end of 1937. Rails and other materials of iron and steel in the aggregate cost as much in 1938 as in 1937, but in October rails cost \$40 per ton, which was 5.9 per cent less than the cost at the end of 1937. Some equipment is built in the railway's own shops and its cost is a controlling factor in the prices that the roads will pay for cars and locomotives. Boiler steel per cwt. cost \$2.53 in 1937; this dropped to \$2.48 in the first quarter of 1938 and to \$2.28 in the last quarter. Fir lumber for sheathing cars cost in 1937, on an average, \$41.50 per thousand feet; in the first quarter of 1938, \$35 and in the last quarter of 1938, \$28.50.

New Financing. The railways did almost no new financing in 1938. The Chesapeake and Ohio Railway sold \$30,000,000 of 25-year 3½ per cent refunding and improvement mortgage bonds. The price to the bankers was 100 and the bonds were sold to the public at 101½.

Morgan Stanley and Co., doing the investment banking and underwriting business formerly done by J. P. Morgan and Co., offered to the public \$28,000,000 of Duluth, Missabe, and Iron Range Railway company First Mortgage 3½ per cent bonds due 1962. The price to the public was 98. The public offering was made by a prospectus meeting the requirements of the SEC and therefore throws light on the manner of present railway financing. The most notable change from the former manner is the emphasis laid on the railway rather than on the banker. Whether or not the general public acquires a more intimate knowledge of railway operations and problems is to be seen, but at least the facts are now available to the public. Heretofore the public's concern with railway financing has been largely confined to the soundness of the banking house making the offering.

Dividend Changes. There were some important reductions in dividends paid in 1938 as compared with 1937. There were no increases. The Alabama Great Southern reduced its extra divi-

dend from \$4 paid in 1937 to \$3 in 1938. The Atchison, Topeka and Santa Fe reduced the amount to be paid on its preferred from \$2.50 to \$1—before the depression this was a 5 per cent preferred stock. The Chesapeake and Ohio paid a total of \$1.75 in 1938 as compared with \$3.80 in 1937. The Cincinnati, New Orleans, and Texas Pacific paid extra dividends of \$11 as compared with extras in 1937 of \$22.50. The Kansas City Southern paid \$1 on its preferred as compared with \$1.50 in 1937. The Louisville and Nashville paid \$4 in 1938 and \$6 in 1937. The Pennsylvania Railroad paid 50 cents in 1938 and \$1.25 in 1937. The Reading Co. reduced its quarterly payment from 50 cents to 25 cents.

Receiverships. In 1938 nine companies with a mileage of 6194, a funded debt of \$367,840,469, and stock outstanding of \$293,157,200 were placed in receivership or trusteeship. Since a return to solvent operation may mean now either a foreclosure sale or merely a release from trusteeship it is more accurate to use the phrase "taken from receivership or trusteeship," rather than the phrase "foreclosure sale." There were eight companies with a total mileage of 290 taken from receivership or trusteeship in 1938.

The receivership of the Erie with its 2403 mi. has already been mentioned. The company had \$234,933,709 funded debt and \$214,868,100 stock outstanding. It is a company that is grossly over capitalized, but despite this fact it has greatly improved its physical property in recent years. It is strategically located, but has suffered from an insufficient west-bound traffic.

The one other large road which went into receivership was the Minneapolis, St. Paul, and Sault Ste. Marie with 3232 mi. and \$91,315,800 funded debt and \$37,810,200 stock. Controlled by the Canadian Pacific, it serves a wheat-growing country which now furnishes only one-way traffic.

RANDOLPH-MACON WOMAN'S COLLEGE. An institution for the higher education of women in Lynchburg, Va., under the auspices of the Methodist Episcopal Church, South, founded in 1893. The enrollment for the autumn of 1938 was 679. The faculty numbered 73. The endowment amounted to \$1,211,130, while the income for the year was \$502,197. The library contains 48,742 volumes. A new science building was completed in 1937 and in 1938 new laboratories for Psychology were constructed. President, Theodore H. Jack, Ph.D., LL.D., Litt.D.

RAPA ISLANDS. See OCEANIA, FRENCH ESTABLISHMENTS IN.

RAPID TRANSIT. Early in the year PWA Administrator Ickes appointed a commission of four experts to study the plans proposed for two subways in Chicago. In October, President Roosevelt approved a PWA grant of \$18,000,000, or about 45 per cent of the cost of the revised project, which had been at first estimated at \$26,000,000.

The two lines of the final plan are closely parallel in the Loop District, then diverge as they extend eastward, one line following Dearborn St. and Milwaukee Ave., while the other passes down State St. and Clybourne Ave.

Bids were opened December 1 for the first 3600 ft. section and the ground-breaking ceremony was held on the 17th. This section will be in blue clay at about 40 ft. below street level and is to be constructed using the steel, ribbed liner plate and needle-beam type of construction under low air pressure. Thus, after many years of discussion, and the study of a confusing number of alternate plans,

the Chicago subway is at last under construction. See previous YEAR BOOKS.

Progress in the construction of the 6th Ave. link in the Independent Subway System of New York has been satisfactory during the past year. No distinctly new methods have been developed in this work although it is notable that there has been an extensive use of steel beams for carrying the street floor and for shoring, thus eliminating the complicated timber supports of earlier work with their great fire hazard, and also greatly reducing the amount of patching required as the concrete subway sections are built.

As the year closed, work had finally begun on the demolition of the old 6th Ave. Elevated line. There was naturally much criticism of the lack of foresight shown by the Board of Transportation in building the subway before the "El" was removed and thus incurring the extra cost of supporting and underpinning the elevated structure. While the "El" is carried in part on the Manhattan Tubes, and thus did not affect the construction of the new subway, it was estimated that the additional cost was from one and a half to five million dollars.

RAYON. According to the annual survey of the rayon industry by *Rayon Organon*, New York, the world production of rayon for 1938 was estimated at 1,900,000,000 lb. as compared with an actual total of 1,823,000,000 in the previous year. Of the 1938 total, filament yarn amounted to 975,000,000 lb. and staple fiber 925,000,000; these products for 1937 were 1,205,000,000 lb. and 618,000,000 respectively.

The United States production in 1938 of rayon filament yarn was about 26 per cent of the world total, but only 3 per cent of the staple fiber total. Japan continued to be the largest rayon-producing country in the world, with a total production of about 550,000,000 lb. in 1938; this figure represents about 20 per cent of the world filament yarn and about 35 per cent of the world staple production. German and Italian staple fiber production increased substantially in 1938.

Rayon consumption in the United States during 1938 reached a new all-time high total of 327,387,000 lb., which compares with 322,623,000 consumed in the record year of 1936. In 1938 rayon filament yarn consumption was 274,000,000 lb. and staple fiber 53,000,000; in 1937 the figures were 267,000,000 and 41,000,000 respectively. Exports of rayon yarn for 1938 were valued at \$11,031,491; imports for the same period at \$6,965,836.

Rayon yarn consumption by principal trades in 1938 showed no significant changes. In the viscose-cuprammonium division, the main change was an increase in shipments to the knit underwear and outerwear industry. For the acetate yarn, the larger takings by the hosiery and the broad weaving industries were especially noteworthy. In the broad weaving field, the increasing use of acetate yarn in combination with viscose yarn or other fibers has undoubtedly been a real factor in the increase shown.

RECESSION. See BANKS AND BANKING; BUSINESS REVIEW.

RECOVERY LOAN ACT. See UNITED STATES under Congress.

RED CROSS, AMERICAN NATIONAL. A semi-governmental organization chartered by the Congress, January, 1905. Its chartered obligations are: "To furnish volunteer aid to the sick and wounded of armies in time of war . . . to perform all duties devolved upon a national society by each nation which had acceded to the Treaty of Geneva . . .

to act in matters of voluntary relief and in accord with the military and naval authorities as a medium of communication between the people of the United States and their Army and Navy . . . to continue and carry on a system of national and international relief in time of peace and to apply the same in mitigating the sufferings caused by pestilence, famine, fire, floods, and other great national calamities, and to devise and carry on measures for preventing same."

Under these obligations the Red Cross conducts services as follows: Relief work in disaster; for World War veterans; for men in the regular Army, Navy, Coast Guard, and Marine Corps; enrollment of nurses' reserve for the U.S. Army; first aid and life-saving instruction courses; public health nursing; instruction in home hygiene and care of the sick; volunteer service, including furnishing clothing, surgical dressings for emergencies, Braille books for the blind, ambulance, motor-corps, and canteen services, etc.

The American Red Cross had 3715 chapters, with 7843 chapter branches in the United States and the insular possessions on June 30, 1938.

Disasters during the fiscal year called the Red Cross into action in administering relief 171 times in the United States and its insular possessions. Aid was given 420,000 persons and only eight states escaped some type of catastrophe.

During the year 88,149 life-saving certificates were issued, and 186,000 persons were qualified as beginners or swimmers under Red Cross supervision. Through the same period 295,000 first-aid certificates—38,000 more than were issued last year—were granted to students who successfully completed the course prescribed by the Red Cross.

The problems of 165,049 ex-service men or their families were dealt with by chapter workers. In hospitals and regional offices of the Veterans' Administration and in other Government hospitals, representatives of the national organization dealt with 50,326 ex-service men or their families. Chapters aided 11,121 men now in regular service, or their families. Red Cross field directors in Army, Navy, Coast Guard, and Marine Corps stations and workers in Government hospitals handled the cases of 40,104 men in active service or their families.

On the active list of the Red Cross Nurses' Reserve are 42,059 nurses ready to respond to calls from Army, Navy, and Red Cross disaster service.

Public health nurses made 1,043,954 nursing visits to or on behalf of patients; inspected 559,187 school children within the 12 months. At the close of the fiscal year 663 public health nurses were employed in 494 communities.

Hygiene and home care of the sick was taught by 1775 graduate nurses. Under them, 58,754 students who received instruction satisfactorily completed the course and were awarded certificates. Since the Red Cross first undertook teaching such courses, it has issued 951,639 certificates.

Accomplishments of volunteers, numbering 197,397 aside from those engaged in disaster relief, include: Production of 331,646 garments; 386,824 pages of Braille printed by hand for blind readers; 17,806 Christmas bags for distantly stationed men of the Army and Navy; the making of 51,809 calls by members of motor corps; the making of 17,243 home service visits; the preparation of 4,591,765 surgical dressings; the feeding of 50,397 persons by canteen workers.

Membership for the year ended June 30, 1938,

was 5,523,585 men and women—an increase of 619,269 over the previous year.

The Red Cross continued to concentrate on First Aid on the Highways and the prevention of accidents in the home and on the farm. At the close of the fiscal year 2454 First Aid stations were in operation on principal highways throughout the nation, with trained personnel in attendance at each station, and many more are planned for the coming year. A total of 2051 mobile first-aid units are also in operation. During this same period the campaign against home and farm accidents was carried out with a great amount of assistance given by school children. The Red Cross reached an estimated 7,000,000 dwellings with check-lists of accident hazards and instruction for the removal of these hazards.

During the fiscal year the American Red Cross was active in the field of international relief. It contributed \$26,523.79 to the work of the International Red Cross Committee at Geneva to assist non-combatants and prisoners of war in Spain, and to facilitate the exchange of news between anxious relatives and persons stranded in Spain. For Chinese civilian relief the American Red Cross asked its chapters to raise a relief fund of \$1,000,000, and much of this has already been expended. The American Red Cross contributed \$200,000 from its treasury to the fund, which is administered by the American Advisory Committee composed of representative Americans resident in Shanghai, and which has procured food and clothing for destitute Chinese civilians as well as helped establish medical and refugee units in China. In addition the American Red Cross helped finance the repatriation of American citizens in China. In both Spain and China the Red Cross offered assistance impartially to both factions.

The President of the United States is president of the American Red Cross. Norman H. Davis is chairman of the Central Committee, having been named by President Roosevelt on Apr. 12, 1938, to succeed the late Rear Admiral Cary T. Grayson. The Central Committee is composed of 18 members, 6 of whom are appointed by the President of the United States to represent the Government.

REED COLLEGE. A non-sectarian, coeducational college of liberal arts and sciences in Portland, Ore., established in 1911. Enrollment for the first semester, 1938-39: Men, 304; women, 238; total, 542. Enrollment for attendance at the three 1938 summer institutes of International Relations, Northwest Affairs, and Education, 276. Faculty numbered 44. Endowment assets for 1937-38, \$1,811,526; net endowment income (exclusive of gifts), \$53,234; college operating budget for 1937-38, \$171,390 (does not include Commons or Dormitory). Volumes in the Library, approximately 63,000. A Student Union Building is now under construction. Through a grant by the Carnegie Corporation, a resident sculptress of distinction, with whom an extra-curricular group of students is working in the studio, is spending the year at the College. President, Dexter Merriam Keezer.

REFERENDUM. United States. Federal. The proposal for popular ratification of constitutional amendments (1937 YEAR BOOK, p. 648) moved a step forward in March with tentative approval by the Senate Judiciary subcommittee. Another Indian plebiscite (*ib.*) resulted in the adoption of 14 tribal constitutions and 13 tribal charters. Indians of the Cass Lake Agency voted overwhelmingly against its removal to Duluth as ordered by the Indian Bureau. Navajos elected their

tribal council with a first use of colored ballots, without other designation, their language having no alphabet. Crop-control plebiscites resulted in approval by New York potato growers in August (by 2 votes) and rejection by those of Nebraska. In the December voting, cotton control was approved and that for rice and tobacco rejected.

Alabama. Constitutional amendments were adopted as follows: (1) Requiring Limestone County to levy a malaria control tax if approved by a vote of the electors (11,889 to 47,764); (2) providing impeachment for sheriffs who allow prisoners to be seized and mobbed (95,848 to 81,066).

Arizona. A constitutional amendment was adopted (37,438 to 28,478) disqualifying legislators, during their terms, from appointment to other state offices. Proposed measures rejected: (1) To exempt from taxation homesteads up to \$5000 (43,771 to 39,589); (2) to limit terms of appointed state officers to that of governor (34,752 to 33,016).

Arkansas. Constitutional amendments were adopted as follows: (1) Authorizing a workmen's compensation law (77,028 to 45,966); (2) exemption of new manufacturing establishments from taxation (70,989 to 49,226); requiring the Supreme Court to regulate the practice of law and the conduct of attorneys (74,290 to 46,932); abolishing "committee nominations," special elections, and appointment of relatives to vacancies (63,414 to 56,947). Rejected proposals: State assumption of local obligations for improvements (65,544 to 51,771); creating a state board of education (64,906 to 56,994); county option liquor law (initiated) (71,702 to 56,439); refunding state bonds (83,982 to 40,753).

California. Out of 25 proposed measures, but seven were adopted, viz.: (3) reserving revenues from motor vehicles for highway purposes (1,505,043 to 766,063); (5) regulation of fisheries (1,309,007 to 795,023); (6) eliminates deduction from taxation of reinsurance premiums paid other admitted insurers (1,424,076 to 609,135); (7) gives legislature "plenary power" to administer relief (1,166,589 to 834,332); (12) exempts Golden Gate Exposition Co. from taxation (1,067,573 to 943,533); (14) provides removal of judges convicted of "crime involving moral turpitude" (1,782,330 to 346,701); (17) allows 40 days additional for preparing measures for submission to popular vote (985,255 to 832,359). The following were rejected: (1) To prevent coercive acts by "strikers" and provide for penalties, damages, and injunctions (1,476,379 to 1,067,229); (2) to regulate pounds (1,581,258 to 721,126); (5) highway traffic regulation (1,358,351 to 904,491); (8) to authorize gifts to political subdivisions (1,395,523 to 479,500); (9) to exempt veterans from certain taxes (1,288,517 to 839,379); (10) to permit leasing of public beaches for oil drilling (1,666,251 to 491,973); (11) to create a new district (with an elective member) of the State Board of Equalization (1,371,153 to 540,578); (13) to authorize issue of bonds for acquisition of public utilities (1,465,841 to 516,591); (15) to admit laymen to State's Judicial Council (see CAL. ST. BAR JNL., XIII, 11) (972,526 to 806,742); (16) pensions for retired judges (1,105,183 to 822,982); (18) for custody of state funds (998,421 to 826,901); (19) for distribution of surplus funds to veterans (1,493,574 to 405,552); (20) for gradual introduction of "single tax" (1,836,585 to 372,386); (21) to extend tax exemptions of property used for charitable or educational purposes (1,323,176 to 760,482); (22) to regulate adoption of municipal charter amendments (1,086,405 to 702,387); (23) to increase allowances for legislative employees (1,378,262 to 451,880); (24) similar to (10) *supra* (1,744,801 to 309,795); (25) for retirement life payments ("\$30 every Thursday"; 1,398,999 to 1,143,670).

Colorado. Initiated measures were rejected as follows: (1) To repeal the act requiring licenses for stores (230,169 to 146,757); (2) to permit every recognized profession to regulate its own members and every person to choose his own "healer" (277,460 to 83,356); (3) to authorize old-age pensions (proposed constitutional amendment; 239,005 to 140,189).

Florida adopted the following constitutional amendments: (1) Exempting from taxation, homesteads up to \$5000 (119,728 to 11,442); (2) requiring published notice of legislative intent to enact local or special laws affecting municipalities (99,996 to 10,204); (3) requiring taxation for state expenses, debts, and public instruction (110,104 to 15,108); (4) regulating the state ("national") guard (98,616 to 16,365).

Georgia adopted 23 constitutional amendments; but 21 of them authorize political subdivisions to levy taxes, issue bonds, or take some other action which, in most states, would be covered by a general constitutional clause; the others authorize (1) county levies for conservation, forest protection, etc. (28,418 to 7536); (2) legislative sanction of county levies for medical care of resident, indigent invalids (28,552 to 6669).

Idaho. A comprehensive (initiated) measure, creating a commission for the protection, preservation, and control of "wild life" was adopted (118,448 to 37,442).

Illinois. A proposed constitutional amendment to remove the double liability of bank stockholders and repeal the requirement of submitting bank legislation to the voters, was lost for lack of the required two-thirds (922,237 for to 352,428 against). A "Question of Public Policy" (instructing members of Congress to vote against drafting American boys to fight on foreign soil) was answered in the affirmative (1,678,352 to 957,696).

Louisiana. 28 constitutional amendments were adopted. Five provide exemptions from taxation; one for "prescribing" ("Outlawing") taxes, after a certain time; two for naming Mississippi River bridges after Huey Long; two relate to educational institutions, one to juvenile courts; one for retirement of judges and another for district attorneys, and others of chiefly local application.

Maine adopted (125,966 to 79,342) a constitutional amendment authorizing longer residence for voters and submitted three "Referendum Questions" re liquor traffic: (1) Option to install state liquor stores (carried in all but 3 of 16 counties); (2) for private sale on premises (lost in 7 counties); (3) for malt liquor sale licenses (carried in all but 2 counties).

Maryland adopted (167,122 to 57,369) a constitutional amendment requiring lapse of 48 hours between issue of license and solemnization of marriage (abolishing "Gretna Green" at Elkton); (2) an additional judge in 2d circuit (92,899 to 59,512). The following were rejected: (3) To authorize income tax (99,314 to 79,562); (4) to authorize lotteries (123,365 to 90,805).

Massachusetts adopted (748,030 to 417,134) a constitutional amendment for biennial legislative sessions; (2) an initiated measure (defeated in the legislature) requiring free, but exclusive, taxicab stands in localities accepting it (664,762 to 614,487). Pari-mutuel betting on licensed horse races was approved in 9 of the 14 counties; on licensed dog races in 4. Representatives in 3 legislative districts were instructed by popular vote to favor restriction to highway purposes of revenues from vehicular traffic; representatives in 3 others, to legislate against free housing, etc.; in 8 districts, to favor Federal pensions for those over 60; from 48 districts to vote against employment in public service, of employees' wives.

Michigan adopted (813,289 to 529,859) a constitutional amendment reserving for highway purposes, revenues from vehicular traffic; rejected one for four-year term for county officers (872,057 to 414,832); (2) for appointment of supreme court judges by governor on nomination of Judicial Council (745,312 to 504,904); (3) a comprehensive, referred measure for a Department of Public Assistance, to supersede various relief agencies (572,756 to 497,569).

Minnesota. Proposed constitutional amendments declared lost under requirement of majority of all votes cast at election: (1) For exchange of state lands (for 609,046 to 259,007); (2) to change publication requirements in amending municipal charters (488,370 for to 260,152 vs.).

Missouri rejected proposed constitutional amendments (1) to increase legislators, compensation and fix session expenses (560,500 to 336,796); (2) rendering state treasurer eligible to re-election (590,591 to 288,457); (3) authorizing special tax levy for county hospitals (567,337 to 303,602).

Montana adopted (71,908 to 46,543) constitutional amendment (1) providing four-year term for county officers and consolidation of offices by county board; (2) investment and disbursement of state educational funds (103,071 to 50,135); (3) referred measure, for local option, retail sales of state liquor store beverages by licensees and allotment of liquor revenues (113,332 to 68,685); (4) initiated measure to authorize issue of \$3,000,000 of highway debentures and for non-divertible gasoline tax (126,247 to 32,134).

Nebraska adopted (190,328 to 178,998) a constitutional amendment removing the double liability of bank stockholders; rejected (333,120 to 115,189) proposal initiated to regulate slot machines and proposed constitutional amendments to reduce number of elective state officers and to extend terms to four years.

Nevada adopted (16,346 to 15,741) a constitutional amendment authorizing withdrawal of public funds from a school district permitting sectarian instruction; rejected (19,392 to 13,483) an initiated proposal of bounties for slaughtered predatory animals.

New Hampshire adopted (96,631 to 23,851) a constitutional amendment reserving for highway purposes revenues from motor vehicle traffic; rejected (for lack of two-thirds) proposals for (1) absentee voting (75,474 for to 38,399); (3) disfranchisement of "paupers" (57,289 for to 53,671); new subjects of taxation, including income and inheritance, and sales (44,950 for to 52,157). The Hampton town meeting on March 8 voted unanimously to restore citizenship to Eunice Cole, convicted of witchcraft in 1656, by a Massachusetts judge.

New Mexico adopted (43,864 to 18,468) a constitutional amendment authorizing the State's Chief Justice to assign two or more supreme or district court judges to sit in any county, and in case of disqualification, a special judge, to be selected by the parties.

New York adopted six of the nine constitutional amendments proposed by the Convention (see LAW) as follows:

(1) The "Catch all," virtually a new constitution (1,521,036 to 1,301,777); (3) grade crossings (1,561,846 to 895,382); (4) to provide low rent housing (1,686,056 to 936,279); (6) labor provisions (1,869,883 to 940,770); (8) social welfare outlay (1,902,075 to 943,296); (9) N. Y. City transit unification (1,407,056 to 935,744). (The blank and void votes outnumbered all others.) The state rejected (2) reapportionment (1,425,344 to 848,367); (5) judiciary (1,550,653 to 641,332); (7) to abolish proportional representation (1,554,404 to 627,123). The city manager plan was adopted in Yonkers (24,072 to 21,169) after previous defeats (1936 YEAR BOOK, p. 656). More than 100,000 voters in 46 towns exercised the local option privilege on the liquor question. On April 12, Peekskill, incorporated as a village in 1816, adopted (3100 to 1256) a city charter, effective in 1940, and voted on 13 financial measures, rejecting appropriations for firehouses and World War Memorial.

North Carolina adopted constitutional amendments (1) providing a four-year term for sheriffs and coroners (206,069 to 197,593); (2) creating a Department of Justice (172,583 to 145,103).

North Dakota adopted on June 28 constitutional amendments as follows: (3) Reducing interest on, and regulating sales of, public lands (95,700 to 76,051); (4) disqualifying legislators from other state positions (106,699 to 64,087); (5) requiring election of state tax commissioner on a no-party ballot (86,822 to 78,206); (6) requiring payment of all state money into treasury and disbursement by appropriation only (83,140 to 75,818); creating a state board of education (93,156 to 71,448); (referred measures) prohibiting dances where liquors are sold (109,619 to 77,046); (initiated measures): abolition of state regulatory department (76,683 to 76,672). The state rejected constitutional amendments for (1) manager plan for county government (94,702 to 80,786); (2) to end ban on re-election of certain county officers (91,219 to 80,246); (initiated measures): (10) for a civil service department (116,632 to 39,710); (11) for a commission to regulate certain county securities transactions (115,785 to 41,301); (12) to reduce legal rate of interest to 3 per cent (121,206 to 45,808); (13) for a state commission to appoint local officials (138,940 to 24,222). On November 8 the voters rejected measures: (1) to regulate dairy products factories (referred; 106,718 to 97,019); (2) to repeal the liquor control act (initiated; 160,365 to 98,478); but adopted (154,367 to 78,427) an initiated "old-age assistance" amendment with a minimum monthly payment of \$40.

Ohio rejected (1,237,443 to 621,011) a proposed (initiated) amendment for appointment of supreme judges by the governor from a list selected by a judicial council consisting of the chief justice and other officials. Voters in nearly 150 localities exercised the local option privilege as to the liquor question. Dayton, which had closed its public schools for lack of funds, defeated a proposed two-mill levy for their maintenance.

Oklahoma rejected proposals (1) authorizing political subdivisions to operate utilities, etc. (266,893 to 98,216); (2) legalizing slot machines (280,284 to 98,360); (3) relative to sale and taxation of oleomargarine (215,799 to 184,619); (4) providing deputy oil inspectors (259,240 to 99,613); (5) for retirement allowances to teachers (218,945 to 183,997); (6) to change salaries and number of legislators (256,745 to 92,264).

Oregon adopted (1) constitutional amendment allowing governor 20 days to consider legislative bills (233,384 to 133,525); (2) measure requiring medical examination of applicants for marriage license (277,099 to 66,484); (3) requiring destruction of slot machines (204,561 to 126,580); (4) prohibiting certain games of chance (197,912 to 129,043); (5) old-age assistance (183,781 to 149,711); (6) regulating picketing and boycotting (197,771 to 148,460); (7) for water purification (247,685 to 75,295); (8) regulating liquor sales (222,221 to 118,282). The state rejected proposals for constitutional amendment (1) to repeal double liability of bank stockholders (165,797 to 133,525); (2) re legislators' compensation (169,131 to 149,356); (3) (initiated) to legalize lotteries, etc. (180,329 to 141,792); (4) citizens' retirement annuity measure (219,557 to 112,172).

Rhode Island approved (101,023 to 79,501) a proposal to make "Columbus Day" a legal holiday; rejected projects for (1) rehabilitation (93,004 to 73,231); (2) refunding bonds (86,163 to 63,913); (3) metropolitan sewers (95,552 to 63,974); (4) bridge construction (90,573 to 69,317); (5) road construction (86,441 to 73,393); (6) public buildings (86,762 to 75,786).

South Carolina adopted five constitutional amendments, only one being of statewide application, viz., to eliminate the property tax for school purposes (21,669 to 19,358). Each of the other four affected but a single county. The voters rejected proposed amendment for the retirement, with pay, of judges (30,020 to 9,385).

South Dakota rejected (1) a proposed constitutional amendment to enlarge membership of the legislature (116,326 to 60,428); (2) a referred measure to substitute a single Unemployment Commissioner for the present three and to provide for administrative and judicial review (118,007 to 106,493).

Texas adopted (91,453 to 71,596) a constitutional amendment requiring oath of all public officers that they have not purchased votes.

Utah adopted (62,098 to 59,850) a constitutional amendment creating a permanent and uniform school fund; rejected proposals (1) relating to taxation (rate, purposes, and distribution) (60,706 to 55,908); (2) to regulate public work hours (61,807 to 41,421).

Washington adopted measures (1) for election of state and county superintendents of schools by non-partisan ballot (293,202 to 153,142); (2) limiting the annual tax levy to 40 mills (340,296 to 149,534); rejected (1) income tax amendment (285,946 to 141,375); (2) initiated measure to regulate strikes and lockouts (295,431 to 268,848).

West Virginia adopted a constitutional amendment removing the double liability of bank stockholders (139,985 to 62,241).

Wyoming adopted (54,180 to 22,702) a constitutional amendment regulating deposit of public funds.

FOREIGN. Austria. On Wednesday, March 9, Chancellor Schuschnigg, in a radio broadcast from Innsbruck, announced a plebiscite on the question of retaining Austrian nationality, for the following Sunday. That move proved his undoing, for a free expression of the popular will was not what Hitler wanted. To prevent it his forces invaded the country on the day before the proposed voting and, instead, on that day another was decreed by the Nazi leaders for April 10, but at the same time the *Anschluss* was declared a *fait accompli*. The ballots, when printed, asked "the German men and women of Austria" if they approved the union effected on March 13. Underneath the query was a large *JA* and a much smaller *Nein*; and no effort was spared to evoke the former. According to the N. Y. Times correspondent the *Ja* vote was 4,453,752 to 11,929 *Nein*; invalid, 5776.

Germany, on the same day and by the same authority, voted for the *Anschluss*, 44,451,401 to 442,981, with 69,486 invalid ballots.

Paraguay. The arbitration treaty with Bolivia (see INTERNATIONAL LAW) was submitted to a popular referendum on October 10 and ratified by 132,000 to 12,000.

Rumania. On February 24, with but three days' notice, all voters were required to appear before their local authorities and answer aloud whether they wished their names recorded as accepting or opposing the King's dictated constitution of 117 articles which abolished political parties and, virtually, the parliament, and vests absolute powers in the monarch. The vote as recorded was (4,297,581 to 5483)—more than at any "political" election.

Switzerland. On July 3, the new Penal Code (abolishing capital punishment, providing reformatory measure for convicts and special treatment for juvenile offenders) was adopted (357,815 to 310,297), and on December 27 a financial measure forming part of a national defense program (508,292 to 194,285).

REFORMED CHURCH IN AMERICA.

Composed originally of settlers from the Netherlands, and known until 1867 as the Reformed Protestant Dutch Church in North America, the denomination has since become largely intermixed with elements from many other nationalities. Its doctrinal standards are the Belgic Confession, the Heidelberg Catechism, and the Canons of the Synod of Dort. The form of government is of the Presbyterian type.

In 1938 the denomination reported 724 churches, 857 ministers, 88,382 families, and 159,343 communicants. In the foreign mission field, which included China, India, Japan, Arabia, and Iraq, there were employed 135 missionaries. Three ordained ministers and three other workers were employed in the mission in the State of Chiapas, Mexico. There were also 100 domestic missionaries who served as pastors of mission churches and as teachers and other workers among the Indians of Nebraska, Oklahoma, and New Mexico, the mountaineers of Kentucky, and the Negroes of Alabama. Contributions reported in 1938 amounted to \$3,132,064 for congregational expenses, 585,106 for denominational benevolence, and \$108,671 for other benevolences.

The church colleges are Hope, at Holland, Mich.; Central, at Pella, Ia.; and Northwestern Junior, at Orange City, Ia., while theological seminaries are maintained at New Brunswick, N. J., and Holland, Mich. The official paper is *The Intelligencer-Leader*, published at Grand Rapids,

Mich. There is also the *Mitarbeiter*, published in the interest of the German-speaking churches.

The General Synod of 1938 met in Asbury Park, N. J. Rev. J. Harvey Murphy, D.D., of Hudson, New York, was elected President and Rev. John A. Dykstra, D.D., of Grand Rapids, Michigan, Vice-President.

Substantial progress was reported for the newly organized Contributory Annuity Fund for Ministers and the Retirement Fund for Lay Workers. There was an advance of some \$20,000 in offerings for the current work of the benevolent boards and of \$150,000 in offerings for congregational expenses.

The motto "With One Accord" was adopted for the year and plans were made for observing the "Golden Milestone" of the Arabian Mission, in which the founders of the Mission, Rev. Drs. James Cantine and Samuel M. Zwemer, were to have a prominent part; and for an extensive campaign among the churches under the leadership of Dr. Murphy, President of General Synod and Rev. Dr. Raymond B. Drukker of the Board of Education, R.C.A.

The meeting in 1939 is to be held with the West End Collegiate Church of New York City, June 8-13. Rev. John A. Ingham, D.D. is Stated Clerk and Treasurer of the General Synod. The denominational headquarters are at 25 East 22nd Street, New York City.

REFORMED EPISCOPAL CHURCH. A denomination formed in 1873 by Bishop George David Cummins, D.D. and associated clergymen and laymen who had withdrawn from the Protestant Episcopal Church. It is liturgical and evangelical and possesses the historic episcopate. The two synods are New York and Philadelphia (Bishop William Culbertson), comprising churches from New York to Virginia, and Chicago (Bishop Frank V. C. Cloak, D.D. in jurisdiction), comprising those in Illinois and Ohio. At the twenty-eighth triennial session of the general council, held in Philadelphia, Pa., May 27, 1937, there were reported 68 parishes, served by four bishops and 60 other ministers, with 8900 communicants.

The Church's paper, the *Episcopal Recorder*, has been published continuously in Philadelphia for 116 years. Its theological seminary, 25 South 43d St., Philadelphia, was founded in 1886. The foreign mission field is the Lalitpur district in India, with more than 200,000 inhabitants. To the evangelistic department and the orphanage, a medical department, with hospital, was added in 1933. The home mission field, under the care of Bishop Joseph E. Kearney, D.D. consists of 36 parishes and missions among the Negroes of South Carolina. The office of the mission boards is 1016 Girard Trust Building, Philadelphia. The presiding bishop and president of the general council was Bishop Frank V. C. Cloak, D.D.; the general secretary is Bishop Howard D. Higgins, Th.M., and headquarters are at the seminary.

REFUGEES. See IMMIGRATION; JEWS.

RELIEF. Development of Public Policy. With the inauguration of the Public Works program and the Works Progress Administration program, in the second half of 1935, the Federal Government began the gradual liquidation of the Federal Emergency Relief Administration. The upshot was, the task of carrying the general relief burden—that is to say, the care of those unemployed who could not for one reason or another fit into the works program or that of the Social Security Board—was transferred back to the States

and municipalities. Final grants to the States for general relief purposes were made by the FERA in December, 1935.

It is interesting to note the great drop in the cases receiving general relief as a result of the expansion of Federal programs into other fields. Thus in January, 1935, 5,276,000 cases were in this category as contrasted with 2,216,000 cases in January, 1936, 1,903,000 cases in January, 1938, and 1,629,000 cases in December, 1938. Also, in January, 1935, the Federal Government, under the FERA program, expended \$148,437,000. As a result of the change in plans, in January, 1936, the States and local governments expended for general relief in January, 1936, \$47,915,000, in January, 1937, \$37,906,000, and in September, 1938, \$35,453,000. In December, 1938, the cost of general relief had risen to \$40,771,000.

In the 40 States for which actual figures were reported for September, 1938, there were 1,300,000 cases on general relief for which obligations amounting to \$31,600,000 were incurred. The average monthly payment per case in these States amounted to \$24.09. The averages for individual States ranged from \$4.36 in Mississippi to \$32.94 in New York. There were only six jurisdictions—California, Connecticut, the District of Columbia, Massachusetts, New York, and Pennsylvania—in which the average payment per case was greater than the average for the whole group. Four of these six States—California, Massachusetts, New York, and Pennsylvania—accounted for two-thirds of the total amount of relief expended and for more than one-half of the total number of cases.

Total Relief Bill and Load. The accompanying Table I presents the expenditures for all public relief purposes in the continental United States, by months, for the period January, 1937, to December, 1938.

Attention is called to the figures in Table II which concerns itself with the numbers of persons receiving public relief of one kind or another during the period January, 1937, to December, 1938. It will be noted that the estimated number of persons in households receiving public relief rose steadily from September, 1937—when the full rigors of the business decline began to make themselves felt—up to September, 1938. In September, 1937, there were 13,200,000 persons in relief households as contrasted with 21,200,000 in September, 1938, and 20,900,000 in December, 1938.

Works Progress Administration. The paradox of business improvement plus inability to separate substantial numbers of persons from the relief rolls continued to be one of the outstanding characteristics of the history of relief during the year. From the end of the summer into the late fall it was estimated by Washington that business had reabsorbed from 1,000,000 to 1,500,000 persons. Nevertheless, at the same time the WPA relief rolls, as reference to Table II will indicate, also rose by nearly 500,000 persons. In September, 1938, the number of persons on WPA totaled 3,111,000, which represented a steady increase since September, 1937, when the number was 1,407,000, the lowest point since the agency was created. The highest previous figure was in 1936, when 3,035,000 persons were being provided for.

As a result of the passage of new legislation in April, 1938, the WPA was granted \$1,440,000,000, which was supposed to cover its needs from July 1, 1938, to Mar. 1, 1939. By the middle of October, 1938, however, the WPA had only \$764,000,000 left.

TABLE I—AMOUNT OF PUBLIC ASSISTANCE AND EARNINGS OF PERSONS EMPLOYED ON FEDERAL WORK PROGRAMS IN THE CONTINENTAL UNITED STATES, JANUARY, 1937–DECEMBER, 1938 *
[In thousands of dollars]

Month	All public assistance and earnings of persons employed on Federal work programs	Obligations incurred for—		Subsistence payments certified by the Farm Security Administration ^d	Earnings of persons employed on Federal work programs				
		Special types of public assistance ^b	General relief ^c		Civilian Conservation Corps ^e	Works Progress Administration ^f	National Youth Administration ^g	Student aid	Other Federal work and construction projects ^h
Jan.	\$ 260,280	\$ 27,806	\$ 37,906	\$ 5,484 ^d	\$ 24,485	\$ 114,838	\$ 2,967	\$ 3,087	\$ 43,707
Feb.	258,091	28,880	39,211	3,755 ^d	24,158	116,047	3,227	3,245	39,567
Mar.	259,096	30,265	39,706	5,553 ^d	21,238	116,912	3,316	3,226	38,880
Apr.	258,952	31,132	35,745	5,260	21,228	113,831	3,347	3,191	45,217
May	253,155	31,698	30,615	3,671	21,039	112,178	3,642	3,106	47,206
June	244,208	31,466	28,226	3,236	19,356	106,368	1,992	2,920	50,643
July	227,300	33,024	29,037	941	19,334	91,690	0	2,491	50,793
Aug.	218,989	34,047	29,969	1,346	19,326	82,778	(ⁱ)	2,348	49,175
Sept.	216,413	35,550	30,293	1,197	16,312	81,146	164	2,193	49,558
Oct.	217,760	36,626	30,738	1,396	18,379	81,369	1,599	2,165	45,488
Nov.	224,389	37,998	33,988	1,779	20,876	82,634	1,977	2,263	42,873
Dec.	229,977	39,376	41,260	2,276	19,912	86,475	2,056	2,429	36,192
Total, 1937	\$2,868,610	\$397,869	\$406,684	\$35,894	\$245,643	\$1,186,266	\$24,288	\$32,663	\$539,299
Jan.	237,388	40,118	46,532	2,204	19,940	93,060	1,996	2,552	30,985
Feb.	245,790	40,592	47,313	2,473	19,309	103,092	2,166	2,688	28,158
Mar.	263,327	41,299	47,569	2,577	18,336	119,693	2,203	2,739	28,911
Apr.	274,141	41,490	41,287	2,336	18,311	131,419	2,255	2,766	34,278
May	283,895	41,750	37,601	2,156	18,014	137,916	2,406	3,075	40,976
June	294,601	41,840	36,987	1,756	17,174	146,068	1,550	3,585	45,642
July	299,406	42,510	36,341	1,291	19,848	155,706 ^k	0	3,701	40,009
Aug.	307,312	42,904	36,288	1,119	20,334	167,999 ^k	6	3,903	34,760
Sept.	311,162	43,353	35,453	1,231	18,767	169,659 ^k	211	3,930	38,558
Oct.	320,321	43,857	34,884	1,492	20,367	176,100 ^k	1,978	4,028	37,616
Nov.	325,572	44,467	36,457	1,703	20,514	177,225 ^k	2,408	4,193	38,605
Dec.	324,504	45,426	40,771	2,262	19,252	172,790 ^k	2,414	4,396	37,194
Total, 1938	\$3,487,420	\$509,608	\$477,483	\$22,600	\$230,166	\$1,750,725 ^k	\$19,594	\$41,554	\$435,690

* This series, in addition to earnings of persons certified as in need of relief, includes the earnings of all other persons employed on work and construction projects financed in whole or in part from Federal funds, except for the CCC. Figures do not include the cost of administration; the cost of materials, equipment, and other items incident to the operation of work programs; or transient care. Figures are partly estimated and subject to revision.

^b Payments from Federal, State, and local funds in States administering the three special types of public assistance under the Social Security Act and payments from State and local funds only in States not participating under the act.

^c Figures for January–March, 1937, from the WPA, Division of Statistics.

^d Figures from the FSA, Rural Rehabilitation Division, represent the net amount of emergency grant vouchers certified to cases during the month.

^e Figures estimated by the CCC by multiplying the average monthly number of persons enrolled by an average of \$70 per month. This average amount is based upon the amount of obligations incurred for cash allowances and for

clothing, shelter, subsistence, and medical care of persons enrolled, and for certain other items.

^f Figures from the WPA, Division of Statistics, represent earnings of persons employed on projects financed from WPA funds and cover all pay-roll periods ended during the month.

^g Figures from the WPA, Division of Statistics, represent earnings during all pay-roll periods ended within the month.

^h Figures from Bureau of Labor Statistics, Division of Construction and Public Employment, represent earnings on other work and construction projects financed in whole or in part from Federal funds, and cover all pay-roll periods ended within the monthly period ended on the 15th of the specified month.

ⁱ For administrative reasons, some payments which would have been certified in December, 1936, and February, 1937, were not certified until January and March, 1937, respectively.

^j Less than \$1000.

^k Includes projects operated by other Federal agencies.

It was generally being conceded that Washington was encountering increasing difficulties in getting out of "this business of relief." This had become increasingly the conviction of Harry L. Hopkins, Administrator of the Federal Works Program, when he admitted to the House Appropriations Committee that in his belief the situation would never correct itself automatically. He called attention to the fact that there was a constant increase in the working population at the same time that technological improvements were continuing to make lesser demands upon this group. He went on to say:

In addition, other factors are in a condition of flux which affects the volume of employment. Seasonal shifts in labor demand, shifts in foreign tariffs and changes in foreign markets, changes in domestic demand for various products and the migration of industries from one section of the country to another all affect the demand for labor.

In the middle of November, Mr. Hopkins was even less sanguine. Speaking before a conference of 1000 WPA executives in New York City, he was prepared to admit that the WPA was likely to continue over a period of 20 or 30 years providing

jobs at useful work for at least two million persons. He predicted eventual abandonment of the needs test as a qualification for employment in the Federal Works Program and acceptance in its place of the concept that a man's right to a job should be determined by his "ability to do a day's work."

He went on to point out that while employment stabilization plans and unemployment insurance were helpful in coping with unemployment problems, neither provided a complete answer. He expressed doubts that the economic system could be made to work without some unemployment. He also called for the introduction of relief administrators and workers into the Civil Service.

With the elevation of Mr. Hopkins to the Cabinet post of Secretary to the Department of Commerce, Col. F. C. Harrington was named Acting Administrator of the WPA beginning December 24. In an initial interview to the press, Colonel Harrington indicated that he had two responsibilities. One was to see that money appropriated went to those actually in need, and the other was to try to get the best work and the most useful results from those on relief. He anticipated that the WPA funds

TABLE II—RECIPIENTS OF PUBLIC RELIEF IN THE CONTINENTAL UNITED STATES, BY MONTHS, JANUARY, 1937–DECEMBER, 1938^a
[In thousands]

Year and month 1937	Estimated unduplicated number receiving public relief Persons in these households	Recipients of special types of public assistance ^b				Persons certified as in need of relief			Persons enrolled in Civilian Conservation Corps ^c	Farmers for whom subsid- ence pay- ments were certified ^d
		Old-age assistance	Families Aid to depend- ent children	Children	Aid to the blind	Cases receiving general relief ^e	Works Progress Admin- istration	Other Federal agencies ^f		
January	5,500	18,000	166	411	47	1,659	2,034	171	177	335 ^g
February	5,400	17,600	171	422	47	1,723	2,033	163	181	329 ^h
March	5,500	18,000	178	437	48	1,681	2,018	164	184	303 ⁱ
April	5,400	17,400	183	451	49	1,563	1,989	176	184	303
May	5,200	16,400	189	464	49	1,393	1,926	183	177	301
June	5,000	15,600	193	473	50	1,288	1,754	175	166	218
July	4,700	14,200	196	482	50	1,269	1,522	124	277	191
August	4,500	13,500	203	502	51	1,282	1,435	121	143	54
September	4,400	13,200	209	517	52	1,279	1,407	119	127	78
October	4,500	13,400	215	533	54	1,283	1,431	113	122	67
November	4,700	14,000	220	544	55	1,383	1,474	109	118	71
December	5,100	15,500	228	565	56	1,648	1,583	102	282	83
									298	109
1938									130	
January	5,500	17,300	234	578	57	1,903	1,852	90	140	109
February	5,900	18,500	241	594	59	2,005	2,026	100	146	120
March	6,200	19,700	247	609	61	2,007	2,340	126	149	126
April	6,300	20,200	252	621	60	1,828	2,326	180	153	117
May	6,400	20,400	256	630	62	1,706	2,619	214	173	112
June	6,400	20,400	258	638	62	1,660	2,704	216	217	93
July	6,400	20,600	260	641	63	1,624	2,897	117	202	93
August	6,500	20,900	266	652	64	1,582	2,981	90	207	70
September	6,600	21,200	269	660	65	1,525	3,111	94	210	62
October	6,600	21,500	271	665	65	1,496	3,139	94	213	69
November	6,600	21,300	275	673	66	1,521	3,105	94	291	79
December	6,500	20,900	278	680	66	1,639	2,887	92	222	89
									227	115

^a For information for January, 1933–December, 1934, see *Social Security Bulletin*, vol. i, No. 6 (June, 1938), p. 45; and for January, 1935–December, 1936, see *Social Security Bulletin*, vol. i, No. 9 (September, 1938), p. 34. Figures do not include transient cases and are partly estimated and subject to revision.

^b Includes not only recipients of public assistance under the Social Security Act but also recipients of similar types of assistance in States not administering aid under the act.

^c Figures for January–March, 1937, from the WPA, Division of Statistics and Economic Research.

^d Figures from the WPA, Division of Statistics and Economic Research.

^e Includes persons employed on projects financed by the Emergency Relief Appropriation Acts of 1935, 1936, and 1937, and the Public Works Administration Extension Act of 1937; and, beginning July, 1938, persons employed on Farm Security Administration projects and on projects of other Federal agencies operating with WPA allocations under the Emergency Relief Appropriation Act of 1938.

^f Figures are averages computed by the CCC.

^g Figures from the Farm Security Administration, Rural Rehabilitation Division, represent the number of emergency grant vouchers certified to farmers. Ordinarily only one grant voucher per farmer is certified per month.

^h For administrative reasons, some payments which would have been certified in December, 1936, and February, 1937, were not certified until January and March, 1937, respectively.

ⁱ Less than 1,000 persons employed this month.

would be entirely consumed by February 7 and expected to consult with Congressional leaders over the amount to be asked as a deficiency appropriation. He also declared, and this was in line with the policy adopted by his predecessor, that because he favored the principle of collective bargaining he had no objection to the organizing of work relief clients into associations under their own direction.

Despite the refusal in official quarters to anticipate serious changes in the policy and program of the WPA, there was fear expressed in many quarters that the President's growing preoccupation with the rearmament program would result in the shifting of relief workers from socially useful projects to those that had only as their purpose the servicing of wartime industry. Indeed, persons in touch with this situation were openly declaring that the national defense program of the President might result in a contraction of WPA and other relief programs because of the refusal of Washington to tap new tax resources in order to finance its defense plans.

RENSSELAER POLYTECHNIC INSTITUTE. A nonsectarian institution for the technical training of men in Troy, N. Y., founded in 1824. In 1938 there were 1483 students enrolled. The teaching staff numbered 151. The productive funds amounted to \$5,591,237 as general endowment; the total income was \$981,568. As gifts for endowment \$142,106 was received. The library contained 30,000 volumes and 31,000 pamphlets. President, William O. Hotchkiss, C.E., Ph.D., D.Sc.

REORGANIZATION BILL. See UNITED STATES under Congress

REPARATIONS AND WAR DEBTS. The chief change in 1938 in the United States Treasury's account with the 15 foreign governments listed as debtors to the United States under the head of funded intergovernmental debts was Austria's disappearance from the number, upon the German annexation of that country. The German Government was notified that the United States Government would look to it for the discharge of Austria's debt, and the Reich Government thereafter was listed by the Treasury as the debtor in Austria's place. The German Government did not during 1938 explicitly commit itself by public statement as to its responsibility for the original debtor in the case. The United States, before stating its position to Berlin on this subject, was informed (March 17) by the Minister of the Republic of Austria, that that country had ceased to exist as an independent nation and had been incorporated in the German Reich.

The American Ambassador at Berlin delivered a note (April 6), citing the Austrian minister's statement, notifying the German Government of its asserted liability for the discharge of Austrian debts concerning the United States, and designating these debts, as follows: The loans made by the United States Government to the Austrian Government under the act of Congress of Mar. 30, 1930, the money borrowed by the Austrian Government in the American market as part of the international loan of 1930, and the dollar loans contracted by Austrian political subdivisions and corporations. No reply to the American note was received, but indications were given informally (May 16) that the German Government was taking the position that it was not under legal obligation to take over the external debts of the Austrian Federal Government. A further American note (June 17) dealing with the German Government's omission of payments due June 1 on the American

part of the international loan of 1930, stated its dissent from the German position as indicated on May 16.

The other 14 foreign governments acknowledging themselves indebted to the United States Government for intergovernmental loans all communicated with the Secretary of State or announced payments to the Treasury. The governments that made payment on their debts in 1938 were three. Greece paid (May 23) \$174,336, which represented 40 per cent of two semi-annual installments of interest that had fallen due in 1937. Greece had made payments in the period from 1932 to 1936. Hungary continued to make in 1938 the semi-annual payments of \$9828 begun in 1937; these payments covered a minor part of the sums falling due in the year. Finland continued to pay the entire amount due on account of its intergovernmental debt to the United States, under the terms of the existing agreements. The 12 governments that made no payments communicated, in each case, their inability to undertake payments in the existing circumstances.

Among the major debtors, Great Britain in particular gave evidence of some renewal of interest in the problem of terminating default. Lord Samuel, in the House of Lords, urged the need of preventing the impression that the suspension of the British payments was to close the chapter as to the British indebtedness to the United States. Lord Snell expressed the view that an attempt at a settlement of the matter was overdue. Lord Lothian asked whether token payments could not be resumed. Replying for the Government, Lord Stanhope expressed official willingness to enter into discussions looking to a settlement, whenever circumstances suggested that a satisfactory arrangement could be reached, but he expressed the fear that it would be disastrous to reopen the subject before that prospect should appear. He deemed it questionable whether the resumption of token payments would suit the United States Government, in view of possible resulting complications on account of the Johnson act.

In unofficial consideration of the subject, George P. Auld contributed to *Foreign Affairs* (July, 1938), a study of the history and prospects of the British war debt, in which was evident the increasing consciousness among American students of the difficulties of the particular problem of "transfer": i.e. of transforming value existent in the debtor's country into value acceptable in that of the creditor; the question was seriously discussed, whether private British capital holdings in divers parts of

TABLE I—WAR-DEBT PAYMENTS THAT CAME DUE IN CALENDAR YEAR 1938

	(Due June 15)	(Due Dec. 15)
Belgium	\$ 9,342,454	\$ 4,642,454
Czecho-Slovakia	1,682,813	1,682,813
Estonia	322,850	458,850
Finland	161,935	232,935
France	90,942,562	22,308,312
Great Britain	85,670,765	122,670,765
Hungary	37,411	51,756
Italy	16,741,593	2,141,593
Latvia	134,883	191,083
Lithuania	169,622	121,467
Poland	4,039,038	5,628,040
Rumania	2,048,750	48,750
Yugoslavia	438,516	38,516
	\$211,733,194	\$160,217,334
	(Due July 1)	(Due Nov. 10)
Greece	\$ 188,169	\$ 559,888
Total	\$211,921,364	\$160,777,222

TABLE II—STATEMENT SHOWING TOTAL INDEBTEDNESS OF FOREIGN GOVERNMENTS TO THE UNITED STATES, THROUGH 1938

Country	Total indebtedness	Principal unpaid *	Total payments received
<i>Funded debts:</i>			
Belgium	\$ 449,080,212	\$ 400,680,000	\$ 52,191,273
Czechoslovakia	165,729,491	165,241,109	20,134,092
Estonia	20,736,660	16,466,013	1,248,432
Finland	8,248,799	8,122,086	5,495,906
France	4,160,824,821	3,863,650,000	486,075,891
Germany (Austrian indebtedness) ^b	26,011,672	25,980,481	862,668
Great Britain	5,419,388,375	4,368,000,000	2,024,848,817
Greece	34,068,437	31,516,000	4,039,888
Hungary	2,364,621	1,908,560	497,951
Italy	2,022,745,423	2,004,900,000	100,829,880
Latvia	8,546,037	6,879,464	761,549
Lithuania	7,650,388	6,197,682	1,237,957
Poland	259,502,347	206,057,000	22,646,298
Rumania	63,990,796	63,860,560	4,791,007
Yugoslavia ^c	61,740,547	61,625,000	2,588,772
Total	\$12,710,628,624	\$11,231,083,955	
<i>Unfunded debts:</i>			
Armenia	23,303,396	11,959,917	.....
Nicaragua ^d	.....	.....	168,576
Russia	385,372,180	192,601,297	8,750,312
Total	\$ 408,675,576	\$ 204,561,215	
<i>Repayments from other countries ^e</i>			
Grand total	\$13,119,304,200	\$11,435,645,170	\$2,749,492,491

* Includes principal postponed under moratorium agreements and principal amounts not paid according to contract terms.

^b The German Government has been notified that the Government of the United States will look to the German Government for the discharge of the indebtedness of the Government of Austria to the Government of the United States.

^c This government has not accepted the provisions of the moratorium.

^d The United States holds obligations in the principal amount of \$289,899, which, together with accrued interest thereon, are to be canceled pursuant to agreement of Apr. 14, 1938, between the United States and the Republic of Nicaragua, ratified by the United States Senate on June 13, 1938.

^e Includes \$12,286,752 received from Cuba and \$36,472 from Liberia in full payment of debt.

NOTE: Indebtedness of Germany to the United States on account of costs of army of occupation and awards under Settlement of War Claims Act of 1928, as amended, not shown in above statement.

the world could be acquired by the British Government and converted into a means of payment.

Hungary communicated to the U.S. Department of State (Feb. 7, 1938), the outline of a possible basis for a new arrangement with regard to the Hungarian debt to the United States Government. The President sent the Hungarian communication to Congress, which completed no action on the subject during the year.

Apart from all sums included in the group commonly called war debts, Germany owed the United States Government the sum (June 30, 1938) of \$1,247,579,707, which in addition to funded principal, included \$22,555,597 of accrued and unpaid interest. Nearly two-thirds of the total represented the costs incurred by the American army of occupation on account of service in Germany; the remainder was the charge against Germany on account of war claims. The payments that fell due in 1938 on these sums, as to interest and as to principal, were not made.

RÉUNION, ră'ūnyōn'. A French island colony 420 miles east of Madagascar. Area, 970 square

miles; population (1936 estimate), 210,000, as against (1931) 197,933 including 194,272 French, 2242 Chinese, 302 Africans, 921 natives of Madagascar, and 196 British Indians. Chief towns: St. Denis, the capital (26,807 inhabitants), St. Pierre (22,048), St. Paul (22,679), St. Louis (17,237). The chief port is Pointe-des-Galets.

Sugar, rum, manioc, coffee, tapioca, vanilla, and spices are the main products. In 1937-38 (estimate), 85,000 metric tons of sugar were produced; spirits, totaling 9,524,658 gallons, were produced in 1934. In 1937 the estimated value of merchandise imports (in old U.S. gold dollars) was \$6,000,000 (1936, \$4,900,000); exports, \$5,800,000 (1936, \$4,700,000). There were about 80 miles of railway line. The budget for 1933 was balanced at 63,634,000 francs (franc averaged \$0.0503 for 1933). Administration is under a governor assisted by a privy council, and an elective council-general. Réunion is represented in the French Parliament by a senator and two deputies. Governor, M. Truitart.

REVENUE. See UNITED STATES under *Administration and Congress*.

REXISTS. See BELGIUM.

RHODE ISLAND. Area and Population. Area, 1248 square miles; included (1930) water, 181 square miles. Population: Apr. 1, 1930 (census), 687,497; July 1, 1937 (Federal estimate), 681,000; 1920 (census), 604,397. Providence, the capital, had (1930) 252,981 inhabitants.

Agriculture. Acreage, production, and value of the chief crops of Rhode Island, for 1938 and 1937, appear in the accompanying table.

Crop	Year	Acreage	Prod. Bu.	Value
Hay (tame) ...	1938	45,000	58,000 ^a	\$905,000
	1937	43,000	57,000 ^a	884,000
Potatoes	1938	3,900	624,000	468,000
	1937	4,300	838,000	603,000
Corn	1938	10,000	400,000	284,000
	1937	10,000	400,000	336,000

^a Tons.

Finance. Rhode Island's State expenditures in the year ended June 30, 1937, as reported by the U.S. Bureau of the Census, were: For maintaining and operating governmental departments, \$13,352,879 (of which \$1,512,638 was for highways and \$646,957 was for local education); for interest on debt, \$1,007,939; for capital outlay, \$8,441,510. Revenues were \$21,956,518. Of these, special taxes furnished \$2,350,709; inheritance taxes, \$803,268; sales taxes (on gasoline), \$2,388,324; departmental earnings, \$690,704; sale of licenses, \$6,262,589; unemployment compensation, \$4,632,719; Federal or other grants-in-aid, \$4,229,399. Funded debt outstanding on June 30, 1937, totaled \$33,018,000. Net of sinking-fund assets, the debt was \$26,966,219. No assessed valuation of taxable property was stated, and the State levied in the year no general ad-valorem tax.

There were operated, as separate enterprises outside of any of the totals above, a State harbor and a State airport. Both were maintained mainly by the State's general fund. From this source the harbor received, in the year, \$42,322; the airport, \$51,252. The two enterprises owed, on their respective bonds, \$1,222,000, not reckoned in the State's total debt.

Charities and Corrections. Under the administrative system in effect in 1938 the authority over aid granted to needy individuals and over the institutions for the care and custody of persons rested in the Department of Public Welfare (Edward P. Reidy, Director). The Department's functions in-

cluded aid to dependent children, a psychometric service, old-age security, probation, and the government of 12 State institutions. Of the State's tax on gasoline, 3 cents a gallon was set apart for the cost of poor-relief. An act of the Legislature, passed in 1938, specified that no person receiving old-age assistance or other aid under its terms should therefore be classed as a pauper; it also made provisions designed to put the State's assistance to the blind in conformity with the requirements of the Federal Government and thus qualify the State for Federal grants to this end. The 12 institutions under the Department had 5962 inmates by the latest count in 1938. The individual institutions and their respective totals of inmates follow: State Prison, 320; Reformatory for Men, 166; Reformatory for Women, 24; Providence County Jail, 156; Sockanosset School (boys), 161; Oaklawn School (girls), 41; State Hospital (mental), 2699; State Infirmary, 804; State Sanatorium, 496; Exeter School, 703; State Home and School, 312; Soldiers' Home, 80. A State School for the Deaf was separately run by the Department of Education. The Department of Labor administered unemployment compensation.

Legislation. The Legislature met in regular annual session on January 4. In addition to appropriating for the next year's ordinary expenses of the State government it provided \$700,000 to meet the unexpectedly high cost of poor-relief for the rest of the current fiscal year. The session was disturbed by fewer partisan conflicts than some of its predecessors. A bill supported by the Republican minority and designed to insure rollcalls when the minority wanted them was rejected by the presiding officer of the Senate as out of order. Its purpose was to prevent the smothering of opposing voices by the chair. A throng summoned by labor leaders made a demonstration in the Senate chamber (January 6) on behalf of the \$700,000 appropriation and other measures desired by the laboring interest.

Political and Other Events. The New England hurricane, which struck the coast on September 21, did its worst damage in Rhode Island. More than 300 persons lost their lives, according to prevalent estimates. The damage to property was placed considerably above \$100,000,000. The chief harm was done in the communities along the shore, where the sea, driven in by winds of great violence, caused many drownings and washed away structures and stretches of beach. About 10,000 dwellings were reported to have been either totally destroyed or badly damaged. In Providence, water forced up the tidal Providence River filled the low-lying business section to a depth sufficient to wash away and drown people on the tops of automobiles where they had been marooned. Part of the roof of the Union Station crashed. Trees and other objects obstructed many streets and fell among automobiles in which great numbers were trying to return to their homes.

Bailey's Beach, at Newport, was overwhelmed by wind and huge breakers; few remnants of its structures were left; the water carried great blocks of stone from the sea wall up on the golf course of the Newport Country Club. People were drowned in the streets at Newport, Westerly, and Portsmouth. Properties at Watch Hill and Narragansett Pier were ravaged. The extent of the ruin in some of the lesser communities along the shore was exemplified by the town of South Kingston, where the estimated damage was \$2,500,000. Electric current and communications by rail, road, and

wire were cut off for varying periods in many parts of the afflicted area.

Strife between Governor Quinn and Walter E. O'Hara, head of the Narragansett race track (see 1937 YEAR BOOK, p. 653), ended in the submission of O'Hara, who resigned (February 9), under pressure from stockholders and withdrew statements that he had previously published to the detriment of the Governor.

Elections. William H. Vanderbilt (Rep.) was elected Governor at the general election (November 8), defeating Gov. Robert E. Quinn (Dem.), candidate for re-election, by a plurality of about 40,000; Walter E. O'Hara, a third candidate running as an independent, polled only some 11,000 votes. In a referendum a proposal favored by Governor Quinn, for the expenditure of \$27,000,000 on public works, was apparently rejected. Republicans were elected to minor State offices and to many seats in the Legislature. The overturn of Democratic administration followed four years of strongly partisan rule in which the Democrats had prevailed over a virtually helpless Republican minority. Governor-elect Vanderbilt, son of the late Alfred Gwynne Vanderbilt, was a descendant of Cornelius Vanderbilt.

Officers. Rhode Island's chief officers, serving in 1938, were: Governor, Robert E. Quinn (Dem.); Lieutenant-Governor, Raymond E. Jordan; Secretary of State, Louis W. Cappelli; Attorney-General, John P. Hartigan; General Treasurer, Henri A. Roberge; Budget Director and Comptroller, Henry J. Lee; Director of the Department of Education, James F. Rockett.

Judiciary. Supreme Court: Chief Justice, Edmund W. Flynn; Associate Justices, William W. Moss, Francis B. Condon, Hugh B. Baker, Antonio A. Capotosto. Superior Court: Presiding Judge, J. E. O'Connell.

RHODESIA, NORTHERN. A British protectorate in Africa. Area, 290,320 square miles; population (1937), 1,377,346 including 1,366,425 Africans, 10,500 Europeans, and 421 Asiatics. Chief towns: Lusaka (capital), Livingstone, Broken Hill, Fort Jameson, and Mazabuka. On June 1, 1937, a total of 127,000 pupils were enrolled in 1460 recognized schools.

Production and Trade. Maize, wheat, tobacco, coffee, oil seeds, and citrus fruits are the important agricultural products. Teak is the most important timber. Livestock raising is an important industry; in 1937 there were 604,600 cattle in the territory. Mineral production (1937) was valued at £12,751,014 (£6,375,929 in 1936), of which copper (208,172 tons) represented £11,563,653. Other important minerals were zinc, cobalt, and vanadium. In 1937, excluding specie, imports were valued at £4,004,402; exports, including re-exports, £12,021,542. Great Britain took 51 per cent of the exports and supplied 37 per cent of the imports.

Government. For 1937 revenue totaled £981,894; expenditure, £909,252; public debt, £2,347,000. Revenue for 1938 was estimated at £1,484,770; for 1939, £1,480,590. The protectorate is administered by a governor, aided by an executive council of 5 members and a legislative council of 16 members. Governor, John A. Malbin (appointed June 27, 1938).

History. A royal commission, headed by Lord Bledisloe as chairman, left England, during April of 1938, for Northern and Southern Rhodesia and Nyasaland, to "inquire and report whether any, and if so what, form of closer co-operation is desirable between the three countries."

RHODESIA, SOUTHERN. A British dominion in southern Africa. Area, 150,344 square miles; population (June 30, 1938, estimate), 1,375,540 including 1,311,000 natives, 58,870 Europeans, and 5670 Asiatic and colored persons. Chief towns: Salisbury, the capital, including suburbs, had 32,846 inhabitants; Bulawayo, with suburbs, 29,126; Umtali; Gwelo; Gatooma; Que Que; Shabani; Selukwe; Sindura; Wankie; and Fort Victoria. During 1937 (Europeans only) there were 1308 births (22.92 per 1000), 536 deaths (9.39 per 1000), and 686 marriages (24.04 per 1000). On Dec. 31, 1937, the 1418 schools of all kinds had 116,475 pupils enrolled.

Production and Trade. The principal agricultural products were maize, cotton, tobacco, groundnuts, legumes, oranges, and lemons. Dairying was an important industry. Citrus fruit exported in 1937 totaled 162,352 cases. Livestock in the country included 2,316,832 cattle (1938), 306,068 sheep (1936), and 105,610 swine (1936). Mineral production (1937) was valued at £7,484,863 of which gold (804,219 fine oz.) accounted for £5,656,693; asbestos (57,014 tons), £840,026; coal (1,134,656 tons), £497,724; chrome ore (271,265 tons), £367,386; silver, mica, iron, tin, and tungsten also were produced. In 1937 total imports were valued at £8,568,685; total exports, £11,978,984 (including gold valued at the price current on the day of export. Prior to 1937 the price of gold was calculated at the standard price of £4.24773 per fine oz.).

Communications. The total length of railway line in operation during 1937 was 1356 miles. Road motor services with an aggregate length of 1629 miles supplement the railways. There is a network of airways covering the country and connections are made with Imperial Airways' service between London and South Africa. There were 39,924 miles of telegraph and telephone lines in 1937.

Government. For the fiscal year ended Mar. 31, 1938, revenue totaled £3,434,410; expenditure, £3,168,453 (excluding expenditure out of loan funds of £1,186,724); public debt, £12,367,224. The government is headed by a governor who is assisted by an executive council. There is a legislative assembly of 30 members elected for five years by popular franchise. Amendments (with certain exceptions) to the Letters Patent setting up the constitution may be made by a two-thirds vote of the legislature. During October, 1937, an act was passed providing for the establishment of native councils, representative of the local chiefs and native residents in any native reserve, to advise the governor and supervise such local matters as may be entrusted to it. Governor and Commander-in-Chief, Sir H. J. Stanley (appointed in 1934); Prime Minister and Minister of Native Affairs, G. M. Huggins.

History. By amending Letters Patent of 1937 the British High Commissioner in South Africa relinquished certain supervisory powers in connection with native affairs and the trusteeship of the native reserves which were vested in him. See RHODESIA, NORTHERN, under *History*.

RHODES (RODI) ISLANDS. See *ÆGEAN ISLANDS, ITALIAN*.

RICE. The seven countries other than the United States reporting to the International Institute of Agriculture estimated their yields of rough rice for the crop year 1938-39 as follows: Japan 582,721,000 bu., Burma 406,934,000 bu., Siam 241,917,000 bu., Chosen 18,975,000 bu., Italy 35,516,000 bu., Manchoukuo 35,471,000 bu., and Bulgaria 1,290,-

000 bu. The Soviet Republics reported a production of 16,402,000 bu. in 1937-38 and an average of 11,596,000 bu. for the five years 1932-33 to 1936-37.

The Department of Agriculture estimated the 1938 rice crop of the United States at 52,303,000 bu., only 1,069,000 bu. below the all-time record crop produced in 1937 and compared with the average of 42,452,000 bu. for the 10 years 1927-36. The harvested area of 1,068,000 acres compared with 1,088,000 acres harvested in 1937 and the acreage of 906,000 acres for the 10-year period. The 1938 average yield for the four rice-growing States was estimated at 49 bu. per acre, which was 2.1 bu. above the 10-year average. Production in the southern rice area totaled 43,203,000 bu., which was 1,061,000 bu. below the harvest in that area in 1937. The yields of the States in this area were reported as follows: Louisiana 20,748,000 bu., Texas 13,005,000 bu., and Arkansas 9,450,000 bu. The crop was damaged in southwestern Louisiana by an August hurricane and in Texas by heavy rains in the harvesting season. The 1938 crop of California, estimated at 9,100,000 bu., was produced on 130,000 acres, the average yield per acre being 70 bushels. The weather preceding and during the harvest was favorable so that by November 1, about 70 per cent of the crop was in storage.

During the fiscal year ended June 30, 1938, the United States exported 22,390,000 lb. of paddy or rough rice, 295,773,000 lb. of milled and brown rice, and 538,000 lb. of rice flour, screenings, and like products and imported 87,638,000 lb. of broken rice, 7,987,000 lb. of cleaned or milled rice, 5,915,000 lb. of paddy, uncleaned, or brown rice, 3,167,000 lb. of patna, 1,633,000 lb. of rice flour, meal, polish, and bran, and 287,000 lb. of rice straw and fiber. See "Rice Culture in the Southern States," U.S. Department of Agriculture Farmers' Bulletin No. 1808, October, 1938.

RICE INSTITUTE. A coeducational institution for higher education in Houston, Texas, opened in 1912. The enrollment in the autumn of 1938 was 1368, and the faculty numbered 92. The plant equipment and productive funds of the institution were estimated at \$17,000,000, and the income from endowment for the fiscal year 1937-38 was in excess of \$600,000. The library contained 140,000 volumes. President, Edgar Odell Lovett, Ph.D., Sc.D., LL.D.

RIDGWAY, ROBERT. An American engineer, died in Fort Wayne, Ind., Dec. 19, 1938. Born in Brooklyn, N. Y., Oct. 19, 1862, he was educated in the public schools there and at home, and in 1882 he went to work for the Northern Pacific R.R. in Montana and Wisconsin as a chainman, rodman, and leveler. Two years later he returned to New York where he entered the employ of the Aqueduct Commission of New York City, becoming assistant engineer in the construction of the aqueduct, reservoirs, and dams of the Croton system (1886-1900). He then joined the Rapid Transit Railroad Commission, serving as an assistant engineer, and later as division engineer in charge of the construction of the South Ferry Loop, tunnels under the East River, and various Brooklyn subways.

With the establishment of the Board of Water Supply of New York City in 1905, Ridgway became associated with that department as an engineer in charge of the location and construction of the Catskill Aqueduct. In 1912 he joined the Public Service Commission, 1st District, N. Y., and its successors, the Transit Construction Commission

and the Transit Commission, becoming one of the foremost authorities on subway construction. Until 1921 he was in charge of all engineering work of the commission in connection with the rapid transit system of New York City, when he was appointed chief engineer of the Commission. In 1924 he became chief engineer of the Board of Transportation of the City of New York in charge of all rapid transit design and construction in the city, and as such was credited with much of the design and construction of the City's Eighth Avenue Subway Line. He became consulting engineer to the Board in 1932 and retired on Dec. 16, 1933. He then joined the Port of New York Authority as a consulting engineer.

Although Mr. Ridgway's work was done chiefly in New York, he served also as a member of the Chicago Traction and Subway Commission (1916-17); chairman of the board of engineers of the Trans-Bay Bridge, San Francisco (1927); member of the Colorado River Board for Boulder Canyon Dam (1928-32); consulting engineer to the Japanese Government (1929); consulting engineer, Rapid Transit Subways, Chicago (1930-31), and consulting engineer in the rapid transit studies of San Francisco (1935). In August, 1938, he was appointed by Secretary of the Interior Ickes to the Chicago Subway Commission to report on a proposed subway system for Chicago to be financed by the PWA.

A holder of honorary degrees from leading schools and a member of the chief engineering societies, he was president of the American Society of Civil Engineers in 1925 and was elected to honorary membership in 1934.

RIFLE SHOOTING. See SPORTS.

RIOUW-LINGGA. See NETHERLANDS INDIES.

ROADS AND STREETS. Highway construction administered by the U.S. Bureau of Public Roads for the year ended June 30, 1938, included 15,345 miles of all types of improvement, elimination of 711 grade crossings, reconstruction of 144 obsolete grade-crossing structures, and protection by signs and signals of 744 highway-railway crossings. Most of the work was done in co-operation with and under the direct supervision of the several state highway departments. In this way there were completed 9333 miles of the so-called rural portion of the Federal-aid highway system, 2037 miles of secondary or feeder roads, and 760 miles of roads and streets in municipalities, the intra-urban work being a relatively new feature of Federal-aid. Roads in Federal forests and other Federally controlled areas, reconstruction of flood-damaged roads and roads improved with funds allotted by other Federal agencies totaled 3215 miles. At the close of the fiscal year there were 9142 miles of Federal-aid roads under contract and mostly under construction. Of high-character road surfacing done in 1937-38, Portland cement concrete led with 2870 miles. Next came 1989 miles of low-cost bituminous mix. Plain macadam totaled only 316 miles. Gravel and sand-clay, mostly untreated, made up the highest total mileage. Looking to the future, the Bureau says that the greatest needs on main highways are widening, longer sight distances, and reduced curvature. Starting with 12 ft., widths of improved roadways were increased to 14 and 16 ft. The Federal Highway Act of 1921 demanded no more than 18 ft. for two lanes. Soon a surfaced width of 24 ft. will be the generally recognized standard for important two-lane highways. Experience with four-lane roads near and

between large cities shows that traffic in opposite directions should be separated by a dividing neutral strip.

A 140-mile unit in the 480-mile Blue Ridge Parkway was so far completed during the year as to make its opening in the spring of 1939 probable. This unit is located in Virginia and North Carolina. The Overseas Road and Toll Bridge District put into service on March 29 its highway and bridge system joining the island of Key West, Fla., with the mainland. Built with a \$3,600,000 PWA loan, the highway utilizes what remained of the roadbed and bridges of the railroad after the hurricane of 1935.

State gas tax diversion to other than highway purpose was prohibited by constitutional amendments in New Hampshire, Michigan, and California at elections on November 8, in each case by a large majority. In Alabama a similar amendment was defeated by a close vote. In Arkansas an amendment obligating the major part of the State motor vehicle and gas taxes for the payment of principal and interest of highway bonds was defeated. An experimental reinforced-brick road is being tested by the Ohio Highway Department. The reinforcement consists of different types of steel: bars, welded bars, and welded bar mats.

Central and South America. Toward the Inter-American Highway from Laredo, Texas, to Panama City, Panama, the Bureau of Public Roads contributed materially in 1937-38. Besides reconnaissance surveys, the Bureau has aided in the design and supervision of the construction of bridges. The United States has supplied steel, cement, and construction equipment, while the assisted countries provided local materials and labor. The total length of the Inter-American Highway as planned up to the middle of 1938, states the U.S. Bureau of Public Roads, is 3305 miles, thus divided: Paved, 1083; gravel, 447; graded earth, 47; ungraded road or trail, 1732 miles. By the end of 1941 it is hoped that an "all-weather road" will have been completed as far south as Choluteca, Honduras. In Peru, there was officially inaugurated on November 20 a 100-mile addition to the Pan-American Highway.

ROCHESTER, UNIVERSITY OF. A nonsectarian, privately endowed institution of higher education for men and women at Rochester, N. Y., founded in 1850. It includes three schools: The College of Arts and Science, composed of a College for Men and a College for Women, on separate campuses; the Eastman School of Music, and a School of Medicine and Dentistry. A School of Nursing is also maintained in conjunction with the Strong Memorial Hospital, property of the University. The enrollment for the first term of 1938-39 was 2326, exclusive of extension division (1374) and special music students (664), and was distributed as follows: Arts and Science, 1226; music, 355; medicine and dentistry, 188; nursing, 113; graduate students, 416. For the summer session, 406 were enrolled in the arts college and 501 in the music school. There were 538 members on the faculty, including 331 full-time. The amount of endowment was \$51,897,173, and the total income for the year 1937-38 was \$2,280,000, exclusive of gifts totaling \$227,103. The library contained 329,706 books. President, Alan Valentine, LL.D.

ROCKEFELLER FOUNDATION, THE. An organization chartered in 1913 for the permanent purpose of "promoting the well-being of mankind throughout the world." Its program is concerned with certain definite problems in the fields

of the medical, natural, and social sciences, the humanities, and public health, and with rural reconstruction in China. For work in these fields the Foundation during 1938 appropriated approximately \$15,100,000. A statement of the major grants follows.

Medical Sciences. In the field of medicine the Foundation's interest is centered on mental and nervous diseases, and its contributions are chiefly for the furtherance of research and teaching in psychiatry and allied subjects. The larger appropriations for these purposes in 1938 included: \$1,580,000 to the China Medical Board, Inc., for the maintenance of the Peiping Union Medical College; \$1,000,000 to the American University of Beirut, for endowment of the medical sciences, nursing, and premedical subjects; \$700,000 to Yale University, toward support of the Institute of Human Relations; \$634,000 to Washington University School of Medicine, for support of the department of neuropsychiatry, for research in neurophysiology, and for maintenance of its departments of medicine, surgery, pediatrics, and obstetrics; \$150,000 to the University of Chicago, for support of psychiatric teaching and research; \$150,000 to The Johns Hopkins University School of Medicine, toward support of the Institute of the History of Medicine; \$127,500 to the London County Council, for psychiatric research at Maudsley Hospital; \$120,000 for fellowships to be provided during the year 1939; \$120,000 to the Institute for Psychoanalysis, Chicago, for its general program and training analyses; \$100,000 to Columbia University, toward the support of teaching and research in neurology; \$100,000 to the University of Oregon Medical School, for construction of a library; \$90,000 for grants in aid of research, for 1939; \$75,000 to Leland Stanford, Junior, University, for its general research fund in medicine; \$66,000 to the Research Council of the New York City Department of Hospitals; \$60,000 to Dartmouth College, for research in physiological optics; and \$51,000 to McGill University, for research in epilepsy and dementia.

Natural Sciences. The Foundation aims to stimulate and assist studies in the field of the natural sciences which will furnish the factual background essential to the understanding of bodily processes. Appropriations for such studies during 1938 included: \$1,680,000 to the University of Chicago, for the endowment of biological research and for specific studies; \$189,000 to Yale University, toward the expenses of its Laboratories of Primate Biology; \$160,000 for grants in aid of research and \$140,000 for fellowships to be awarded during 1939; \$100,000 to Harvard University, for research in its department of physical chemistry; \$83,700 to Columbia University, for biochemical research; \$75,000 to the University of Illinois, for research on the biochemistry of amino acids; \$70,000 to the California Institute of Technology, for research in biological problems as related to chemistry; \$67,000 to Washington University, for research in general physiology and experimental embryology; \$61,200 to the University of London, for research on vitamins, sterols, and related compounds; \$58,800 to the Eidgenössische Technische Hochschule, Zurich, for research in organic chemistry; and \$51,000 to the University of Leeds, for research on X-ray analyses of biological tissues.

Social Sciences. In the field of the social sciences the Foundation has three spheres of special interest at the present time: International relations, social security, and public administration. Approp-

riations of \$50,000 and over made during 1938 for projects in these fields were as follows: \$2,000,000 to the Spelman Fund of New York, for its program in public administration; \$315,000 to the graduate Institute of International Studies, Geneva, toward its general expenses; \$275,000 to the Social Science Research Council, for conferences and planning, grants in aid of research, and special studies in public administration, social security, and state unemployment compensation; \$200,000 to the Institute of Pacific Relations, for its American and Pacific Councils, and for studies carried on under the International Secretariat; \$125,000 for grants in aid of research; \$105,000 to the National Institute of Public Affairs, for recruiting and training personnel for Federal service; \$102,000 to the Centre d'Études de Politique Étrangère, for general expenses; \$100,000 to be applied for fellowships granted in 1939; \$99,000 to the Council on Foreign Relations, for its research program and the work of the American Co-ordinating Committee of the International Studies Conference; \$75,000 to the University of Chicago, for research and training in public administration; \$75,000 to the Foreign Policy Association, New York City, for support of its research department; \$74,500 to the Pacific Northwest Council of Education, Planning, and Public Administration, for general administration, research, and publications; and \$50,000 to the Geneva Research Center, for a study of commercial policy.

The Humanities. The program in the humanities is concerned with the techniques, such as museums, the radio, drama, and libraries, by which cultural levels of contemporary society are being influenced, and with the promotion of better international understanding through cultural interchanges. Major appropriations in 1938 included: \$112,500 to the American Council of Learned Societies, for its general activities and certain specific researches; \$100,000 to the World Wide Broadcasting Foundation, for developing its program of educational and cultural value; \$90,000 for grants in aid of research to be designated in 1939, and \$75,000 for fellowships to be awarded in 1939; \$70,000 to the Museum of Modern Art, for general support of its Film Library; and \$65,000 to Princeton University, for the development of its Far Eastern studies and for its Index of Christian Art.

Public Health. The Foundation appropriated \$2,200,000 in 1938 for the work of its International Health Division during 1939. This work includes research on a number of selected diseases, among them yellow fever, malaria, rabies, tropical anemia, intestinal parasites, respiratory diseases, and yaws; demonstrations in the control of certain of these diseases in their environment; co-operation with governments in the organization or improvement of important services of central or local health departments; and the development of public health education. Fellowships in public health are provided and public health personnel are given opportunities for training in connection with health demonstrations and through travel. Grants of \$270,000 toward the construction and equipment of a state institute of public health in Stockholm, Sweden, and \$255,000 toward the endowment of the School of Nursing of the University of Toronto, were made directly by the Foundation.

China Program. Conditions in China during the past two years have naturally prevented the development of the Foundation's program in rural reconstruction, but certain grants were made during 1938 to maintain features of the work which

were still being carried on, or which would tend to conserve the personnel trained to prosecute the endeavors. \$170,100 was appropriated for projects in connection with certain institutions under this general classification; \$85,000 to the Associated Boards for Christian Colleges in China, to be expended as emergency grants for maintenance of nine private foreign universities and colleges; and \$70,000 was set aside for fellowships and grants in aid of research.

In addition to major appropriations listed above, the Foundation appropriated \$50,000 as a Special Research Aid Fund for allocation to institutions in behalf of European scholars whose productive careers have been interrupted because of political conditions.

Officers. The executive officers of the Foundation in 1938 were: John D. Rockefeller, Jr., Chairman of the Board of Trustees; Raymond B. Fosdick, President; Thomas B. Appleget and Selskar M. Gunn, Vice-presidents; Alan Gregg, M.D., Director for the Medical Sciences; Warren Weaver, Director for the Natural Sciences; Sydnor H. Walker, Acting Director for the Social Sciences; David H. Stevens, Director for the Humanities; Wilbur A. Sawyer, M.D., Director of the International Health Division; Norma S. Thompson, Secretary; Lefferts M. Dashiell (died, February 28) and Edward Robinson, Treasurer; George J. Beal, Comptroller; Thomas M. Debevoise, Counsel; and Chauncey Belknap, Associate Counsel. Offices were maintained at 49 West 49th Street, New York City.

ROLLINS COLLEGE. A nonsectarian, coeducational institution of higher learning in Winter Park, Fla., founded in 1885. The enrollment for the fall term of 1938-39 was approximately 400. The full-time faculty members numbered 56. The productive endowment, and other invested funds serving as endowment, amounted to approximately \$1,250,000, yielding an annual income of about \$45,000. The net income from all other sources was in excess of \$250,000. The library contained approximately 46,000 volumes, in addition to 5000 public documents. President, Hamilton Holt, Litt.D.

ROMAN CATHOLIC CHURCH. All the life of the Catholic Church is affected by events in Rome where in Vatican City the Pope resides as its visible head. The year 1938 was one of great activity in the Vatican where Pius XI, a man in his eighties, used his indomitable will to fight off the effects of age and ill health. None of the problems with which he had wrestled were new but the greater proportion of them were in an aggravated form. Through his endeavors to promote peace and his numerous pronouncements against the ideologies based on totalitarian forms of government and racial hatreds, he won new recognition as a notable statesman and leader. Yet there was some slackening in his activities for he, who had issued 30 encyclicals during his reign, wrote none in 1938; and he created no new Cardinals.

In the presence of 18 Cardinals and a distinguished company, Pope Pius inaugurated the Pontifical Academy of Science on January 30. In his inaugural address, he emphasized the admirable harmony that must exist between science and faith. He paid a special tribute to the late Senator Marconi, who had put at the service of mankind the electric rays discovered by Hertz. These two, he said, understood that nature was an admirable field for men of good will to ascend toward God, their Creator. On February 11 brilliant ceremonies were held in Vatican City and throughout Italy to ob-

serve the ninth anniversary of the Lateran agreement which re-established harmonious relations between Italy and the Holy See. This celebration antedated by one day the 16th anniversary of the coronation of Achille Ratti as Pope Pius XI.

The Holy Father was greatly saddened by conditions in Austria which led to the *Anschluss*, although he had, long before the actual happening, realized that this Catholic country would be absorbed by a government, which, normally observing its Concordat, nevertheless was continuously, if not always openly, persecuting the Church. He refrained from making any public announcement on the crisis precipitated over the annexation of Austria although he had a two-hour conference with Cardinal Innitzer, Archbishop of Vienna, who made a hurried trip to the Vatican for that purpose. On April 13 on the occasion of the visit of a group of students from Innsbruck, the Holy Father told them that they brought him more abundant consolation than usual but this was mixed with affliction "For there blows from Austria not the breath of spring, but rather a sorrowful tempest." On March 16, receiving the faculty and students of the Russian College in Rome, he declared that he remained optimistic concerning the future of religion in Russia "notwithstanding persecution, suffering and sorrow"; and he blessed especially their preparation to labor for souls in their own country "when the hour of God comes." The canonization of Andrew Bobola, the Polish Jesuit martyr, Giovanna Leonardo, founder of the Clerics Regular of the Mother of God, and Salvatore of Horta, Spanish Franciscan, were marked by great solemnity on Easter Sunday. The Pope, despite ill health, presided at the ceremonies in the Basilica of St. Peter.

The Pope left Rome and took up his residence at Castel Gandolfo on the first of May. His departure from Rome earlier than was usual gave rise to rumors that he had left the Vatican to avoid the visit of Adolf Hitler to Rome. This rumor was officially denied, but in an address on May 4 to a group of newly married couples he regretfully referred to the fact that on a day dedicated to the Holy Cross there was displayed in Rome, to welcome the German dictator, another cross "which is not the cross of Christ." On May 31 Pius XI celebrated quietly his 81st birthday, a Mass of thanksgiving being the only observance of the day, although countless messages of congratulations were received.

On May 27, the closing day of the International Eucharistic Congress at Budapest, to which Cardinal Pacelli was appointed Papal Delegate, the Pope broadcast a message and his blessing. En route to the Congress and from it many pilgrims, including a goodly number of Americans, journeyed to Castel Gandolfo for audiences with the Holy Father. He praised their piety and zeal and hailed the Budapest Congress as a great success, for there were reunited the Faithful from every country with "a few very disgraceful exceptions." He was referring to the fact that the German government refused passports to its citizens to make the trip into Hungary. Among those the Pope received at this time were three prominent Americans. The first was Monsignor Ready, General Secretary of the National Catholic Welfare Council in Washington in whose work the Pope expressed deep interest. He spoke with joy of Christian education and lay organization in the United States in contrast to the suffering of the Church in many countries. In an audience granted the Rev. John LaFarge, S.J., Chaplain of the Catholic In-

terracial Council, the Holy Father expressed keen interest in the work of this organization in America and his approval of the work of all those participating in it. On the occasion of giving a special blessing to the Knights of Columbus, on receiving Martin H. Carmody, Supreme Knight, Pius XI particularly commended the Knights' campaign against communism which, he said, he was informed from authentic sources, was directing its greatest efforts in America as a country in which communists considered easiest progress might be made.

Formal recognition of the Spanish Nationalist Government by the Vatican took place in May. This was marked by the appointment of the Most Rev. Gaetano Cicognani as Papal Nuncio to Burgos and Don Jose Maria de Janguas y Messia as ambassador from Spain to the Vatican. The Holy Father had made available for restoration and relief purposes in Spain over five hundred thousand pesetas distributed during the year by the former Charge d'Affaires, Most Rev. Hildebrand Antoniutti who was later appointed Apostolic Delegate to Canada.

The Pope appointed Cardinal Villeneuve as Papal Delegate to the National Eucharistic Congress, held in Quebec June 22-26. At the closing ceremony the Pope blessed the Congress in a radio broadcast and said: "We congratulate you cordially, because you have given Us to see the ancestral faith of your forebears so vigorously relived today and to behold the pious emulation with which you seek the revival of their excellent example." To a group of Mexican pilgrims received on June 11, the Holy Father spoke words of paternal consolation to them and their countrymen suffering sorrows in the face of persecution of truth. He welcomed Premier Imredy and Mme. Imredy of Hungary on July 20, awarded them the Cross Pro Ecclesia et Pontifice, and sent through them his blessing to all Hungarians, especially those having greatest need of Divine help. Declaring that he "expects much from Japan," the Pope on August 11 extended greetings to a mission of Japanese youth who had previously been guests of the Italian government. When on September 2, he received representatives of Chinese missionary organizations, he expressed deep paternal solicitude for those laboring in the vineyard of war-torn China. An official mission from Manchoukuo was welcomed by the Pontiff on September 10, at which time he said he was delighted to have their good wishes and prayed God would bless their country, their people, and their emperor. In a discourse to the General Chapter of the Capuchins, he recommended severity of discipline above all for those just entering religious life. His words, he said, were directed to the Bishops and clergy in general, as there is in the world today a lack of discipline which compromises everything. In a discourse to Italian Catholic Action assistants on July 21, the Holy Father emphasized the importance of their work and, expressing his gratitude to the Bishops of the whole world, stated: "This period of Our life is so sadly preoccupying and serious in so many parts of the world, but We must say that God has reserved for this last part of Our life not venom but an infinite sweetness, especially in this development"—the continual and ever greater fruitfulness of Catholic Action.

During the summer months the first manifestations of a new Italian racial credo appeared. The Pope immediately and vigorously condemned as erroneous and dangerous "a nationalism in many ways exaggerated, an ill-conceived nationalism"

which is contrary to the law of God and the Faith. This new Italian policy led to disputes as to activities of Catholic Action groups. Commenting on this, the Pope said: "Catholic means universal, not racist, nationalist, or separatist. Catholic Action must be inspired by these principles. . . . Some, as if seizing a propitious occasion, affirm that between Catholic Action and the Fascist party there exists insurmountable doctrinal divergences. This is a silly affirmation." These difficulties were adjusted in August by agreements confirming the stipulations of September, 1931, which regulated the relations between Catholic Action and the Fascist party. However, the Pope repeated his warnings against exaggerated nationalism when he visited the College of Propaganda in August. He termed it "a real malediction" that produces apostolic sterility and recalled the universality of the Redemption. Later he protested the Italian Law toward the Defense of the Race prohibiting marriages between Italians of "the Aryan race" and persons of other races; and King Victor Emmanuel assured him efforts would be made to meet these objections. See ITALY under *History*.

By the express wish of the Pope, enormous congregations participated in the Hour of Adoration, Reparation, and Supplication for peace held in all the churches of Rome on September 25 during the Sudeten crisis. On September 29 he broadcast an appeal to all the world to join him in "most undaunted and insistent prayer" for the preservation of peace. Receiving the Czecho-Slovak envoy a few days later, Pope Pius spoke of the great sacrifice for peace and humanity made by the envoy's country and gave his blessing to "the new Czecho-Slovakia which will certainly have a happier future."

The Holy Father broadcast a message and his blessing to the National Eucharistic Congress held in New Orleans on October 18 at which Cardinal Mundelein was Papal Legate. He returned quietly to the Vatican on October 29 and on November 3 was present in St. Peter's when a requiem Mass was celebrated by Cardinal Pacelli in the presence of other high dignitaries for the members of the Sacred College who died during the year. On three succeeding Sundays, the Pontiff presided at special ceremonies of beatification in the Vatican Basilica—on November 6 for Maria Rossello, foundress of the Sisters of Mercy; on November 13 for Mother Francis Xavier Cabrini, foundress of the Missionary Sisters of the Sacred Heart of Jesus; and on November 20 for Maria Dominia Mazzarello, foundress of the Salesian Sisters. On November 25 the Pope suffered a sudden heart attack which caused much anxiety but the following day he had rallied and shortly thereafter resumed his normal activity. Just before this illness, voicing his distress over conditions in the whole world, he had said: "We continually repeat to God that We would be very happy if He would give Us a happy death, namely, rest to an old man who is now a tired worker. But We add, like St. Martin, that if We can still do something for the common good, God's will be done."

Diplomatically the Church was occupied during the year in many parts of the world. The German absorption of Austria, a country 95 per cent Catholic, foreshadowed persecutions of the Church similar to those in Germany itself. There were immediately grave breaches of the Concordat which had existed between the Vatican and Austria. Various Catholic organizations were dissolved and their funds confiscated; the direction, personnel, and character of Catholic journals were changed; semi-

naries and all private and parochial schools were closed and Catholic leaders were arrested. After a conference with the Pope, Cardinal Innitzer of Vienna issued a statement in the name of the Austrian hierarchy which declared that no "approval of what was, or is irreconcilable with the law of God and the freedom and rights of the Catholic Church" could be issued. The hierarchy only asked freedom of religious practice, and instructions to the clergy in May and June were issued ordering them to abstain completely from any kind of political activity. Nazi demonstrations against the Cardinal took place on October 7, when a mob broke all windows of his residence, sacked his apartment, and attacked and injured priests seeking to protect His Eminence. For a time toward the close of the year, the Cardinal was reported to be held in "protective custody." In Germany there were sporadic demonstrations against various members of the hierarchy and various violences. The Bishops, meeting at Fulda on August 26, issued a joint pastoral in which was stated that "it is obvious that Nazis are aiming at the complete destruction of Christianity." After the partition of Czecho-Slovakia, Cardinal Kaspar, Archbishop of Prague, in a pastoral letter, declared that country's crisis was in great part due to irreligion among the people and he called for a solid Christian reconstruction of the country. A new and stronger agreement between Czecho-Slovakia and the Holy See was being sought at the end of the year. The Vatican protested the Yugoslavian government's decision not to consider ratification of the Concordat signed in 1933. Whereas in Mexico the sporadic persecutions of priests and nuns, desecration of Church property, and suppression of Catholic publications continued, there was indicated a new determination by communicants to continue openly their religious worship. Restoration of churches was won in some parishes but many restrictions imposed by Mexican civil and military authorities still exist.

Assemblies. The outstanding Catholic world event of the year was the 34th International Eucharistic Congress which opened May 25 in Budapest. Over one million attended the various ceremonies in Heroes' Square. The Congress was marked by a Holy Hour and midnight Mass for men and a unique night pageant on the Feast of the Ascension during which illuminated boats steamed for 6 miles down the Danube between the twin cities, Buda and Pest, escorting the Blessed Sacrament. Cardinal Pacelli, Papal Secretary of State, who was serving as Papal Legate, presided at the ceremonies which were closed on May 29 by an address of Pius XI transmitted by radio. Mindful that the Congress coincided with St. Stephen's Jubilee Year which commemorated the 900th anniversary of the death of Hungary's first Christian king, His Holiness acclaimed the spiritual heritage which was Hungary's national glory: "We see in spirit . . . so many men and women from your nation . . . so full of evangelic virtue, who through the brilliance of their lives and example, have illuminated Hungary and have made it a sort of invisible rampart against the enemies of the Christian name and of European civilization." Two other notable assemblies of the year were National Eucharistic Congresses, one held in Quebec June 22-26; and another in New Orleans Oct. 17-20. The Pontiff addressed both Congresses by radio.

The Cardinals. There were no new Cardinals created in 1938 and five members of the Sacred College died leaving its membership at 62, 8 short of its full complement. Patrick Cardinal Hayes

(q.v.), Archbishop of New York, died September 3. Camillo Cardinal Laurenti, Prefect of the Sacred Congregation of Rites, died September 6. Carlo Dalmazio Cardinal Minorette, Archbishop of Genoa, and social scientist, died March 13 at the age of 76. Named Bishop of Crema in 1915, he was transferred to Genoa in 1925 and created Cardinal in 1929. He was head of the Italian "Social Week" and author of a manual on Social Science. Giulio Cardinal Serafini, Prefect of Sacred Congregation of the Council died July 16. Luigi Cardinal Capotosti, Apostolic Datary, died February 16.

The Hierarchy. New Bishops created in 1938 included Most Rev. John H. Peschges, Bishop of Crookston, Minn., consecrated on November 16; Most Rev. Frank A. Thill, Bishop of Concordia, Kan., consecrated October 28; Most Rev. Stephen Woznicki, Auxiliary Bishop of Detroit and titular Bishop of Pelte; Most Rev. Peter Amigo created Archbishop of Southwark, February 10; Most Rev. Francis R. Cotton, first Bishop of Owensboro, Ky., consecrated February 24; Most Rev. Bartholomew J. Eustace, first Bishop of Camden, N. J., consecrated March 25; Most Rev. William A. Griffin, Auxiliary Bishop of Newark and titular Bishop of Sanavo, consecrated May 1; Most Rev. Pedro A. Santos, Bishop of Nueva Caceres, P. I.; Most Rev. Mariano Madriago, Bishop of Lingayen, P. I.; Most Rev. Matthew Francis Brady, Bishop of Burlington, Vt., consecrated October 26. Most Rev. Timothy Corbett resigned as Bishop of Crookston because of ill-health and was made Titular Bishop of Vita; and for the same reason the Most Rev. Francis J. Tief, Bishop of Concordia resigned and was named Titular Bishop of Nisa. Saginaw, Mich., was made a diocese with its see in that city and Most Rev. William F. Murphy was consecrated its first Bishop.

Statistics. Catholic populations are as follows: Alaska, 12,272; Albania, 100,320; Algeria, 814,740; Andorra, 5231; Angola, 354,021; Arabia, 688; Argentina, 12,108,790; Australia, 1,225,514; Austria, 6,154,431; Azores, 262,073; Bahamas, 3801; Balearic Islands, 343,650; Basutoland, 146,000; Bechuanaland, 25,265; Belgium, 7,968,431; Bolivia, 2,779,000; Borneo, 7584; Brazil, 46,794,874; Bulgaria, 44,240; Camerouns (Br.), 24,807; Cameroon (Fr.), 263,755; Canada, 4,285,388; Canary Islands, 473,320; Cape Verde Islands, 145,300; Celebes, 21,435; Ceylon, 443,665; Chile, 3,682,591; China, 3,000,000; Colombia, 6,880,000; Congo, 1,767,492; Costa Rica, 440,695; Crete, 800; Cuba, 2,003,307; Czecho-Slovakia, 10,831,636; Dahomey, 38,307; Denmark, 25,702; Dominican Republic, 600,000; Dutch East Indies, 572,390; Ecuador, 1,140,639; Egypt, 156,000; England, 2,230,960; Estonia, 4000; Fiji Islands, 15,709; Finland, 3000; Formosa, 7193; France, 29,000,000; French Equatorial Africa, 587,724; French India, 250,000; French Indo-China, 1,441,124; French West Africa, 200,000; Gambia, 3000; Germany, 21,172,078; Gibraltar, 15,410; Goa (Portuguese India), 345,341; Gold Coast, 103,651; Greece, 54,269; Guadeloupe, 266,357; Guam, 19,045; Guatemala, 1,997,560; Guiana (Br.), 33,998; Guiana (Dt.), 30,124; Guiana (Fr.), 43,667; Guinea, 10,872; Haiti, 2,000,000; Hawaii, 116,000; Holland, 2,293,563; Honduras, 91,350; Hungary, 7,131,398; Iceland, 231; India (Br.), 3,707,704; Iraq, 73,144; Eire, 2,751,269; N. Ireland, 420,428; Italy, 43,409,145; Ivory Coast, 44,265; Jamaica, 54,000; Japan, 111,870; Kenya, 76,019; Korea, 115,949; Latvia, 506,509; Liberia, 5805; Libya, 51,148; Lithuania, 1,691,587; Luxembourg, 87,977; Macao (Portuguese China), 33,047; Madagascar, 590,000; Ma-

deira, 150,528; Malaya, 79,730; Malta, 160,000; Mauritius, 140,073; Mexico, 16,000,000; Monaco, 20,000; Morocco (Fr.), 105,225; Morocco (Sp.), 59,669; Mozambique, 516,296; Nepal, 500; New Caledonia, 28,000; Newfoundland, 87,000; New Guinea, 15,594; New Hebrides, 32,96; New Zealand, 187,000; Nicaragua, 576,608; Nigeria, 208,170; Norway, 2842; Nyasaland, 100,390; Palestine, 45,367; Panama, 412,467; Papua, 17,882; Paraguay, 800,000; Persia, 5813; Peru, 3,678,110; Philippines, 11,653,722; Poland, 23,668,123; Portugal, 5,612,000; Puerto Rico, 1,500,000; Réunion, 189,361; Rumania, 2,391,677; Russia, 1,550,000; Salvador, 1,430,000; San Marino, 13,000; Scotland, 634,444; Senegal, 34,807; Siam, 62,143; Sierra Leone, 794; S.W. Africa, 12,000; Spain, 23,000,000; Swaziland, 4125; Sweden, 4031; Switzerland, 1,677,317; Syria, 524,984; Tahiti, 8560; Tanganyika, 255,182; Trinidad, 195,000; Tunisia, 194,856; Turkey, 41,391; Uganda, 477,391; Union of S. Africa, 314,816; Uruguay, 1,568,000; Vatican City, 1025; Venezuela, 2,456,000; Wales, 102,921; Zanzibar, 19,137. The total Catholic world population is approximately 350,000,000 or about 19 per cent of all.

Figures compiled by the Official Catholic Directory for 1938 put the Catholic population of the United States at 21,451,460, an increase of 492,326. The number of converts was 62,696 or 634 more than in the previous year. The hierarchy numbers 20 Archbishops, 4 of whom are Cardinals (including Cardinal Hayes), and 112 Bishops. The secular priests number 22,045, an increase of 305 over 1937; and the priests of religious orders number 10,623, an increase of 714. The churches total 18,428, a decrease of 98, and include 12,797 churches with resident pastors and 5631 missions with churches. The number of seminaries increased by 1, the total being 206; and the seminarians decreased by 5893, the total being 15,984. There are 196 colleges for boys, a decrease of 6. Colleges and academies for girls total 675, an increase of 7. There are 1306 high schools, 127 more than in 1937, with a total attendance of 410,021, a gain of 12,234. The number of parochial schools is 8028, an increase of 583, and an attendance of 2,101,376, a decrease of 68,689. The number of orphanages is 326, an increase of 1, and the number of orphans cared for was 39,545, or 583 less than in 1937. There are 168 homes for the aged poor, a decrease of 2, and there are 684 hospitals, an increase of 12, with 412 nursing schools. Catholic chaplains attached to the U.S. Army number 31; to the U.S. Navy, 16, with 21 assigned to veteran hospitals. There are 24 auxiliary and 40 military reserve chaplains on active duty.

BIBLIOGRAPHY. Philip Hughes, *Pope Pius XI*; Hilaire Belloc, *The Jesus, Louis XIV*; Albert Foley, S.J., *A Modern Galahad: St. John Berchmans*; Charles Corcoran, S.J., *Blackrobe*; Mary M. Colum, *From These Roots*; Jacques Maritain, *True Humanism, The Degrees of Knowledge*; Sean O'Faolain, *King of the Beggars*; Alfred J. Barrett, *Mint by Night*; Sister Mariella, O.S.B., *Blind Man's Stick*; Lucille Papin Borden, *Once in Palestine*; Theodore Maynard, *The World I Saw*; Sheila Kaye-Smith, *The Valiant Woman*; Gerald Vann, O.P., *Morals Makyth Man*; Christopher Hollis, *Lenin*; Emmet Lavery, *Second Spring*; Alfred Mendizobal, *The Martyrdom of Spain*; George Bernanos, *A Diary of My Times*; Doran Hurley, *The Old Parish*; Dorothy Day, *From Union Square to Rome*; Walter Farrell, O.P., *A Companion to the Summa*; Mortimer Adler, *St. Thomas and the Gentiles*; Herbert Agar, *The Pursuit of Happiness*; Clifford J. Laube, *Craggs*; Leonard Feecey, S.J., *An American Woman*; Lilian Browne-O'Leary, *Pius XI—Apostle of Peace*; Lord Clonmore, *Pope Pius XI and World Peace*; Margaret Yeo, S.T. Charles Borromeo; Seumas MacManus, *The Rocky Road to Dublin*; Albert H. Dolan, O.Carm., *Roses Fall Where Rivers Meet*; Johannes Jorgensen, S.T. Catherine of Siena; Vincent McNabb, O.P., *St. Elizabeth of Portugal*; Robert Speaight, S.T. Thomas of Canterbury; Henry Ghéon, *The Secret of Mar-*

garet Mary; Paul McCann, *A Valiant Bishop Against a Ruthless King*; S. J. Eustace, *Catholicism, Communism and Dictatorship*; A. J. Penty, *Tradition and Modernism in Politics*; George Shuster, *Brother Flo*; David Mathew, *Catholicism in England, 1535-1935*; James J. Walsh, *High Points of Mediaeval Culture*; Joseph Lortz, *History of the Church*; Ludwig von Pastor, *History of the Popes*; Maisie Ward, *Insurrection vs. Resurrection*; Kurt Schuschnigg, *My Austria*; Ross Hoffman, *Tradition and Progress*; E. Allison Peers, *Catalonia Infelix*; Alan Devoe, *Phudd Hill*; Valentine Lone, O.F.M., *They Have Seen His Star*; Robert Eaton, *The Catholic Epistles*; F. J. Sheed, *Communism and Man*; C. C. Martinadale, S.J., *Does God Matter for Me, Our Blessed Lady, Wedlock*; Donald Attwater, *Eastern Branches of the Catholic Church*; Philip Hughes, *The Faith in Practice*; Douglas Jerrold, *The Future of Freedom*; Fulton J. Sheen, *Liberty, Equality and Fraternity, The Cross and the Crisis*; John C. Heenan, *Priest and Penitent*; Etienne Gilson, *The Unity of Philosophical Experience, Reason and Revelation in the Middle Ages*; Alban Goodier, S.J., *Witness to Christ*; Eileen Dugan, *Poems*; Padraic Colum, *The Story of Lowry Maen*; Oliver Gogarty, *I Follow St. Patrick*; *Autobiography of William Butler Yeats*; *The Man Who Was Chesterton*, edited by Raymond F. Bond. See PEACE.

ROMANCE LANGUAGES. See PHILOLOGY, MODERN.

ROOSEVELT, FRANKLIN D. See UNITED STATES.

ROSE ISLAND. An island of the central Pacific (approximately 14½° S. and 168° W.), included in American Samoa (q.v.).

ROSICRUCIAN ORDER. An international fraternity, known as the Ancient, Mystic Order Rosae Crucis, whose name is derived from the emblem, a cross with a single rose in the center, adopted by Johann Valentin Andreae, erroneously regarded as the restorer of the Order in Germany in the 17th century. (For details as to the traditional origin and re-establishment of the Order in North America, see the NEW INTERNATIONAL YEAR BOOK, 1932.) In 1938 the Rosicrucian Order in North America had throughout its jurisdiction of the United States and its dependencies, Canada, the West Indies, and the Central American States 13 grand lodges, 145 local chapters, and 3 colleges.

The Rose-Croix University student body for the year 1938 was again larger than in previous years, and the students were greatly assisted in their study by the visitation of a number of scientists and surgeons from European countries who came to the University for the purpose of assisting in its summer courses.

A few days after the graduation of the student body, the usual International Convention of the Order for North and South America was held at Rosicrucian Park, with a very large attendance, and one of the principal matters discussed which led to a resolution of approval dealt with the establishment in San Jose of the "Rose-Croix Research Institute and Clinic," for the study and analysis of the cause and origin of malignant growths, including tuberculosis, cancer, ulcers, tumors, and similar conditions, and for the offering of an efficient and rapid form of treatment for these conditions. For over a year the experimental clinic of the Order had been testing a new system of short and efficient treatment for cancer, with unusually good results, and the members of the higher degrees of the Order, therefore, eagerly and wholeheartedly sponsored the continuation of the research work and the authorization of the building of a large institute including a clinic. It is expected that the clinic and research institute will be opened for the reception of selected patients by the first of January, 1939. It is also the plan of this institute to accept as students certain licensed physicians from various parts of the country to whom the better methods of treatment will be taught so that they

may return to their communities and assist the Order in its battle against cancer and other forms of malignant growths. The institute has been incorporated as a separate body on a non-profit basis, and its fees to patients and to student physicians will be extremely nominal for there is no intent to make any profit or any form of reserve remuneration from the activities of the institute, and the institute will not sell any devices, remedies, or preparations.

ROTARY INTERNATIONAL. Rotary undertakes to inspire men to realize fully their individual capacity for patriotic citizenship in their states and nations; to deal justly with their customers or clients, their employees, and others with whom they have business or professional relations; to have concern for the welfare of their neighbors; and, individually and through their association in Rotary clubs, to bring about international understanding, good will, and peace.

The 29th annual convention of Rotary International was held June 19 to 24, 1938, in San Francisco, Calif. There were approximately 10,000 Rotarians and members of their families present representing Rotary clubs in 55 geographical regions. Officers elected for 1938-39 are: President, George C. Hager, Chicago, Ill.; Vice-presidents, Fernando Carbajal, Lima, Peru; Nils Parmann, Oslo, Norway; C. Reeve Vanneman, Albany, N. Y.; Secretary, Chesley R. Perry; Treasurer, Rufus F. Chapin. The 1939 convention will be held in Cleveland, Ohio, U.S.A., June 19 to 23.

On Dec. 1, 1938, Rotary International consisted of 4816 clubs with an approximate membership of 203,000. There were 3066 clubs in the United States, 148 in Canada, 466 in Great Britain and Ireland, and 1136 in other parts of the world.

The International secretariat at 35 East Wacker Drive, Chicago, serves as a clearing house for the reception, analysis, and dissemination of Rotary information and ideology. Branches of the secretariat are at Zurich, Switzerland; Singapore, Straits Settlements; and London, England.

ROUMANIA. See RUMANIA.

ROWING. See SPORTS.

RUANDA-URUNDI. See CONGO, BELGIAN.

RUBBER. World rubber shipments in 1938, by net exports, totaled 888,431 long tons, as reported by the Leather and Rubber Division of the U.S. Department of Commerce. Net exports in 1937 were 1,135,332 long tons. Shipments of rubber from British Malaya continued to be larger than from any other country. Shipments by producing countries as compared with 1937 were:

WORLD RUBBER SHIPMENTS
[Long tons]

	1937	1938
British Malaya	468,192	370,810
Brunei and Labuan	1,768	1,238
Ceylon	70,359	49,549
British India	9,777	8,223
Burma	7,232	6,738
Sarawak	25,922	17,792
British North Borneo	13,213	9,512
Siam	35,551	41,080
Java and Madura	84,085	57,526
Sumatra East Coast	139,632	94,501
Other Netherlands Indies	207,863	145,744
French Indo-China	43,399	58,518
Amazon Valley	15,576	14,196
Mexico (guayule)	2,691	2,485
Other America	532	643
Africa	7,882	8,097
Papua	1,247	1,173
Philippine Islands	411	606
Total	1,135,332	888,431

Consumption of rubber in the United States exceeded that in any country, and was estimated by the Leather and Rubber Division of the U.S. Department of Commerce for 1938 as 411,363 long tons, or 24.3 per cent less than in 1937. Absorption by nations for the two years 1937-38 is shown in the accompanying table.

WORLD RUBBER ABSORPTION
[Long tons]

Consumption		
	1937	1938
United States	543,600	411,363
United Kingdom	114,628	106,915
Net Imports		
Australia	19,050	11,944
Austria	3,775	8,210
Belgium	14,970	11,309
Canada	36,087	25,696
Czecho-Slovakia	13,063	9,936
Denmark	2,587	2,879
Finland	3,337	2,764
France	59,872	59,660
Germany	98,170	90,200
Italy	24,820	28,170
Japan	62,182	45,836
Netherlands	4,343	5,092
Norway	2,063	2,011
U.S.S.R. (Russia)	30,462	25,650
Spain	2,400	2,400
Sweden	6,693	8,298
Switzerland	2,434	3,093
Others (estimated)	60,000	48,000
Total	1,104,536	909,426
Minus United States Consumption	543,600	411,363
Foreign	560,936	498,063

For 1938 according to the same authority, exports of rubber and manufactures totaled \$27,-181,516, and imports of rubber for the same period \$134,499,027. Domestic stocks of crude rubber on hand Dec. 31, 1938, amounted to 245,413 long tons compared with 262,204 at the close of 1937.

According to information in *The Rubber Age*, the production of reclaimed rubber for 1938 was estimated at 113,482 long tons, against 185,033 of previous year. Consumption of reclaimed rubber in 1938 was 113,341 long tons, that in 1937, 162,000.

Rubber tires and tire sundries continued in 1938 as the largest field for the consumption of rubber. Shipments of pneumatic casings in this year were estimated by the Rubber Manufacturers Association as 42,395,176 and production 40,026,280, against 53,485,388 and 53,309,972 in 1937. Shipments for 1938 were 20.7 per cent less, and production 24.7 per cent less than the previous year. Shipments of inner tubes for 1938 amounted to

CRUDE RUBBER CONSUMED IN LONG TONS, IN
PRODUCTS MANUFACTURED IN THE UNITED
STATES

First three quarters		
	1938	1937
Tires and tire sundries	247,991	329,390
Mechanical rubber goods	27,351	46,772
Boots and shoes	13,029	20,150
Insulated wire and cable compounds ..	5,041	7,193
Druggist sundries, medical and surgical rubber goods	2,716	3,781
Stationers' rubber goods	1,743	1,996
Bathing apparel	596	952
Miscellaneous rubber sundries	2,156	3,077
Rubber clothing	467	575
Automobile fabrics	369	425
Other rubberized fabrics	3,499	4,015
Hard rubber goods	1,711	2,484
Heels and soles	9,904	9,635
Rubber flooring	833	1,150
Sponge rubber	2,706	4,131
Sporting goods, toys, and novelties	1,734	1,980
Total	321,846	437,706

40,387,390 and production 37,717,793 against 52,762,450 and 52,373,330 in 1937. Pneumatic casings in the hands of manufacturers Dec. 31, 1938, were estimated at 8,497,932 units, or 18.2 per cent less than on Dec. 31, 1937.

See CHEMISTRY, INDUSTRIAL.

RUMANIA. A monarchy of southeastern Europe. Capital, Bucharest. Sovereign in 1938, Carol II, who was proclaimed King June 8, 1930.

Area and Population. Rumania has an area of 113,887 square miles, as compared with 60,643 square miles before the World War. The estimated population on Dec. 31, 1937, was 19,646,000 (17,888,992 at the 1930 census). About 81.6 per cent of the population is rural and 18.4 per cent urban. Living births in 1937 numbered 601,303 (27 per 1000); deaths, 117,291 (19.3 per 1000); marriages, 185,102 (9.5 per 1000). Estimated populations of the chief cities on Jan. 1, 1937, were: București (Bucharest), 643,293; Chisinau (Kishenev), 114,101; Cernauiți (Czernowitz), 110,357; Iași (Jassy), 104,541; Galati (Galatz), 102,349; Cluj (Klausenburg), 99,546; Timișoara (Temeswar), 90,177; Oradea-Mare (Grosswardein), 81,181; Ploesti, 77,000; Arad, 75,143; Brăila, 68,817.

Education and Religion. Primary education is nominally free and compulsory, but a large proportion of the population is illiterate. Educational statistics for 1936-37 showed 2024 public infant schools, with 147,195 pupils; 15,510 public elementary schools, with 2,339,892 pupils; 195 private and confessional schools for infants, with 10,637 pupils; 1414 private and confessional elementary schools, with 137,621 pupils; 741 public secondary schools, with 159,878 pupils; and 1211 private and confessional secondary schools, with 34,337 pupils. The four universities had 3081 students in 1934-35; the various vocational and technical schools, 9289 students. There were in Rumania in 1934 about 13,300,000 members of the Orthodox Church, 1,800,000 Greek Catholics, 1,200,000 Roman Catholics, 900,000 Jews, 720,000 Reformists, 400,000 Lutherans, 260,000 Moslems, 75,000 Unitarians, and 140,000 others.

Production. About three-fourths of the population is engaged in agriculture. In 1936 there were 34,447,000 acres of arable land (47 per cent of the total area), 9,531,000 acres of pasture and 15,934,000 acres of forest. Yields of the principal cereals in 1938 were (in metric tons): Wheat, 4,940,000 (3,760,100); barley, 1,090,000 (917,200); rye, 670,000 (451,300); oats, 560,000 (512,800); corn, 5,300,000 (4,751,800). The output of other crops in 1937 was: Potatoes, 77,444,000 bu.; sugar beets, 499,000 metric tons; beet sugar (1937-38), 84,000 metric tons; plums, 556,000 metric tons; wine, 281,517,000 gal.; tobacco, 22,588,000 lb.; alfalfa and clover, 1,092,000 metric tons. Livestock slaughtered in public slaughter-houses in 1937 included 1,082,000 cattle and calves, 1,454,000 sheep, 32,000 goats, and 952,000 swine.

Mine and factory production in 1937 (preliminary) was: Petroleum, 51,399,000 bbl.; lignite, 1,872,000 metric tons; coal, 302,000 metric tons; natural gas, 96,903,000 cu. ft.; salt, 714,030,000 lb.; iron ore, 128,592 metric tons; gold, 172,183 troy oz.; silver, 670,199 troy oz.; pig iron, 127,235 metric tons; copper, 3,014,000 lb. Manufacturing statistics for 1936 showed 215,000 wage earners, 590,000 h.p., and a value of production totaling 51,334,000,000 lei (51,147,000,000, preliminary, in 1937). The total national income declined from about 313,600,000,000 lei in 1929 to 129,400,000,000 lei in 1934 and then rose to 295,000,000,000 in 1937.

Foreign Trade. Imports for consumption were valued at 17,896,500,000 lei in 1937 (12,637,700,000 in 1936) and exports of Rumanian products at 30,965,100,000 lei (21,703,400,000 in 1936). For the chief import and export commodities and the distribution of trade by countries in 1936, see 1937 YEAR BOOK. Exports of agricultural products in 1937 were (in metric tons): Wheat, 1,000,200; wheat flour, 700; rye, 259,600; barley, 317,100; oats, 17,600; corn, 523,200. United States trade figures for 1938 showed exports to Rumania of \$5,283,220 (\$6,938,401 in 1937) and imports from Rumania of \$2,473,633 (\$4,978,025).

Finance. Budget returns for the fiscal years ended March 31 were: Ordinary receipts, 23,664,000,000 lei in 1936-37 (26,754,000,000 in 1937-38); ordinary expenditures, 23,135,000,000 lei in 1936-37 (26,743,000,000 in 1937-38). For 1938-39 the ordinary budget estimates balanced at 28,650,000,000 lei. No figures were available covering extraordinary expenditures, which included large sums for armaments. Excluding war debts to the United States, the total funded debt on Apr. 1, 1937, was 108,449,000,000 lei (internal, 29,971,000,000; external, 78,478,000,000). Official figures for the floating debt were not available. The nominal average exchange value of the lei (singular of lei) was \$0.0073 for both 1937 and 1938.

Transportation. Rumania in 1937 had 7004 miles of railway line which in that year carried 43,367,000 passengers (including troops) and 26,602,000 metric tons of freight; gross receipts were 11,655,000,000 lei. Highways and roads in 1937 extended 64,792 miles. Automobiles numbered 25,070 on Jan. 1, 1938. Two Rumanian air companies operated routes linking the chief cities of the country and Bucharest had air connections with the European network. On June 30, 1937, Rumania had 88,000 gross tons of shipping (vessels of 100 tons or more) as against 91,000 on June 30, 1936.

Government. The Constitution of Mar. 28, 1923, vested executive power in the King and a council of ministers and legislative power in a parliament of two chambers—the Chamber of Deputies with 387 elected members and the Senate with 248 members (148 elected, 47 *ex-officio*, and 17 Senators by right). The King had a suspensive veto over laws passed by Parliament. The composition of the parties in the Chamber of Deputies elected Dec. 20, 1937, for four years was: National Liberal, 152; National Peasant, 86; All for Country (Fascist Iron Guard), 66; National Christian party, 39; Hungarian party, 19; National Liberal (George Bratianu's faction), 16; Radical Peasants, 9. A minority coalition government headed by Octavian Goga (q.v.), co-leader of the National Christian party, was formed Dec. 29, 1937. For developments in 1938, see *History*.

HISTORY

Goga's Overthrow. The anti-Semitic, pro-Fascist, and radical economic policies carried into effect by the Goga Government at the end of 1937 (see 1937 YEAR BOOK, p. 667) were extended during the first weeks of 1938. A series of decrees were promulgated designed to bar Jews from trade, industry, and the professions, and to expel all Jews, except those who resided in Rumania previous to 1919. As the 828,000 Jews largely controlled the commercial and industrial life of the country, the government's measures caused an immediate drastic dislocation of the economic structure. Frantic efforts of Jews to convert their holdings into ready money produced rapid depreciation of the currency,

a decline in real estate, industrial and banking shares, and a threatening economic depression.

King Carol acquiesced in the anti-Semitic program in order to undermine the power of the violently Fascist Iron Guard, led by Corneliu Zelea Codreanu, whose expanding movement constituted a growing threat to the King (see 1937 YEAR BOOK for background). At the same time he undertook to break the power of the other political movement that menaced his power—the pro-democratic National Peasant party led by former Premier Julius Maniu. To prevent the Parliament elected in December, 1937, from overturning the Goga Government, Carol ordered its dissolution on January 18 before it had even convened. New elections were called for March 2 under a revised electoral procedure calculated to confuse the largely illiterate electorate and insure the election of a majority favorable to the government. About the same time dissolution of the Socialist trade unions was announced and some 80 Socialist leaders arrested. Various other steps were taken to intimidate opposition groups and weaken their political strength.

All of the opposition parties protested at these unconstitutional maneuvers and efforts were made to form a united front of the powerful National Liberal and National Peasant parties in defense of parliamentary rule, but Carol in an interview with the Liberal leaders managed to block this program. Meanwhile the lesson the King was giving the country as to what might be expected from the extremist Iron Guard once it gained power, was proving too costly. The economic debacle was gaining momentum and Premier Goga's moves toward an alignment with the Berlin-Rome axis had aroused vigorous protests from Britain, France, and Rumania's allies of the Little Entente. Consequently the King on February 10 unceremoniously dismissed the Goga Cabinet and set up a government of "national union" which served as a screen for his personal dictatorship.

Headed by Premier Miron Cristea, Patriarch of the Orthodox Church, the new ministry included leading members of all parties except the Iron Guard and the National Peasant party. At the same time Carol suppressed all of the political parties, canceled the forthcoming elections, suspended the Constitution, appointed a commission to draft a new organic law, proclaimed martial law and a strict censorship, and announced a program of sweeping economic and social reforms and of adherence to Rumania's existing alliances with France and the Little Entente. All criticism of the government and its personnel was prohibited; civil servants were forbidden to participate in any political movement—another blow at the Iron Guard; and the Iron Guard's pledge of loyalty to Codreanu was declared illegal.

The New Constitution. The new draft Constitution was published on February 20 and without discussion was submitted to a government-manipulated oral plebiscite on February 24. According to the official report, the vote showed 4,165,193 votes in favor of and 5313 votes against its adoption. The King then proclaimed the Constitution on February 27. It gave him virtually unlimited dictatorial powers, including the right to rule by decree, the sole power to initiate legislation, authority to veto all parliamentary measures, to appoint half of the Senators, suspend Parliament, appoint and dismiss all ministers, and to declare war, conclude treaties, and establish and terminate alliances, subject to parliamentary approval. The number of Deputies and Senators was reduced and their terms length-

ened to six and nine years, respectively. The franchise was restricted to persons 30 years of age and over and could be exercised only on an occupational basis. While political rights were curbed, the Constitution extended civil and religious rights. Cultural and social rights of minorities were guaranteed, civil rights of the Jews were safeguarded, and religious freedom was guaranteed other sects besides the state religion.

Carol's Rule. The King lost no time in using his new powers to consolidate his position and to reorganize and reform political, economic, and social conditions. On March 30 the cabinet was reorganized, with Patriarch Cristea retaining the Premiership. The first act of the new ministry was to dissolve all political parties and societies. A Supreme Economic Council and a Crown Council were created, the latter including the Premier and 10 other leading political and military figures. The army took over the administration of martial law, the censorship, and the former civil powers of the prefects.

During the remainder of the year, the budgetary equilibrium was restored, cheaper credit provided, usury reduced, and the military services strengthened and re-equipped. An extensive public health campaign was launched; the schools, courts, and public administration were reorganized and staffed with younger personnel through the pensioning off of older employees; secret Treasury funds were abolished; workmen were given holidays with pay. A new minorities statute of August 4 gave the 7,000,000 members of minority groups in Rumania the same rights as Rumanians in all political, economic, social, and religious activities. This measure, designed especially to conciliate the large Hungarian minority, was followed by a decree of August 13 abolishing the existing administrative system, carried on through 72 districts, and dividing the kingdom into 10 provinces under governors with ministerial rank. The former regional and national political lines were eliminated to aid in the assimilation of non-Rumanian elements and check minority separatist agitation. Negotiations with the minorities for settlement of their complaints were under way at the year end. The King also undertook to eradicate the corruption that pervaded all departments of the government. Seven Controllers were appointed to uncover and eliminate graft and grafters.

On December 15 the King took another step toward the consolidation of his rule by establishing a new Party of National Regeneration, open to all Rumanians over 21 except soldiers and judges, with a completely authoritarian program. It was made the sole legal political organization, and all candidates in the forthcoming parliamentary elections were to be chosen from its membership. Criticism of the party or membership in opposition groups was made punishable by five years' loss of civil rights. The new party obtained the at least passive support of elements in all of the former political parties except the Iron Guard, being composed at the outset of five members each of the former National Peasant, Liberal, National Christian, and Rumanian Front parties. However the Peasant leader, Julius Maniu, and the Bratianus, leaders of the two wings of the Liberal party, withheld their co-operation. On December 19 the organ of the Liberal party and two National Peasant newspapers were suppressed.

A 10-year program for reducing the influence of the Jews and foreigners was approved by the cabinet December 14. A new public worship law,

requiring at least 100 families for a congregation, led to the closing of about 1500 Baptist churches on the same day and a number of Baptist clergymen were arrested, allegedly for refusing to comply with laws for the regulation of the non-official churches.

Iron Guard Crushed. In the meantime the King succeeded in destroying his most formidable enemy, Codreanu, and in breaking the power of the Iron Guard movement. Obeying the ban on political parties, Codreanu "dissolved" his Iron Guard on February 21. Yet it continued to function underground and received a marked stimulus from the Nazi coup in Austria in March. After sending Crown Prince Michael abroad to insure his safety, the King struck suddenly at the Iron Guard on April 17, arresting Codreanu and hundreds of his adherents in all parts of the country. On April 19 Codreanu was sentenced to six months' imprisonment on a libel charge.

The government then announced that in searching Iron Guard headquarters it had uncovered a plot for an anti-government coup, financed by large subsidies from an unnamed foreign power and reaching into high official circles, including the General Staff and Defense Ministry. On May 6 Codreanu was charged with treasonably seeking military and moral aid from the German Nazis. Following his conviction he was sentenced on May 27 by a military tribunal to 10 years of forced labor and subsequent loss of civil rights for seven years. A score of Codreanu's most prominent associates were convicted about the same time.

The sensational Nazi gains achieved throughout Central and Southern Europe as a result of Hitler's victory over the democracies at Munich produced a renewal of the terroristic activities that had long characterized Codreanu's fanatical followers. Prof. Stefanescu Goanga, dean of the University of Cluj and a fearless Iron Guard opponent, was shot and wounded on November 28. The following day the Iron Guard notified the governors of two provinces that they would be assassinated between Jan. 1 and 15, 1939. There were bombings and shootings in various parts of Northern Rumania.

The King struck back with equal ferocity. On the morning of November 30 Codreanu, and 13 other Iron Guard leaders serving terms for murder, were shot dead by their guards while being taken by automobile from the prison at Rimenesul Sarat to the military prison at Jihlava near Bucharest. A military communiqué stated that Iron Guard adherents had attempted to rescue their leaders during the transfer and that all prisoners were killed while attempting to escape. Investigations of newspaper correspondents cast doubt upon this story. It was widely believed that Carol had ordered the prisoners shot, since they could not be legally executed under Rumanian law, which bars capital punishment. December was marked by continuation of the government drive against the Iron Guard and its sympathizers in both high and low positions. On December 3 the three youths who attempted to assassinate Professor Goanga were "killed while trying to escape." There were hundreds of arrests, bringing to more than 2000 the number of Iron Guard adherents held in prisons and concentration camps. Yet the terroristic campaign of the Guard was not entirely stamped out.

Death of Queen Marie. The year was also marked by the death on July 18 of Dowager Queen Marie, who had played a notable role in the history of Rumania and the Balkans (see MARIE OF RUMANIA).

Foreign Relations. Rumania's territorial integrity was imperiled during 1938 by the expansion of Germany and the progressive collapse of the European status quo established after the World War. The Munich accord deprived Rumania's alliances of much of their effectiveness and increased the danger that Rumania would be forced to cede territory to Hungary and Bulgaria and to accept German economic and political control. The emasculation of Czecho-Slovakia shattered the Little Entente, placed the Czech arms and munitions factories upon which the Rumanian army relied under German control, and further weakened the possibility of effective support from France. Moreover it led to an increase in Rumania's economic dependence upon the Reich, which in 1937 took 27 per cent of Rumania's exports and supplied 28 per cent of its imports. On December 10 a German-Rumanian trade agreement was negotiated in Bucharest by the German Minister of Economic Affairs, Walther Funk.

At the same time Rumania was alarmed by German plans to construct the Rhine-Danube canal, build a great port at Vienna, and place a German commercial and military fleet upon the Danube. The minority of 800,000 Germans in Rumania, which showed increasing attachment to Nazi racial doctrines and closer supervision from the Reich after Munich, also aroused fears that it would be utilized to disrupt Rumania and make her subservient to Germany in the same fashion that the partition of Czecho-Slovakia was brought about. The strength of the Iron Guard, which was inspired and partially financed from Berlin, created still another formidable obstacle to the maintenance of Rumania's independence.

In the face of the threat from Germany and Hungary, King Carol abandoned the pro-German orientation of foreign policy manifested by the Goga Government and despite the lukewarm support obtained in Paris and London returned to the former close collaboration with France and Britain. He ruthlessly crushed the Iron Guard and put a damper on anti-Semitism which had served to alienate Anglo-French sentiment. During the crisis over Czecho-Slovakia he joined with the Yugoslav Government in warning Hungary that they would fulfill their military obligations under the Little Entente treaties in case Hungary attacked the Czecho-Slovaks. He was also reported to have assured France and Britain confidentially that Rumania would join them if they went to Czecho-Slovakia's aid against the Reich and that he would permit the passage of Russian troops through Rumania to Czecho-Slovakia after, but not before, war was declared.

On October 19 Foreign Minister Beck of Poland visited Carol at Bucharest in an effort to secure his collaboration in building a neutral bloc of states in Eastern Europe to bar Germany's advance. Carol agreed to accept Polish mediation in seeking an understanding with Hungary, but refused to consent to the establishment of a joint Polish-Hungarian frontier through Hungarian annexation of Ruthenia. On November 4 Prince Paul, Regent of Yugoslavia, arrived in Bucharest to discuss ways of meeting Hungarian and Bulgarian revisionist claims and their country's future policies as members of the Balkan and Little Ententes.

In the middle of November Carol went to London and Paris to sound out their attitude toward closer collaboration with Rumania. He then had a long talk with Chancellor Hitler at Berchtesgaden (November 24). Immediately after his return to Bu-

charest the slaying of Codreanu and the other Iron Guard leaders led to violent anti-Rumanian outbursts in the German press and intimations that Carol's regime was doomed. Meanwhile on November 28 Rumania, Yugoslavia, Greece, and Turkey commenced a 10-day conference at Athens on means of safeguarding their interests as members of the Balkan Entente.

See BULGARIA, CZECHO-SLOVAKIA, FRANCE, GERMANY, HUNGARY, ITALY, POLAND, and YUGOSLAVIA under *History*; BALKAN ENTENTE; LITTLE ENTENTE; REPARATIONS AND WAR DEBTS.

RUSSELL SAGE FOUNDATION. This Foundation was created by Mrs. Sage as a memorial to her husband. The original endowment was \$10,000,000 to which \$5,000,000 was added by her will. The Foundation was established for the purpose of promoting the improvement of social and living conditions in the United States of America. Its charter provides that it may "use any means which from time to time shall seem expedient to its trustees, including research, publication, education, the establishment and maintenance of charitable and benevolent activities, agencies, and institutions, and the aid of any such activities, agencies, or institutions already established." Its general aim is the investigation and study of the causes of adverse social conditions with a view to spreading information which will be basic and of assistance to citizens and organizations seeking to ameliorate, remedy, or prevent such conditions.

It is the policy of the Foundation not to make grants to colleges, universities, local charitable agencies, or to religious institutions. It does not directly relieve either individual or family need.

While the Foundation is not primarily a contributing organization, it does make grants of approximately 40 per cent of its income largely to agencies with similar purposes, and in fields where it is believed that a specified piece of work might be done better by an outside agency. Among the types of activities financially assisted are adult education; city and regional research and planning; the improvement of housing; family welfare; education and training for social work; the survey, study, co-ordination, and planning of community social work programs; child welfare; placement and vocational service; leisure time activities; legal aid; penology and the prevention of delinquency; service to travelers and transients; social welfare publications; professional organization of social workers; race relations; research in the social sciences; and social phases of the arts.

The Foundation not only endeavors to avoid duplicating the work already being done by other agencies, but frequently transfers to subsequently set up organizations activities which it has been instrumental in organizing, when it believes that such transfer will work to the greater advancement of that particular type of work. Under this policy it has from time to time encouraged several of its departments to become independent national units; and it has filled their places with other activities in fields which at the time seemed to be more neglected.

Its departments are engaged in various types of study of problems relating to social and living conditions, and in making the results of such studies and their interpretation available to others. The information thus obtained is given to the public, and particularly to those who can use it for social betterment, through publications, lectures, addresses, courses of instruction, conferences, correspondence, and such various other methods as may contribute

to the advancement of knowledge in the welfare field and to the stimulation of public and private action therein.

During the last several years of business depression many of the members of the Foundation staff have felt that their greatest contribution to human welfare called for diverting much of their time and energy from the regular activities of their department and doing what was possible to alleviate or treat the various problems which followed unemployment. An important part of such special service was given in the collection evaluation, and distribution to individuals and to communities the results of the most intelligent and beneficial methods for organizing and administering relief developed elsewhere. Monthly bulletins of new and helpful methods and procedures being used in various States were prepared and sent to State emergency relief administrations. Assistance was given by personal counsel and otherwise in planning publicity techniques and developing educational campaigns to interest and inform the public regarding the needs of the unemployed and of methods of co-operation in helping them. Surveys were made of certain Federal agencies affecting unemployment and relief, and of government measures to extend Social Security. Studies were made and plans developed for the improvement of public statistics relating to employment, the systematic collection of statistics of relief work, and experimental research in cities on the amount and distribution of unemployment, in an effort to develop more effective survey methods for use in other similar localities. A study was made of consumer debt in its relation to unemployed borrowers and others.

The Foundation makes available to social welfare organizations free use of its conference rooms and halls for public meetings. Each year these rooms and halls are used by approximately 100 different organizations and special groups, in a total of more than 500 separate meetings.

The trustees and officers of the Foundation are: Lawson Purdy, president; Morris Hadley, vice-president and treasurer; John M. Glenn, secretary; Lindsay Bradford, Joseph P. Chamberlain, Harry Woodburn Chase, Johnston de Forest, Frederic A. Delano, John H. Finley, and Harold T. White. Shelby M. Harrison is general director.

The titles of its present departments and the names of their directors are as follows: Charity Organization, Joanna C. Colcord; Consumer Credit Studies, Rolf Nugent; Industrial Studies, Mary van Kleeck; Library, Bertha F. Hulseman; Social Work Interpretation, Mary Swain Routzahn; Statistics, Ralph G. Hurlin; Surveys, Shelby M. Harrison. Russell H. Kurtz is editor of its *Social Work Year Book*. Allen Eaton has charge of its studies on the handicrafts, and F. Emerson Andrews is manager of its publications.

The offices of the Foundation are at 130 East 22d Street, New York City.

RUSSIAN SOVIET FEDERATED SOCIALIST REPUBLIC. One of the 11 constituent republics of the U.S.S.R., according to the constitution adopted Dec. 5, 1936. It includes the Azov-Black Sea, Far Eastern, Krasnoyarsk, North Caucasus, and West Siberian territories; Chelyabinsk, East Siberian, Gorky, Ivanovo, Kalinin, Kirov, Kuibyshev, Kursk, Leningrad, Moscow, Northern, Omsk, Orenburg, Saratov, Stalingrad, Sverdlovsk, Voronezh, Western, and Yaroslavl provinces; the Tatar, Bashkir, Daghestan, Buryat-Mongolian, Chechen-Ingush, Chuvash, Crimean, Kabardino-Balkarian, Kalmyk, Karelian, Komi,

Mariisk, Mordva, North Osetian, Udmurt, Volga-German, and Yakut soviet socialist republics; and the Adygei, Cherkess, Jewish, Karachayev, Khakass, and Oirot autonomous provinces. Area, 6,368,768 square miles; population (Jan. 1, 1933), 105,650,900. Chief towns (with Jan. 1, 1936, populations) are: Moscow (capital), 3,641,500; Leningrad, 2,739,800; Gorky, 522,000; Sverdlovsk, 446,000; Novosibirsk, 352,000; Chelyabinsk, 293,000; Magnitogorsk, 224,000; Irkutsk, 218,300; Stalinsk, 217,000; Karaganda, 150,000; Stalinogorsk, 72,000; Komsomolsk, 50,000; Kirovsk, 35,000.

Production, etc. In 1938 there were 103,818,546 acres of spring sowing, by collectives, of chief grain crops. The chief agricultural products are wheat, rye, maize, oats, buckwheat, barley, millet, sugar beet, cotton, flax, hemp, peas, and beans. The chief industries are coal, oil, iron and steel, metalworking, textiles, and food. See UNION OF SOVIET SOCIALIST REPUBLICS.

RUTGERS UNIVERSITY. A nonsectarian institution for higher learning in New Brunswick, N. J., founded under the name of Queen's College in 1766. The University consists of the following schools and colleges: Arts and sciences, engineering, agriculture, pharmacy, chemistry, education, ceramics, New Jersey College for Women, and University College. The registration for the autumn of 1938 was 2667, of whom 985 were enrolled in the college for women. Of the 274 members of the faculty, 255 were professors and 93 instructors. The endowment funds amounted to \$5,126,307 and the income for the year, exclusive of the State agricultural experiment station, was \$3,533,932. The library contained 273,873 catalogued books, 20,000 uncatalogued books, and many thousand unbound items. President, Robert C. Clothier, LL.D.

RUTHENIA. See CZECHO-SLOVAKIA.

RYE. The 1938 rye production of 27 countries reporting to the International Institute of Agriculture was estimated at 1,034,845,000 bu. and their acreage at 47,045,000 acres. The production was 18.9 per cent above the production in 1937 and 9.7 per cent above the average for the five years 1932-36 and the acreage 2.2 per cent more than the area of the preceding year and 3.6 per cent greater than the average for the five-year period. The yields of the leading countries not including the United States and the Soviet Republics were reported as follows: Germany, including Austria, 356,431,000 bu., Poland 272,431,000 bu., Czecho-Slovakia 66,139,000 bu., France 31,665,000 bu., and Hungary 30,747,000 bu. For the Soviet Republics an average yield of 863,155,000 bu. is recorded for the five years 1932-36. Argentina, the leading rye-growing country of the southern hemisphere, reported a yield of 11,614,000 bu. for the crop year 1938-39 and an average production of 9,594,000 bu. for the five years 1932-33 to 1936-37. The 1938 rye production of Canada was estimated at 11,115,000 bu.

The Department of Agriculture placed the 1938 rye crop of the United States at 55,039,000 bu. compared with 49,830,000 bu. in 1937 and 36,454,000 bu., the average for the 10 years 1927-36. Excepting the 1935 crop the 1938 production was the largest since 1924 but far below the record crop of 100,986,000 bu. in 1922. Increases in production in 1938 in North Dakota, South Dakota, and Nebraska more than offset decreases in other corn-belt States. The acreage harvested, 3,219,000 acres, compared with 3,846,000 acres harvested in 1937 and the average of 3,140,000 acres for the 10 years 1927-36. The average yield per acre of 13.8 bu. was higher than the average yield of 13 bu.

in 1937 and the average of 11.3 bu. for the 10-year period. The yields of the States leading in production were reported as follows: North Dakota 12,974,000 bu., South Dakota 10,176,000 bu., Minnesota 9,846,000 bu., Nebraska 4,796,000 bu., and Wisconsin 4,290,000 bu.

In the fiscal year ended June 30, 1938, the United States exported 6,578,000 bu. of rye and imported less than 500 bu.

RYKOV, rá'kóf, ALEXEY IVANOVITCH. A Russian Soviet public official, executed for treason, Mar. 14, 1938. Born at Saratoff in 1881, he was educated at the University of Kazan and in 1898 joined the Social Democratic Party. Like other members of the Party, his life until 1917 was a series of arrests, imprisonments, and exiles. He joined Lenin in the Bolshevik wing of the Party in 1917 and subsequently became head of the Supreme Economic Council. Upon the death of Lenin in 1924 he was elected president of the Council of People's Commissars, which office he held until Dec. 19, 1930, when, with other "right wing" members of the Government, he opposed Stalin's plan for speeding up industrial production and collectivization, and was dismissed from office. Three days later he was dropped from the Politburo to which he had belonged since 1919. Recanting his opposition in 1931 he was reinstated and appointed Commissar of Posts and Telegraphs and Radio, later changed to Communications. He held this post until 1936 when he was implicated in plots to kill Stalin and in the assassination of Sergei Kirov in 1934. Arrested, he was executed after a mass trial, for an account of which see UNION OF SOVIET SOCIALIST REPUBLICS under *History*.

SAAR, THE (SAARLAND). See GERMANY under *Area and Population*.

SAGHALIEN. See SAKHALIN; KARAFUTO.

ST. CHRISTOPHER-NEVIS. See LEEWARD ISLANDS, BRITISH.

ST. HELENA. A colony of Great Britain, in the South Atlantic, consisting of the islands of St. Helena (47 sq. m.) and its dependency, Ascension (34 sq. m.). Population (Jan. 1, 1938, estimate), 5569 (including 154 on Ascension) as compared with (1931 census) 4183 (including 188 on Ascension). Capital, Jamestown (1381 inhabitants in 1931). Early in 1938 the King by Letters Patent under the Great Seal declared that the islands of Tristan da Cunha, Gough, Nightingale, and Inaccessible, in the South Atlantic, are, from Jan. 12, 1938, dependencies of St. Helena. The production of New Zealand hemp (*Phormium tenax*) was the main industry, the output for 1937 being 1046 tons of hemp and 486 tons of tow. In 1937 imports were valued at £37,828; exports (including re-exports of £461), £26,404 of which fiber, tow, rope, and twine accounted for £25,609; revenue, £41,436; expenditure, £23,191; public debt—nil. The colony is administered by a governor, aided by an executive council of six members; the governor makes all ordinances. Governor, Henry G. Pilling (appointed, June, 1937).

ST. JOHN'S COLLEGE. A college of liberal arts and sciences for men in Annapolis, Md., founded as King William's School in 1696. The enrollment for the first half year of 1938-39 was 127. There were 31 faculty members. The income for the year 1938 was \$227,122. The library contained 32,595 volumes. President, Stringfellow Barr.

ST. KITTS. Same as St. Christopher. See LEEWARD ISLANDS, BRITISH.

ST. LAWRENCE UNIVERSITY. An institution for the higher education of men and wom-

en at Canton, N. Y., founded in 1856. The registration for the autumn term of 1938 was 681. For the summer session of 1938, 242. The faculty numbered 61 members. The endowment funds amounted to \$5,189,862 and the income for the year was \$238,194. The law school of the University is located in Brooklyn, N. Y. Its enrollment for the autumn term of 1938 was 1262. The library contained approximately 64,000 volumes. President, Laurens Hickok Seelye, M.A., LL.D.

ST. LUCIA. A British island colony in the Windward Islands group of the West Indies. Area, 233 square miles; population (Jan. 1, 1938, estimate), 67,405. During 1937 (excluding stillbirths) there were 2216 births and 969 deaths. Chief towns: Castries, 20,798 inhabitants (the port of Castries has one of the best harbors in the West Indies); Soufrière, 7309 inhabitants. The principal products are sugar, copra, limes, cacao, and bananas. In 1937 imports were valued at £244,851; exports (including re-exports of £76,794), £214,080; revenue, £99,045; expenditure, £100,009; public debt, £116,531, against which the sinking fund for its redemption amounted to £18,998. An administrator (under the governor of the Windward Islands) governs the colony, assisted by an executive council. The legislative council (reconstituted on Dec. 18, 1936, by order in council of Oct. 27, 1936) consisted of the governor of the Windward Islands, 3 ex officio members, 3 nominated members, and 5 elected members. Administrator, Arthur Alban Wright. See **WINDWARD ISLANDS**.

History. A series of landslides occurred in the Bar de L'Isle district on Nov. 21, 1938. A total of 60 persons lost their lives, 50 more were missing, and many others were injured. Heavy rains, which had fallen previous to the disaster, may have been responsible, and volcanic disturbances also were considered as a cause. An area of 64 square miles was evacuated and 500 refugees were cared for by the government. The British Colonial Office announced that a free grant of £16,000 would be made to St. Lucia for reconstruction work.

ST. PIERRE AND MIQUELON (mīk'ē-lōn'). The main islands in two small groups, near the south shore of Newfoundland, owned by France. Area of St. Pierre group, 10 square miles; Miquelon group, 83 square miles. Total population (1936 estimate), 4175. Capital, St. Pierre. Cod fishing is the principal industry. In 1936 imports were valued at 13,683,000 francs; exports, 12,673,000 francs. The budget for 1937 was balanced at 8,317,600 francs (franc averaged \$0.0405 for 1937). In a decree published on July 18, 1936, the French government reorganized the government set-up of St. Pierre and Miquelon and abolished townships. The islands are under an administrator who is assisted by a council of administration made up of government officials and 7 members elected by popular vote.

ST. THOMAS. See **SÃO THOMÉ AND PRINCE-IPÉ; VIRGIN ISLANDS**.

ST. VINCENT. A British island colony in the Windward Islands of the West Indies. Area, 150.3 square miles; population (1937 estimate), 57,526, compared with 47,961 (1931 census). Kingstown (capital) had 4269 inhabitants (1931). On Dec. 31, 1937, there were 10,457 pupils enrolled in the 37 primary schools and 151 pupils in the 2 secondary schools.

Arrowroot, sirup, sugar, coconuts, sweet potatoes, cotton, cassava, and plantains are the chief products. The 1937-38 production of arrowroot starch totaled 39,442 bbl. In 1937 imports were valued at £203,304; exports, £187,086. Revenue for

1937 totaled £94,380; expenditure, £97,072. In 1938 revenue was estimated to total £90,170; expenditure, £89,874; public debt (Dec. 31, 1937), £95,390 against which the sinking funds amounted to £9797. St. Vincent is under the Governor of the Windward Islands but has its own executive and legislative councils. The islands of the Lesser Grenadines are administered from St. Vincent. Administrator, Arthur Alban Wright. See **WINDWARD ISLANDS**.

SAKHALIN, sā'kà-lēn'. An island off the east coast of Siberia. The area north of 50° N. is a district of the Far Eastern Territory of the R.S.F.S.R. Area, 15,826 square miles; population (1933), 69,000. Capital, Aleksandrovsk-on-Sakhalin (8100 inhabitants). Fish, oil, and lumber are the principal products. For the Japanese part of the island, see **KARAFUTO**.

SALT LAKE CITY. See **AQUEDUCTS**.

SALT RIVER DAMS. See **DAMS**.

SALVADOR, EL (ēl sāl'vā-dōr'). A republic of Central America. Capital, San Salvador.

Area and Population. The smallest and most densely populated of the Central American states, El Salvador has an area of 13,176 square miles and a population estimated at 1,665,000 on Dec. 31, 1937 (1,549,999 at the 1933 census). Indians and mestizos constitute the vast bulk of the population, but the small ruling class is largely of Spanish descent. Living births in 1937 numbered about 66,150 (40.1 per 1000); deaths, 33,784 (20.5 per 1000); marriages, 6337. Populations of the principal cities at the beginning of 1934 were: San Salvador, 99,360; Santa Ana, 41,914; Santa Tecla, 21,865; San Miguel, 17,668; Sonsonate, 16,006.

Education and Religion. Illiteracy remains widespread, although elementary education is nominally free and compulsory. The school enrollment in 1933 was: Primary, 63,387; secondary, 1216; National University, 395. Roman Catholicism is the dominant religion.

Production. Coffee, the chief crop, accounted for 92 per cent of the value of all 1937 exports. Coffee production in 1937-38 was about 46,000 metric tons (75,300 in 1936-37). In 1936 exports of rice were 2,800,000 lb.; henequen fiber, 2,365,000 lb.; sugar, 277,000 lb.; balsam, 144,000 lb.; indigo, 27,000 lb. Corn, beans, and tobacco are grown for local consumption. The forests yield indigo and cabinet woods. The 1935 livestock census showed 609,255 cattle, 424,808 swine, 180,750 horses, mules, and asses, 21,575 goats, and 14,166 sheep. Some gold and silver is mined. Manufactures are few and are for local consumption.

Foreign Trade. According to preliminary returns, imports in 1937 totaled \$9,982,000 U.S. currency (\$8,435,000 in 1936); exports, \$15,514,000 (\$10,098,000 in 1936). Cotton fabrics, petroleum and its products, iron and steel were leading 1936 imports; the value of coffee exports in 1936 was \$9,009,000. Of the 1937 imports, the United States supplied 40.4 per cent (38.6 in 1936); Germany, 31.1 (33.3); United Kingdom, 11.4 (10.8). Of the 1937 exports, the United States took 60.7 per cent (57.4 in 1936); Germany, 11.2 (14.3); Norway, 6.6 (6.8). United States exports to El Salvador in 1938 were \$3,527,214 (\$3,628,135 in 1937); imports from El Salvador, \$5,672,190 (\$8,563,488).

Finance. Actual returns of budgetary operations for the fiscal year ended June 30, 1938, placed ordinary revenues at 19,714,000 colones and ordinary expenditures at 18,351,000 colones. The extraordinary budget returns were not available. For 1938-39, total budget estimates placed revenues at

21,961,000 colones (ordinary, 17,354,000) and total expenditures at 21,158,000 colones (ordinary, 17,325,000). The public debt as of June 30, 1938, was 39,699,000 colones (foreign, 34,678,000; internal, 5,021,000). Service of the foreign debt was suspended temporarily Nov. 26, 1937. The unit of currency is the colon, the exchange value of which remained practically stable at 2.50 to the U.S. dollar during 1938 and several preceding years.

Transportation. There are 375 miles of railway line and about 3000 miles of roads (375 miles of passable motor roads). The Santa Ana-San Salvador and San Salvador-San Miguel sections of the Pan American Highway were completed in 1938 and work was proceeding on a road from Chalatenango to Ocotepeque in Honduras and from San Salvador to Zacatecoluca. There were 3152 automobiles in the country on Jan. 1, 1938. Air lines connected the capital with Tegucigalpa, Guatemala City, and all points on the inter-American air network. In 1936, 703 vessels entered the three chief ports—La Union, La Libertad, and Acajutla.

Government. The Constitution of 1824, with its various amendments, vested executive power in a president elected for four years and legislative power in a National Assembly of 42 members elected by popular suffrage for one year. Provisional President Maximiliano H. Martinez, who seized power by a coup d'état on Dec. 2, 1931, was declared constitutional President by Congress on Feb. 5, 1932, and was re-elected Jan. 13-15, 1935. There are no political parties with definite programs.

History. The preparations made by President Martinez in 1936 and 1937 to perpetuate his dictatorship beyond the expiration of his term of office in 1939 (see 1937 YEAR BOOK, p. 671) encountered obstacles in 1938. As usual the President hand-picked the members of the National Assembly elected in January. But opposition to a third term for the dictator was expressed by an unexpected number of prominent citizens, and by some members of the government, who resigned. The government sought to overcome this opposition by a well organized propaganda in the press, the moving picture theaters, and over the radio, while repressing all efforts at resistance. The editor of the leading newspaper *Diario de Hoy* was deported in August, allegedly for refusing to publish an editorial advocating the re-election of Martinez. It was reported during the same month that numerous opponents of a third term had been jailed. Meanwhile the government press bureau made public many pleas from interested groups that the President succeed himself.

Although the Constitution had been amended in 1937 to facilitate the dictator's re-election, a new Constitutional Congress was chosen on October 22-25 from another hand-picked slate of candidates. The President's ticket was made known on the morning of October 25 and no opportunity for registering an opposing vote was given. The regular session of the National Assembly closed November 14, with a call for the election of a President and Vice-President on Jan. 8-10, 1939. On the following day the Constitutional Congress met to revise the Constitution in accordance with the dictator's wishes. A popular demonstration in favor of the President's continuance in office marked the beginning of Congress's active sessions on November 21. On November 26, however, a group of business and professional men signed a petition for the restoration of constitutional guarantees and the termination of the state of siege that had been in

effect throughout the Martinez regime. The dictator rejected the petition and when opposition demonstrations broke out in a number of towns early in December he proclaimed martial law and canceled the presidential elections scheduled for January (December 12). At the year end the Constitutional Congress was preparing to extend the dictator's term without the formality of an election.

At least part of the opposition to the continuance of Martinez in office was due to his anti-democratic tendencies and close collaboration with the Nazi-Fascist dictators, noted in previous YEAR BOOKS. In January the lay teachers, protesting that Spanish priests were teaching fascism in the Liceum San Luis in Santa Ana, formed the Salvadorean Teachers' Union to oppose fascism and defend democracy. The government, however, repressed pro-democratic tendencies, openly favored the Insurgent cause in Spain, and entrusted a large Italian aviation mission with the development of the Salvadorean air force. Six Caproni bombing planes were ordered from Italy in August. President Martinez was decorated by the Emperor of Manchoukuo in September and by Emperor Hirohito of Japan in October. Strong Nazi influence was exercised by the German Consul in San Salvador, Baron von Hundelhausen, who was also manager of the government-owned Farm Loan Bank, and by Gen. Eberhardt Bonstedt, German director of the military schools and instructor of the Salvadorean army.

A definitive boundary treaty with Guatemala was ratified by the National Assembly on April 27 (see GUATEMALA under *History*).

SALVATION ARMY, THE. A world-wide organization with international headquarters at 101 Queen Victoria St., London, England, whose purpose is the salvation of mankind from all forms of distress—spiritual, moral, temporal. The movement was first organized as The Christian Mission in the East End of London in 1865 by William Booth, a minister of the New Connection Methodists. In 1878 the name was changed to The Salvation Army. It spread rapidly throughout England and, in 1880, was extended to the United States. American incorporation took place in New York City in 1899. The government is military in character with General Evangeline Booth as international head. The higher command is divided into territories, each territory usually being a separate country, or colony, led by a commissioner, and subdivided into divisions consisting of corps, posts, and institutions under the direction of officers of varying ranks. There are four such territories in the United States.

The doctrine of The Salvation Army is a simple evangelical creed based on the Methodism from whence it came. It does not concern itself with fine theological differences, but bases its activities on the belief that "They serve God best who serve their fellowmen."

The Salvation Army is now active in 96 countries and colonies, carrying on its work in 100 languages. There were in its service in 1937, 26,877 officers and cadets; 9980 persons without rank wholly employed; 167,377 honorary local officers and bandmen; 82,097 songsters; 35,770 corps cadets; and 17,567 corps and outposts in operation. Social Welfare institutions and agencies numbered 1627, free day schools 1093, and Naval and Military Homes 35. It published 126 periodicals, with a total average circulation of 1,550,422 copies per issue.

There were in the United States in 1937, 1682 corps and outposts, 4 Training Colleges, 4681

officers and cadets, and 40,582 honorary local officers and bandmen. Converts during the year numbered 72,341. Social welfare institutions included 97 men's hotels and 19 residential hotels for young women, accommodating a total of 12,692. Men's Social Service Centers numbered 106 with accommodation for 4417; 9 children's homes with accommodation for 863; 36 women's homes and hospitals with accommodation for 2095; and 3 dispensaries which treated 12,983 patients. At Thanksgiving and Christmas free dinners were given to 405,851 persons, and toys to 335,159 children. During 1937, 7501 prisoners on discharge were assisted by The Salvation Army; 53,068 mothers and children were given summer outings; 82,861 men and women were given employment through the Army's free employment bureaus; and 727 missing persons found.

The National Headquarters of The Salvation Army in the United States are at 120 West 14th Street, New York City. National Secretary, Commissioner Edward J. Parker.

SALZBURG. See AUSTRIA; MUSIC.

SAMOA. A group of 14 islands in the Southern Pacific, about 4000 miles southwest of San Francisco. The islands of the group east of 171° W. longitude belong to the United States; those west of that line are administered by New Zealand under a mandate of the League of Nations.

American Samoa. American Samoa comprises the islands of Tutuila, Tau, Olosega, Ofu, Annuu, and Rose Island. Swains Island is included in the administrative district of American Samoa. The total area is 76 square miles and the estimated population on July 1, 1938, was 12,241 (11,956 Polynesians and half-castes, 278 Caucasians, and 7 Orientals). The Naval Station at Pago Pago is the seat of government. The population of the town and its vicinity was approximately 5000. The harbor is one of the best in the South Seas. The average school enrollment in 1937-38 was 2500. Instruction is in English. Copra is the chief export crop. Copra produced and exported in the fiscal year 1937-38 totaled 940 tons valued at \$66,270. The value of imports during the same year was \$215,304; of exports, \$129,850. Governmental revenues in 1937-38 were \$117,034 and expenditures \$104,736. On June 30, 1938, the net value of the general fund was \$74,590 and total financial assets were \$88,875. The islands are under the jurisdiction of the U.S. Navy Department and are administered by the commandant of the naval station at Pago Pago. There is a native advisory council called the Fono, which meets annually. Governor in 1938, Capt. Edward W. Hanson, U.S. Navy.

Western Samoa. The islands under New Zealand's control are officially known as the Territory of Western Samoa. Savaii and Upolu, with areas of 700 and 430 square miles, respectively, are the two largest islands. Of the seven smaller islands, only two are inhabited. Apia, on Upolu, is the chief harbor and seat of government. The population of Western Samoa at the census of Nov. 4, 1936, totaled 55,946 (Europeans, 367; Samoan natives, 52,266; half-caste Europeans, 2708; Chinese laborers, 502; other Chinese, 20; Melanesian laborers, 83). The natives are Christians. There are about 16,000 pupils in the government and mission schools. Copra, bananas, rubber, and cacao are the chief products. Imports in 1937 were valued at £267,868; exports at £352,436. For the fiscal year ended Mar. 31, 1937, governmental revenues amounted to £117,908 and expenditures to £116,613 (New Zealand currency). There were 160 miles of highways. Dur-

ing 1936 a total of 84 vessels of 112,139 tons entered the port of Apia. Regular shipping services connect the port with Fiji and New Zealand. There is a powerful wireless station at Apia. Administrator in 1938, A. C. Turnbull, who was responsible to the New Zealand Minister of External Affairs.

SANDYS CASE. See GREAT BRITAIN under History.

SAN FRANCISCO. See CALIFORNIA; PAINTING; SCULPTURE.

SANITARY ENGINEERING. See GARBAGE AND REFUSE DISPOSAL; SEWERAGE AND SEWAGE TREATMENT; WATERWORKS AND WATER TREATMENT.

SAN JACINTO TUNNEL. See TUNNELS.

SAN MARINO, *sān mā-rē'nō.* An independent republic near the town of Rimini, encircled by Italian territory. Area, 38 square miles; population (1936 estimate), 14,000. Capital, San Marino (4000 inhabitants). Cattle, wine, and building stone are the chief exports. The financial estimates for 1937-38 balanced at 4,997,901 lire (lire averaged \$0.0526 for 1937). Legislative power is vested in a grand council of 60 members from whom two are appointed every six months to act as regents.

SANTA CRUZ DE TENERIFE. See CANARY ISLANDS.

SANTO DOMINGO. See DOMINICAN REPUBLIC.

SÃO THOMÉ (*soun' tō-mă'*) AND **PRINCIPE**, *prēn'sē-pē.* Two islands in the Gulf of Guinea, West Africa, belonging to Portugal. Area, 384 square miles; population (1936 estimate), 60,000. São Thomé (capital) had 3187 inhabitants in 1921. The chief products are coffee, cacao, coconuts, palm oil, and cinchona. In 1935 imports were valued at 17,021,901 escudos; exports, 31,836,169 escudos (escudo averaged \$0.0446 for 1935). In 1937 there were 169 miles of roads. For 18 months ended Dec. 31, 1936, revenue totaled 14,288,390 escudos; expenditure, 10,680,574 escudos (escudo averaged \$0.0451 for 1936). The colony is administered by a governor.

SARAWAK, *sā-ră'wāk.* An independent state in northwest Borneo, under British protection. Area, 50,000 square miles; population (1936 estimate), 600,000. Kuching, the capital, had 25,000 inhabitants in 1931. The chief products are sago, pepper, rubber, petroleum, gold, jelutong, and cutch. In 1937 imports were valued at S\$22,899,415 (crude oil, S\$3,973,000; rice, S\$2,414,000; tobacco, S\$1,722,000; iron and steel and their manufactures, S\$1,629,000); exports, S\$32,691,247 (plantation rubber, S\$17,282,000; liquid fuel, S\$4,978,000; benzine, S\$1,874,000; gold, S\$1,161,000; sago flour, S\$1,171,000; kerosene oil, S\$928,000). In 1937 revenue totaled S\$4,801,236; expenditure, S\$4,104,082 (Straits S\$ averaged \$0.5797 for 1937). Rajah, Sir Charles Vyner Brooke (succeeded, 1917).

SASKATCHEWAN, *sās-kāch'ē-wōn.* A prairie province in western Canada. Area, 251,700 square miles; population (1938 estimate), 941,000 compared with 930,893 (1936 census). During 1936 there were 19,125 births (20.5 per 1000), 6314 deaths (6.8 per 1000), and 6168 marriages (616 per 1000). Chief cities (with 1936 census figures in parentheses): Regina, the capital (53,354), Saskatoon (41,734), Moose Jaw (19,805), Prince Albert (11,049), Swift Current (5074). In 1936 there were 273,593 students enrolled in schools of all kinds, including 4835 in the colleges and universities.

Production. The estimated gross value of agri-

cultural production for 1937 was \$91,902,000 (\$185,532,000 for 1936) of which field crops accounted for \$52,187,200 (\$141,793,400 for 1936). Other important items in the 1936 total of agricultural production were farm animals, \$18,246,000; dairy products, \$15,926,000; poultry and eggs, \$6,547,000; fruits and vegetables, \$1,318,000. Livestock in the province (1937): 873,600 horses, 1,441,200 cattle (including 563,700 milch cows), 345,000 sheep, 228,900 swine, and 8,825,300 poultry. Fur production for the year ended June 30, 1936, totaled 1,401,809 pelts valued at \$1,152,373. The 1936 output of the forests equaled 77,267 M cu. ft. valued at \$2,038,647. In 1937 the fisheries catch was valued at \$527,199.

Mineral production (1937) was valued at \$10,271,463 of which gold (65,886 fine oz.) accounted for \$2,305,351; copper (22,436,843 lb.), \$2,934,290; zinc (32,750,910 lb.), \$1,605,449; coal (1,049,348 tons), \$1,494,337; sodium sulphate (79,804 tons), \$617,548; silver (821,818 fine oz.), \$368,840; Cadmium (144,553 lb.), \$237,067. In 1936, from the 694 manufacturing plants, with a total of 5782 employees, the net value of products was \$51,604,510 (central electric stations, and dyeing, cleaning, and laundry work ceased to be regarded as "manufacturing" industries for 1936).

Government. For the year ended Apr. 30, 1936, revenue amounted to \$17,838,692; expenditure, \$18,890,607; net funded debt, \$183,050,318. The government is vested in a lieutenant-governor, advised by a ministry of 9 members who also are members of the legislative assembly of 52 members elected for a term of five years by popular vote of the people. The number of members in the legislative assembly was reduced from 55 to 52 by a redistribution bill of March, 1938. At the provincial general election of June 8, 1938, the standing of the parties in the legislative assembly was: Liberal, 36; Co-operative Commonwealth Federation, 10; Social Credit, 2; Independent, 2. In the Canadian parliament, the province is represented by 6 members in the Senate (appointed for life) and 21 members in the House of Commons. Lieutenant-Governor, A. P. McNab (appointed Oct. 1, 1936); Premier, W. J. Patterson (Liberal). See ALBERTA under *History*; CANADA.

SAUDI ARABIA. See ARABIA.

SAULT STE. MARIE, CANALS AT. Transits of vessels of all kinds through the canals at Sault Ste. Marie showed a decrease of 44 per cent for the season of 1938 over the preceding year and reached a total of 11,201 vessels as against 19,982 in 1937. Registered net tonnage totaled 30,147,671 for 1938 (68,391,220 in 1937), and the freight amounted to 40,042,739 short tons (87,633,699 in 1937), a decrease of 54 per cent. Passengers carried totaled 41,552 (47,253 in 1937). The United States Canal was opened 248 days from April 12 to December 15, and the Canadian Canal 243 days from April 18 to December 16. Vessels through the United States Canal totaled 7860 and carried freight eastbound amounting to 27,372,787 short tons and 10,402,486 westbound. Vessels through the Canadian Canal totaled 3341, with eastbound freight of 1,679,934 short tons and 587,532 westbound.

Transportation of freight by principal commodities in 1938 as compared with 1937 is shown in the table in preceding column.

SAXONY. See GERMANY.

SCANDINAVIAN LITERATURE. Danish.

Poetry. In *Alt kræver jeg* (I Demand Everything), Poul la Cour regrettably looks back to an earlier optimistic view of life which he has felt forced to abandon. Hans Bjerregaard made his debut with *Blæsten* (High Wind), a collection of poems showing strong satirical power.

Fiction. Hans Scherfig's *Den forsvundne Fuldmægtig* (The Official Who Disappeared) is an unusual mystery story and at the same time a satire on Denmark's bureaucratic system and, in general, on the traditions which force men into a uniform and monotonous scheme of existence. In *En Kvindes Kamp* (A Woman's Struggle), Harry Spøberg portrays a woman's heroic efforts to keep together a home that her husband is on the point of losing. In Agnes Henningsen's *Det rigtige Menneske* (The Real Man), love, instead of being the main theme, as in that author's earlier stories, merely furnishes the background. The hero is a magistrate who suffers defeat in his fight for truth and honesty. Knuth Becker continued the story of Kai Götsche, begun in *Det daglige Brød* (Daily Bread), in *Uroligt Foraar* (Restless Springtime), a work remarkable alike for its excellent character delineation and for its picture of present-day Denmark. In *Kaj Lykke*, as in last year's *Griffensfeld*, Palle Rosenkrantz gives a realistic portrait of a highly unique historical character. The milieu, in this case the Dano-Swedish War of the 17th century, is also well drawn.

Memoirs, etc. Under the title *En Sprogmands Levned* (The Life of a Language Man), the well-known Anglicist, Otto Jespersen, gives an interesting account of his life, including his student years in Denmark and abroad, his activities as a researcher, and his experiences as a university professor. Robert Andersen's *Jorden rundt efter Guld* (Around the World in Search of Gold) is a fascinating account of the author's work as a gold-digger in different parts of the world. In *Min anden Ungdom* (My Second Youth), Peter Freuchen tells of his experience as an explorer, traveler, and journalist.

Norwegian. Fiction. Lars Hansen's *Storfossen* is a dramatic story centering around the Læstadius movement in Lapland during the middle of last century. In *Det ensomme hjerte* (The Lonely Heart), a story dealing mostly with youth, Sigurd Christiansen gives a more intimate view of the human heart than in his earlier works. Much of the material used is autobiographical; in fact, Jörgen, the most complex and the most interesting of the characters, has many of Christiansen's own traits. In *De vergeløse* (The Defenseless), Gabriel Scott champions the cause of the underprivileged in the manner of Dickens and Hugo. The hero is a boy who, forced to make his home with strangers, has to suffer unendurable privations and hardships. Sigurd Hoel's *Sesam Sesam* ("Open Sesame") is

	1937	1938
Lumber M ft. b.m.	31,918	21,266
Pulpwood cords...	238,153	247,182
Flour barrels...	6,289,360	6,548,330
Wheat bushels...	117,229,103	174,161,741
Grain, other than wheat bushels...	50,191,831	90,264,301
Copper and zinc short tons...	27,330	42,927
Iron ore short tons...	65,616,328	20,054,598
Structural steel short tons...	115,253	124,326
Scrap and pig iron short tons...	383,428	51,503
Coal, soft short tons...	12,861,560	8,938,442
Coal, hard short tons...	231,328	175,538
Salt short tons...	45,006	48,459
Petroleum products short tons...	624,829	758,419
Stone * short tons...	712,438	390,436
General merchandise short tons...	1,136,057	893,447
Automobiles number...	42,278	18,515

* Includes broken stone, gravel, and sand.

a protest against the mania for panaceas characteristic of the present time. In *Ung må verden ennå være* (The World Must Become Young Again), a story of international scope whose scene is laid in five different countries, Nordan Grieg forcefully points out the necessity of finding an escape from the existing world confusion. Lillemor von Hanno, in *Hele verden står dig åpen* (You Have the World Before You), portrays the difficult life of the young artist in the earlier years of his career. Håkon Melberg made his debut with *Solen går aldri ned* (The Sun Never Sets), which with intense realism shows the influence of a catastrophe on a sensitive adolescent. The hero of Kåre Fasting's *Jakob og sønnene hans* (Jacob and His Sons) is a fisherman who, like Job of the Old Testament, loses everything and yet even in his last desperate struggle for life clings to his faith.

History and Religion. In *Det norske folks liv og historie i vår tid* (Life and History of the Norwegian People in Our Times), Wilhelm Keilhau deals with the national, economic, and foreign-political tendencies since 1905. Ronald Fangen's *Kristendommen og vår tid* (Christianity and Our Times) is an examination of nazism, communism, and democracy in the light of Christian philosophy.

Swedish. Poetry. In *Sångerna om samvetet och ödet* (Songs about Conscience and Fate), Berit Malmberg gives expression to his newly found religious faith, acquired partly under the influence of the Oxford movement. Josef Nilsson's *Emigrant* (Emigrant) gives in lyric form the emotional reactions of emigrants from Småland as they attempt to adjust themselves to conditions in the New World.

Fiction. Sten Söderberg's *Vita hästar* (White Horses), the story of a family through six generations, is especially good in indicating the social, cultural, and economic conditions against which the characters play their parts. Harald Beijer's new book, *Dynamit* (Dynamite), reflects the author's conviction that society and not the individual bears the chief responsibility for the world's ills and that under the present world order any personal efforts at establishing just relationships are futile. Berit Spong, who had made a name for herself as a writer of poetry and short stories, this year turned to the novel in *Spelet på Härnevi* (The Drama on Härnevi), a powerful story which shows the tragic effect on a sensitive woman of her union with a cold and prosaic husband. The unselfish and idealistic heroine of Elin Wägners *Hemlighetsfull* (Secretive) is drawn with the usual psychological insight of the author against a clearly outlined background of post-war Europe. In *Det är bara ovanan, damen* (It Is Only the Bad Habit, the Lady), Waldemar Hammenhög continued last year's story of *Anna Svardt*. The heroine, whose ambition was shown in the earlier volume, is now seen as a capable business executive who considers all personal relationships secondary to her career.

Miscellany. In *Från forntid till nutid* (From Antiquity to Modern Times), Eirik Holmborg, the foremost Finnish-Swedish historian, produced a work of high scholarly and artistic merit. Axel Strindberg's *Bondenöd och stormaktsdröm* (Poor Peasants and Empire Dreams) was greeted as the first consistent effort to subject the literature of an entire epoch of Swedish history to a sociological analysis. See also PHILOLOGY, MODERN.

SCHAUMBURG-LIPPE. See GERMANY.

SCHIFF COLLECTION. See ART SALES.

SCHOOLS. See EDUCATION IN THE UNITED STATES, and the paragraphs on *Education* under the various countries, and the States of the United States.

SCHWEINITZ, shwī'nīts, GEORGE EDMUND DE. An American ophthalmologist, died in Philadelphia, Aug. 22, 1938, where he was born on Oct. 26, 1858. The son of Edmund A. de Schweinitz, Bishop of the Moravian Church, he was educated at Moravian College (A.B., 1876) and took his medical degree at the University of Pennsylvania in 1881, when he received the Hodge gold medal for proficiency in anatomy.

Upon graduation he was appointed ophthalmic surgeon to the Children's Hospital and the University of Pennsylvania Hospital, and in 1883 entered into general practice, specializing in ophthalmology in 1887. Dr. de Schweinitz served as ophthalmic surgeon to the Children's Hospital, Philadelphia (1885-92); as professor of ophthalmology at the Philadelphia Polyclinic and the College for Graduates in Medicine (1891-92); as clinical and later full professor of ophthalmology at Jefferson Medical College (1892-1902); as professor of ophthalmology at the School of Medicine, University of Pennsylvania (1902-24); as consulting ophthalmic surgeon to the Orthopedic Hospital (1924-28), and as professor of ophthalmology at the Graduate School of Medicine, University of Pennsylvania (1924-28). He was retired as professor emeritus in 1928.

At the entrance of the United States into the World War, Dr. de Schweinitz offered his services to the government and was commissioned a major in the reserve corps. He saw active service in France and England from November, 1917, to March, 1919, and thereafter was commissioned a lieutenant-colonel on duty in the surgeon general's office in Washington, D. C. He was honorably discharged in 1919, and in 1923 was commissioned a brigadier general in the reserve corps, and in 1927 a brigadier general in the auxiliary medical corps.

An author of many articles and monographs on ophthalmological and neurological subjects, and a lecturer of note, he delivered the Bowman lecture in London in 1923, later published under the title *Certain Ocular Aspects of Pituitary Body Disorders*, and also lectured before the Société française d'Ophtalmologie in 1924. He was awarded the Leslie Dana Medal of the National Society for the Prevention of Blindness in 1930 for "the most outstanding work in behalf of prevention of blindness," when he delivered an address on "The Heritage of Sight: Its Conservation."

A leader in the field of ophthalmology, he was awarded the Alvarenga prize of the Philadelphia College of Physicians (1894) for his essay on *Toxic Amblyopias*, published in 1896; the bronze plaque of the Société française d'Ophtalmologie (1923); the Howe medal of the American Medical Association (1927), and the Huguenot Cross (1927). He held membership in the leading scientific societies, including the American Association for the Advancement of Science, and was president of the International Congress of Ophthalmology held in Washington in 1922, of the Ophthalmological Society in 1915, and of the American Medical Association in 1922.

Dr. de Schweinitz was the author of *Diseases of the Eye* (1892; 10th ed., 1924); *An American Textbook of Diseases of the Eye, Ear, Nose, and Throat*, with Dr. B. Alexander Randall (1899); American editor of *Haab's Ophthalmoscopy and External Diseases of Eye and Operative Ophthal-*

mology (3 vol., 3d ed., 1909), and editor, with Dr. T. B. Holloway, of *Pulsating Exophthalmos*, and with Drs. Edward Jackson and T. B. Schneidemann, the *Ophthalmic Year Book* (1905-09). Also, he contributed to the *American System of Obstetrics* (1889); the *Cyclopædia of Diseases of Children* (1890), and *System of Therapeutics* (1892).

SCOTLAND. See GREAT BRITAIN.

SCOTTSBORO CASE. See ALABAMA.

SCULPTURE. Sculpture assumed an unusually large place among activities in the world of art in 1938. Important competitions were held, large commissions given, notable works completed, and numerous exhibitions set forth under the auspices of professional organizations and art museums.

The two World's Fairs to be held in 1939, in San Francisco and New York, were responsible for a large part of this activity, many sculptors being employed on works purposed for their adornment.

Early in the year the Government announced a national competition for two heroic figures to be placed on the towers of the Federal Building in the New York Fair. Sculptors from 38 States submitted 424 models. The award was made to John Poole Camden, Assistant Professor of Art at Cornell University.

Interest attaches to a competition for two sculptural groups to be placed on the new Apex Building, assigned to the Federal Trade Commission, Washington, D. C. The winner was Michael Lantz, but because of the merit of the work submitted, 26 sculptors were invited to execute works for post offices in various parts of the country.

Felix Schlag of Chicago won the \$1000 prize for a Jefferson commemorative nickel, which was struck and placed in circulation in 1938.

A heroic statue by James Earle Fraser of Benjamin Franklin was ceremoniously unveiled in the Franklin Institute, Philadelphia, on May 19.

In October, a bronze statue of Gen. Artemas Ward, of Revolutionary fame, the work of Leonard Crunelle and gift of Harvard University, was given permanent placement at the intersection of Nebraska and Massachusetts Avenues, Washington, D. C.

A life-sized statue by Florence Rich of an army nurse in uniform was unveiled in the National Cemetery, Arlington, Virginia, on November 8, in commemoration of the Army and Navy nurses.

A frieze for the main entrance of the Columbus Gallery of Fine Arts, Columbus, Ohio, comprising full-length figures in relief of 68 great artists from Phidias to George Bellows, the work of Robert Aitken, was completed.

The installation of three works of sculpture in Fairmount Park, Philadelphia, marked the progress of the Ellen Phillips Samuel Memorial, which, when completed, will consist of 18 figures and groups in sculpture, emblematic of the history of America. These were a group, "Spanning the Continent," by Robert Laurent, and figures of "The Miner," by John Flanagan and "The Plowman," by J. Wallace Kelly.

To be reckoned among the important events of the year was the dedication of Carl Milles' monument in commemoration of the landing of the first Swedish colonists on the banks of the Delaware River, for which occasion the Crown Prince of Sweden came to this country.

Milles was awarded the Architectural League's Gold Medal for distinguished achievement in sculpture for 1938 for his monumental work, "Indian God of Peace," executed for the City Hall, St. Paul, Minn.

The Society of Medalists issued to its member-

ship in 1938 two medals: One by Stirling Calder, entitled "Life as a Dance"; the other by Gertrude K. Lathrop in the interest of the conservation of wild life.

A new organization, the "Sculptors' Guild," was formed in New York in 1938 and scored great success in an outdoor exhibition held on a vacant lot in the heart of the city early in the spring, as well as in a somewhat similar exhibition held at the Brooklyn Museum in the autumn. From the latter exhibition, this Museum purchased a large lead bust, "Semitic Head," by José de Creeft, a Spanish modernist.

An unusual commission for sculpture was given by the Brotherhood of Longshoremen and Auto Truck Drivers of Oakland, Calif., for works to decorate their meeting hall.

Several museums of the country made notable purchases of sculpture during 1938, ranging from the early Egyptian to the present day.

Numerous additions were made to the works by American sculptors at "Brook Green," the gift of Mr. and Mrs. Archer M. Huntington.

Heavy loss was occasioned through the death of R. Tait McKenzie, George Grey Barnard (q.v.), David Edstrom, and Paul Troubetskoy, all sculptors of outstanding achievement and international fame.

SECURITIES AND EXCHANGE COMMISSION. See FINANCIAL REVIEW.

SEISMOLOGY. C. Davison has just completed an extensive investigation of earthquake sounds. Broadly speaking, earthquake sounds are of two types: (1) Sounds of long duration and (2) sounds of short duration. These can be further classified into six groups, thus under (1) there are the sounds resembling (a) movement of heavy vehicles, (b) thunder (not thunder claps), (c) wind; and under (2) there are the sounds resembling (a) the fall of a heavy body, (b) explosions, (c) the roll of a distant drum. In all cases the sound which accompanies an earthquake is of very low pitch, so low that it is just audible to many observers and quite inaudible to a few. Davison finds that the less the intensity of the earthquake, the more likely is the sound to be one of short duration. Naturally as the distance from the origin increases the audibility of the sound decreases but in doing so the sound becomes smoother and more monotonous. The intensity of the sound increases to a maximum with the strength of the shock and then dies away with it. As a rule the beginning of the sound precedes that of the shock, the epochs of maximum intensity coincide, and the end of the sound follows that of the shock. A person is more likely to hear the sound before the shock than after the shock is over. Davison explains all of his findings by saying that in its simplest form, the seismic focus of an earthquake consists of a central region of the fault surface from which come the vibrations that form the shock, surrounded by a marginal region from which sound vibrations alone proceed.

An earthquake in Pennsylvania on July 15 reached intensity V on the Mercalli scale. No seismographic records of this shock were obtained. Landsberg made a careful study of all reports about this earthquake and on the basis of this macroseismic evidence computed the focal depth to be about 7.5 km. This earthquake at Clover Creek, a region of unusual seismic stability, is convincing evidence that no region of the earth is absolutely free from earthquakes. Its failure to be recorded on any seismograph shows that a close network of

seismological observatories is necessary in order to bring less conspicuous shocks to the attention of the seismologist.

The connection between microseisms and weather is well established, so much so that observations of microseisms have been used as an aid to forecasting weather. A. W. Lee has investigated this relation again recently and finds many unexplained facts about it. A well-pronounced barometric depression, appropriately situated, is a necessary condition for the development of microseisms, but some other agency or combination of circumstances must be involved and at present no satisfactory explanation has been given. Lee has shown weather maps having no change in the intensity of the barometric depression while the microseisms steadily increased. Also he has pointed out deep depressions of the same type and location but not equally effective in producing microseisms; the lines of equal microseismic activity conform with the run of the isobars, but there is a striking contrast between the amplitudes of microseisms for different occasions. Until these anomalies can be explained the problem of microseisms remains a challenge to meteorologists and seismologists alike. See EARTHQUAKES.

SELANGOR. See FEDERATED MALAY STATES.

SELENIUM. See BOTANY.

SENEGAL. See FRENCH WEST AFRICA.

SERBIA. See YUGOSLAVIA.

SEWERAGE AND SEWAGE PURIFICATION.

Records of the Federal Emergency Administration of Public Works show that the 1938 PWA program included 147 projects for sanitary sewers costing \$37,100,000 and 319 sewage disposal plants costing \$70,756,000. For the period 1933-38 the corresponding figures were 465 sanitary sewer projects costing \$89,253,000 and 889 disposal plants costing \$326,341,000. A country-wide survey showed that 4662 communities in 47 States had sewage-treatment plants in 1938 compared with 3471 in 44 States in 1935. Corresponding populations (1930 census) are 41 and 24 millions. Activated-sludge plants gained about 100 per cent in number in three years and trickling filter installations, 43 per cent. A total of 535 communities collect gas from sludge-digestion tanks, using it mostly for heating but in 51 cases for power. Some part of the sludge was used or sold for fertilizers in 156 communities (From an article to be published early in 1939 in *Engineering News-Record*). The sewage-treatment works now in use go far in reducing the pollution of coastal and inland waters, thus abolishing offense to eye and nose and in many cases reducing or eliminating menaces to health caused by the pollution of water supplies or oyster beds. That much remains to be done is shown by the inclusion in the Six-Year Water Control Program of the Water Control Committee of the National Resources Committee of 3484 sewage-diversion and treatment projects to cost \$667,000,000, to be constructed chiefly without Federal aid. To cope with the pollution of waters common to several states, a number of interstate agencies have been formed. Recent additions to states with these joint bodies are New York, New Jersey, Pennsylvania, and Delaware, to protect the Delaware River; Pennsylvania, District of Columbia, Maryland, Virginia, and West Virginia, to safeguard the Potomac River; and the eight Ohio River Basin States of New York, Pennsylvania, West Virginia, Tennessee, Kentucky, Ohio, Indiana, and Illinois. In April, President Roosevelt signed an act authorizing

Minnesota and the two Dakotas to make a compact for flood and pollution control of their interstate waters.

At midnight, December 31, the Sanitary District of Chicago reduced to 1500 cu. ft. per second the diversion of water from Lake Michigan to the Chicago Drainage Canal to dilute the sewage of the district on its way southward to the Mississippi River system. This was in compliance with the order of the U.S. Supreme Court in the notable Lake Michigan diversion suit. Meanwhile the district had nearly completed its sewage-treatment program, including some of the largest sewage-treatment works in the world. (See 1930 YEAR BOOK for court order and subsequent issues for progress on sewage treatment, under SEWERAGE.) See WATER WORKS.

New Treatment Works. At Buffalo, N. Y., sewage-treatment works and trunk sewers leading to them were officially opened on July 1. At the same time the city began to charge for sewerage service—a practice which is steadily increasing in the United States. The works clarify and chlorinate the sewage, the latter for the protection of downstream water supplies. Sludge is burned. The project cost about \$15,000,000. (For detailed description, see *Municipal Sanitation* [New York], September, 1938.) Atlanta, Ga., put the largest of several new plants in use in September. It has a daily capacity of 42 million gal. It consists of bar screens, comminutors for the screenings, grit collectors, aeration tanks, clarification tanks, and sludge-digestion tanks and vacuum type sludge dryers. At low stages of the Chattahoochee River, clarification will be aided by chemical precipitation. Gas produced in the sludge-digestion tanks operates an 180-h.p. engine to generate electricity for heating the digestors and buildings. Three other new plants have been completed for Atlanta. A sewer is being built to convey the sewage from an obsolescent plant to the large works. A 123-million gal. activated-sludge plant was opened at Cleveland on August 21. It is the largest of three plants at Cleveland. Partly because of its location on the shore of Lake Erie, in a high-class residential district, the sludge is piped 13 miles to another plant for treatment, where it is digested, dewatered, and incinerated. One of the largest sewage-disposal plants in the world, including 10 miles of intercepting sewers and a sedimentation and chlorination plant to treat 420 million gal. a day, is being built at Detroit. Dewatered sludge will be incinerated in a plant with a daily capacity of 1200 tons. (See *Engineering News-Record* [New York], Aug. 18, 1938.) As a result of litigation, begun in 1924, Milwaukee settled for \$818,000 patent claims on the activated-sludge process. Dedication of the sewage disposal works built by the Minneapolis-St. Paul Sanitary District took place on May 16. Including 10 miles of intercepting sewers, the project cost \$16,000,000. The plant was designed to treat an average daily flow of 134 million gal. and a maximum flow of 610 m.g.d. It includes screen and grit chambers, flocculating and settling tanks, vacuum sludge filters, and sludge incinerators. When the Mississippi River is very low, chemicals will be used to aid sedimentation. (See *Municipal Sanitation* [New York], July, 1938.) For storing gas produced in the digestion of sludge, spherical-shaped tanks have been erected at Cleveland, Ohio, Beaver Dam, Green Bay, and Sheboygan, Wis. To divert sewage causing a nuisance in Wolf River, Memphis, Tenn., is building an intercepting sewer 14,000 ft. long, 90 ft. below the ground surface. It

will discharge into the Mississippi River, which has more than ample volume for disposal of the sewage by dilution only.

Canada. Of 120 municipalities in Canada having sewage-treatment works, 47 have plants of the activated-sludge type.

London, ENGLAND. A novel type of activated-sludge plant has been built by the London County Council to treat sewage delivered at Barking on the Thames. Sewage charged with re-aerated activated sludge is forced by paddles through 66 twotier channels, going the length of the upper and returning through the lower. The channels are 6 ft. wide and 5 ft. deep and are grouped in six units of 12 each, with a combined length of 6400 ft. Excess final sludge is digested in tanks. The daily capacity of the plant is 66 million gal.

Bibliography. Bevan and Rees, *Sewers* (London and New York); Steele, *Water Supply and Sewerage* (New York).

SEXUAL PATHOLOGY. See MEDICAL JURISPRUDENCE.

SEYCHELLES, sā'shēl'; -shēlz'. A British colony consisting of 92 islands in the Indian Ocean. Mahé (55 sq. mi.; pop., 25,367) and Praslin are the largest islands. Total area, 156¼ square miles; total population (Jan. 1, 1937, estimate), 30,461 compared with 27,444 (1931 census). Capital, Victoria (on the island of Mahé).

Copra, cinnamon, phosphate guano, patchouli and other essential oils, and fresh fish are the chief products. For local consumption, tobacco, coffee, sugar cane, maize, vegetables, manioc, bananas, and breadfruit are grown. In 1937 imports were valued at Rs1,263,351; exports, Rs1,503,310 (rupee averaged \$0.3733 for 1937); revenue, Rs1,008,872; expenditure, Rs903,902; public debt, £26,730. The government is administered by a governor assisted by an executive council and a legislative council. Governor and Commander-in-Chief, Sir Arthur F. Grimble.

SHAN STATES. See BURMA.

SHASTA DAM. See DAMS.

SHEPARD, HELEN MILLER GOULD (Mrs. FINLEY J. SHEPARD). An American philanthropist, died at Roxbury, N. Y., Dec. 21, 1938. Born in New York, June 20, 1868, the eldest daughter of Jay Gould, she was educated privately. At the outbreak of the Spanish-American War in 1898, Mrs. Shepard contributed \$100,000 to the United States Government and aided camps and hospitals established for the soldiers. She herself took over the Women's War Relief Association and reorganized it efficiently. For her work she received a gold medal from Congress. New York University was a frequent recipient of her benefactions. To it she gave the library (1895), the Hall of Fame (1900), and made many donations to it for books and scholarships, as well as to the Engineering School, the School of Applied Science, and the Medical College. With Mrs. Russell Sage she gave to the Young Men's Christian Association a building in Brooklyn in 1900 and other valuable gifts, particularly to the Railroad Men's branch. She donated a dormitory to Northfield Seminary and made many other gifts to charitable and educational organizations. In late years, Mrs. Shepard assisted in opposing Communism and the birth-control movement, and encouraged the greater spread of religious devotion.

She was married to Finley Johnson Shepard on Jan. 22, 1913.

SHIPBUILDING. Nearly 350,000 gross tons more of merchant vessels were launched during

1938 than in 1937, according to Lloyd's Register of Shipping, covering returns from all maritime countries, except Russia, for which no authentic records have been available for some time. All merchant shipping of 100 gross tons each and upward is included in the returns, which show that last year's launchings aggregated 3,033,593 gross tons. This is the largest annual output for the world since 1921, but the figure is 300,000 tons lower than the production in the last pre-war year, 1913.

TONNAGE OF VESSELS LAUNCHED
[Gross tons]

	1938	1937
Great Britain and Ireland	1,030,375	920,822
United States	201,251	239,445
Other countries	1,801,967	1,530,313
World total	3,033,593	2,690,580

Only two of the 10 leading maritime countries launched less tonnage in 1938 than in 1937. For the United States a decrease of 38,000 gross tons was reported, and for Japan one of 10,000 tons. The greatest gain was made by Great Britain and Ireland, one of 110,000 tons, followed by Italy's increase of 72,000 tons. For Germany there was an advance of 45,000 tons, as also for the Netherlands of 56,000 tons, France 21,000 tons, Denmark 27,000 tons, Norway 13,000 tons, and Sweden 5000 tons.

About 60 per cent of all tonnage launched in 1938 was composed of motor vessels, as compared with 56 per cent of the year 1937. The tonnage of motor vessels being built in 1938 was the largest ever reported, exceeding the high figure of 1930 by 240,000 tons. Tanker tonnage amounted to 907,000 tons, about 80 per cent being motor driven. Sailing vessels and barges aggregated 57,651 tons or less than 2 per cent of the entire output of merchant vessels.

Large vessels (each over 20,000 gross tons) under construction in 1938 were the following: *Queen Elizabeth* and *Mauretania* for the Cunard White Star Line, *Andes* for Royal Mail Line, *Dominion Monarch* for Shaw, Savill, and Abion, *Stockholm* for the Swedish American Line, and *America* for the United States Lines. Of those completed may be mentioned *Nieuw Amsterdam* of Holland American Line, *Oslofjord* of Norwegian American Line, *Stratheden* and *Strathallan* of Peninsular and Oriental Steam Navigation Co., and *Capetown Castle* of Union Castle Co. Outstanding motorships put in service were *Capetown Castle*, the largest ship sailing regularly from Southampton, Eng., to Capetown, South Africa; and *Prins Albert* built for the Belgian Government to run from Dover, Eng., to Ostend, Bel. The *Prins Albert* is one of the fastest merchant motorships afloat.

Besides the general world-wide shipbuilding activities as reported by Lloyds, attention is called to those in the United States of the Maritime Commission. The Maritime Commission is interested in the construction of:

- 1 21-knot, 1200-passenger ship for the U.S. Lines' trans-Atlantic service, for which the name *America* has been selected.
- 4 16½-knot cargo ships for the Export Lines' Mediterranean service.
- 10 16½-knot cargo ships of the C-3 type.
- 20 15½-knot cargo ships of the C-2 type.
- 12 16½-knot tankers, 2 of which have been sold to the U.S. Navy, and 2 to a private company.
- 3 16½-knot passenger and cargo ships.

and is preparing plans for three 23-knot ships of about 35,000 tons displacement with accommoda-

tions for 800 passengers, to be operated in the trans-pacific service. Likewise plans for cargo ships somewhat smaller than the C-2 type, and to be known as the C-1 type, are being developed. These ships will be about 7000 tons total deadweight, with a speed of approximately 14 knots, and will be suitable for some foreign trades where the faster 15½-knot ship with the larger deadweight cannot be used economically. The American Bureau of Shipping on November 1 reported there were being built in the United States yards 51 seagoing vessels aggregating 423,250 gross tons, and 78 miscellaneous vessels aggregating 36,525 gross tons, making a total of 459,775, while on Nov. 1, 1937, there were 102 vessels of 315,220 gross tons.

Relative to the design of merchant ships, improved materials are being used in both hull and propelling machinery, and increased safety at sea is secured by them. Welding is replacing riveting in many parts of the hull; in fact, all-welded ships have already been built. Internal combustion engines (Diesel) are being built in larger sizes, and installed not only in tankers and cargo vessels, but also in those primarily intended to carry passengers. The newest and fastest Atlantic liners as *Queen Elizabeth*, *Mauretania*, and *America* will be turbine driven. The use of electricity for cooking, heating, and other purposes has still further increased, and is an important feature of the modern vessel. See NAVAL PROGRESS.

SHIPPING. Unfavorable economic conditions in many countries, the political situation in Europe, and exchange difficulties have collectively caused a falling off of world trade. In some foreign ports, and particularly in Pacific Coast ports of the United States, shipping has been seriously affected by strikes and labor trouble. However, toward the latter part of 1938, a better understanding seemed to have been arrived at between labor and shipping men. Besides labor troubles, the business depression has affected shipping to such an extent that steps have been taken by foreign governments and also by the United States to build up shipping. In Great Britain, the International Scheme of Volunteer Co-operation introduced in January, 1938, has been successful in maintaining rates in controlled markets so there is a profit above the cost of operating ships. The constantly rising cost of building ships has retarded the placing of orders by companies for new tonnage.

In the United States, the Maritime Commission, created by the Merchant Marine Act of 1936, has been active not only in making studies of foreign trade routes, but also in preparing plans for passenger, cargo, and passenger and cargo vessels, and in awarding contracts for their construction. Contracts for some 50 vessels have been awarded, and others will be in 1939. In some cases the Commission has re-organized established lines, and taken an important part in the operating of the vessels. From information from the Commission, there are 13 lines subsidized by the Government, which are as follows:

United States Lines—from North Atlantic ports to Europe.
American Export Lines—from North Atlantic ports to Mediterranean.
American Scantic Line—from North Atlantic ports to Scandinavian and Baltic.
American Republics Line—from North Atlantic ports to the East Coast of South America.
Seas Shipping Co.—from U.S. Atlantic ports to South Africa.
South Atlantic Steamship Co.—from Southern Atlantic ports to Europe.
The Grace Line—from North Atlantic ports to West Coast of South America.

The New York & Cuba Mail Steamship Co.—from New York to Cuba and Mexico.
Lykes Bros.—from the Gulf to Europe and to the Far East.

The Mississippi Shipping Co.—from the Gulf to the East Coast of South America.

The American President Lines—trans-Pacific service and Round-the-World service.

Matson Line—from the West Coast to Australia.

P.A.B. Line—from the West Coast of the United States to the East Coast of South America.

There were, at the end of 1938, a total of 143 ships under subsidy and the annual subsidy payments amount to approximately \$13,000,000. The construction subsidy on the ships ordered by the Commission will doubtless exceed \$50,000,000. Not only are ships being built to supplement the American merchant marine, but progress is being made in the improvement of the efficiency of the personnel to man the ships, by the establishing of training ships and stations. About 1400 seagoing vessels of 2000 gross tons and over are running under the American flag. Of these, less than 300 are in foreign trade, about 700 are in coastwise service, and the rest are operating on the Great Lakes.

SHOE INDUSTRY. The 1938 production of shoes in the United States was estimated by the *Boot and Shoe Recorder* to be approximately 380,000,000 pairs, or about 7½ per cent less than in 1937, when 411,969,000 were produced, and 8½ per cent under the 415,000,000 record of 1936.

Estimates based partly on a survey for the first half of the year, made by the U.S. Bureau of the Census, place the sales of retail shoe stores for 1938 in excess of \$42,000,000, which is less than 7 per cent lower than in 1937 and more than 10 per cent greater than in 1935. Per capita consumption of shoes by women in 1938 approximated 3.6 pairs, which, although lower than for 1937, was higher than in the 10 years prior to 1937. Men consumed about two pairs during 1938, representing the lowest per capita consumption since 1934; boys 1.3 pairs or the same as in 1937. Per capita consumption of shoes by misses and children in 1938 was in excess of three pairs, the highest recorded since 1929.

Nearly 1400 independent shoe stores throughout the United States with aggregate sales in 1937 of \$44,856,000 reported to the Bureau of the Census that their sales for the second quarter of 1938 increased 43.5 per cent over the preceding quarter. Sales during the first half of 1938 were off 6.8 per cent as compared with the sales for the same period of 1937. The first quarter of 1938 showed a loss of 10.2 per cent and the second quarter a loss of 4.3 per cent in comparison with the corresponding quarters of 1937.

Covering 1938, the U.S. Bureau of Foreign and Domestic Commerce reported imports of footwear partly or entirely of leather amounted to 6,292,476 pairs valued at \$3,977,279 and exports of 2,241,050 pairs valued at \$4,390,781.

SIAM. An independent monarchy of southeastern Asia. Capital, Bangkok; King in 1938, Ananda Mahidol; the royal authority is exercised by a council of regency.

Area and Population. Siam's area is 200,148 square miles. Its population, by the census of 1937, is 14,464,489. By the last previous census (1929) the population numbered 11,506,207. The city of Bangkok had (1937) 886,150 inhabitants. While the great majority, possibly nine-tenths, of the inhabitants are of Siamese origin, there are many Chinese, Indians, Malays, and Cambodians. The numbers of these groups were reported, in 1929, as follows: Chinese, 445,274; Indians and Malays

(counted together), 479,618; Cambodians, 60,668. Europeans and Americans numbered 1920.

Education and Religion. The number of inhabitants of school-going age—from 5 to 14 years—was stated, for 1937, as 3,500,000. There were, on Mar. 31, 1938, 10,616 schools, of the governmental, primary, municipal, and private groups. The pupils taking ordinary courses in these schools numbered 727,163 boys and 567,378 girls. Students in professional courses numbered 12,370 boys and 3108 girls. The estimated proportion of illiterates among the population of age to read was about 35 per cent in 1938, as against 90 per cent in 1921, at the adoption of a law for compulsory education. Higher education is provided at Chulalankarana University, at Bangkok, and at a University of Moral and Political Sciences, where law, political science, and economics are taught and public servants are trained. The predominant religious belief of the country, Buddhism, was estimated in 1930 to have 10,958,462 followers; the Mohammedans were then reported to number 498,211; the Christians, 49,426.

Production. While Siam has active mineral and lumbering industries, about 83 per cent of the population is thought to gain its support directly by agriculture. Rice forms the bulk of the people's diet; it also provides the country's greatest export. The rice crop of 1938 (year ending March 31) was estimated at 9730 millions of pounds. For the corresponding year 1937 the yield of rice was 8098 millions of pounds. The quantities of other crops produced in 1937 follow: Corn, 179,000 bu.; sesame, 1,520,000 lb.; peas, 10,896,000 lb.; cotton, 8,881,000 lb.; tobacco, 15,588,000 lb.; pepper, 437,000 lb. The cut of teak (season, 1935-36) totaled 101,908 trees, giving 91.5 million board feet; this industry was mainly in British control. Rubber trees, numbering 41,292,000 in 1935, occupied 287,600 acres.

The mining of tin, the chief of the country's mineral industries, produced in the year ending with Mar. 31, 1938, ore having 15,686 tons of tin content. An ore of tungsten (wolframite), also mined, yielded 113 long tons shipped for export in 1937. The manufacturing industries run by private enterprise were still for the most part, in 1938, rice mills and saw mills, but a brewery, a cement-making establishment, and a number of industries that could operate on a smaller scale than these, were reported as in business. The government, moreover, carried on a cotton mill, a paper factory, a sugar mill, a distillery, and a manufactory of airplanes, and had in construction a refinery for oil.

Foreign Trade. For the fiscal year ended Mar. 31, 1938, total imports were 111,780,823 bahts (110,-043,648 in 1936-37) and total exports were 180,-773,109 bahts (184,361,155 in 1936-37). United States trade figures for the calendar year 1938 showed exports to Siam of \$3,267,041 (\$3,682,314 in 1937) and imports from Siam of \$310,507 (\$526,-882). Among the imports for the 1936-37 fiscal year, translated into U.S. currency at average exchange rates, cotton piece goods to the sum of \$5,522,000 held the chief place. Imported foodstuffs of divers sorts (including \$1,452,000 of canned milk) approximately equalled in cost the importations of cotton goods. Imports included \$1,113,000 for electric machinery, \$2,438,000 for other machinery, and \$665,000 for automobiles. The importations of gasoline, kerosene, and cigarettes each approximated \$1,700,000. More than half of the exports, by value, consisted of rice, to the total of \$43,175,000. Tin ore, to the value of \$13,414,000,

was shipped out of the country. Exports of rubber, which had increased eightfold in value (trebling in quantity) in four years, amounted to \$9,494,000. Those of teak came to \$3,893,000. The year's imports came chiefly from Japan (25.9 per cent), Singapore (16.3), the United Kingdom (10.2), and Hong Kong (8.8); exports went largely to Singapore (27.1 per cent), the United Kingdom (13.5), and Japan (2.8).

Finance. For the fiscal year 1939 (ending with March 31) the budget carried estimated ordinary revenue at 109,425,940 bahts (1 baht = \$0.45 U.S., approximately, in 1938); ordinary expenditure, 109,397,988 bahts; and extraordinary, or capital, expenditure, 22,108,524 bahts; this left an estimated deficit of 22,080,572 bahts. The results for the fiscal year 1938 were: Revenue, 110,058,910 bahts; ordinary expenditure, 101,627,102 bahts; extraordinary expenditure, 23,785,321 bahts; 3,216,-575 bahts of allocations to local authorities; consequent total expenditures of 128,628,998 bahts; and deficit for the year, 18,570,088 bahts. Two years' budgets thus led toward a combined deficit of about 40,600,000 bahts. In the five years preceding the fiscal year 1938, on the other hand, a succession of yearly surpluses had built up a substantial reserve in the treasury; even after the deficit for the fiscal year 1939, the treasury was expected to have 38,020,000 bahts left over.

Siam carried a moderate public debt, amounting (Mar. 30, 1938) to 81,482,775 bahts, of which all but 10,000,000 bahts was in sterling loans. The monetary unit, the baht (formerly called the tical), bears a fixed value in relation to sterling, their ratio having been permanently set in 1928 at 11 bahts to the pound.

Communications. Railroads in Siam, mainly a line northward and another eastward from Bangkok, operate an aggregate of 2059 miles of track. British, French, and Dutch lines of commercial aviation offer the means of travel by airplane between Bangkok and Europe, Hong Kong, the United States, and the cities of the Far East. A company owned in Siam operates airplanes over several lines within the country. In 1937 six airports were in use and four in course of construction; post offices numbered 1062; telephones, 3351; licensed radio sets, 29,329; vessels entering the port of Bangkok numbered 804, and their registered tonnage totaled 1,098,539. The system of highways was still little developed; of the 1445 miles of highways existing in 1937, 59 miles were graded as first-class, 119 as second-class, and the remaining 1267 as third-class.

Government. The constitution of December 10, 1932, which changed Siam from an absolute into a limited monarchy, forms the basis of the government. The King's executive powers are exercised through a State Council, whose members, numbering from 14 to 24, are appointed by the King but are responsible to the National Assembly. The National Assembly, the legislative body, is a single chamber composed in equal parts of members elected by popular vote for four years and members appointed by the Crown. The constitution authorizes it to aid the Crown in the exercise of the royal power of lawmaking, and in effect the will of the legislative majority, supported by the State Council, gives the country its laws. The constitution requires that 14 members of the Council be appointed from among the members of the Assembly. Ministers (heads of administrative departments) are chosen among the State Council's members. The right to participate in the popular vote belongs

to those of either sex who have attained the age of 20 years. A Council of Regency (distinct from the State Council) acts on behalf of the King during his minority. Its members are Prince Aditya Dibabha (president), Chao Phya Yommaraj, and Gen. Chao Phya Bijayendra Yodhin. The president of the State Council in 1938 was Col. Phya Phahol Pholphayuha Sena, until December 15; thereafter, Col. Luang Bipul Songgram. The present King of Siam is Ananda Mahidol, who was born on Sept. 20, 1925, was proclaimed King at the abdication of Prajadhipok, his uncle, on Mar. 2, 1935, and is to assume the royal power on attaining his majority, at the age of 16 years.

History. The Ministry headed by Colonel Sena fell as the result of a popular election of members of the National Assembly, held on Nov. 12, 1938. This election had followed an order (September 11) of the Council of Regency, dissolving the Assembly, by reason of disagreements between Assembly and Ministry. Colonel Songgram, who had been Minister of Defense in the outgoing Ministry, became (December 15) Prime Minister and President of the State Council. While no strict party lines existed in the Siamese political world, Songgram was regarded as an advocate of nationalist policies and in particular of strengthening the army. He was thought, by some, less favorably disposed to the British, in any deviation of British and of Japanese interest, than had been his predecessor; but his proposals took the form of advocating an impartial neutrality to either power. Attempts on Songgram's life were made on November 10, when his valet reportedly tried to shoot him, and early in December, by poison. Songgram owed his rise to the prominent part that he had taken in suppressing the conservative counter-revolt of 1933.

Engaged in negotiating new treaties with other governments, Siam made some progress in this direction: A treaty with the United States, ratified by the U.S. Senate, was put into effect (October 8), and a treaty of amity with France was approved by the French Chamber of Deputies (December 14). Within a year, up to May, 1938, Siam made new treaties with a dozen governments, Great Britain and Japan included.

The scheme of cutting a canal for ships through the neck of the Malay Peninsula, at the Isthmus of Kra, within Siamese territory, attracted keener attention in 1938 by reason of the divergence of British and Japanese interests; negotiations on the part of representatives of Japan, for permission to cut such a canal, were feared for the reason that the completion of such an enterprise would enable vessels to pass from the China Sea to the Indian Ocean without passing Singapore. Foreign Minister Mahudharm declared, amid this situation, in an interview dated May 7, that Siam had not granted any special industrial or commercial privilege to Japan, and that the new treaty with Japan contained no secret clauses.

SIBERIA. The general name of the Asiatic part of the U.S.S.R., extending east from the Ural Mountains to the Pacific and north from Manchuria, Mongolia, and the Kazakh S.S.R. into the Arctic. Siberia was divided into administrative units of the Russian Soviet Federated Socialist Republic (one of the 11 constituent republics of the U.S.S.R.). The chief divisions include the *provinces*: Sverdlovsk (part of), Chelyabinsk (part of), East Siberian, Omsk; *territories*: Far Eastern, Krasnoyarsk, West Siberian; *autonomous provinces*: Jewish, Khakass; *autonomous soviet socialist republics*: Buryat-Mongolian, Yakut. Esti-

mated total area, 4,994,819 square miles; estimated population (1931), 21,500,800. Chief towns (with 1933 populations in parentheses): Sverdlovsk (400,800), Novosibirsk (278,000), Omsk (227,000), Vladivostok (190,000), Irkutsk (158,500), Tomsk (128,400), Barnaul (109,200), Krasnoyarsk (101,500), Khabarovsk (89,500), Yakut (10,558). See RUSSIAN SOVIET FEDERATED SOCIALIST REPUBLIC; UNION OF SOVIET SOCIALIST REPUBLICS.

SIERRA LEONE, si-ér'a lê-ô'nê. A British colony and protectorate in West Africa. Total area, 31,000 square miles, of which the part administered as a colony (Sierra Leone peninsula; the Tasso, Banana, Turtle, and York islands; and the town of Bonthe on Sherbro island) equaled 256 square miles. Total population (1931 census), 1,768,480 of whom 96,422 were in the colony. Freetown, the capital (62,314 inhabitants in 1936), is the finest seaport in West Africa and is a second-class Imperial coaling station. In 1937 there were a total of 155 schools, the number of pupils enrolled—16,461.

Production and Trade. Kola nuts, palm kernels and oil, ginger, diamonds, gold, iron ore, platinum, piassava, hides, and rice are the main products. Mineral production (1937) included iron ore, 633,985 tons; platinum, 308 oz. troy; gold, 39,151 oz. troy; diamonds, 913,401 carats; chromite, 729 tons. In 1937 (including bullion and specie) imports were valued at £1,839,482; exports (including re-exports of £23,563), £2,843,540 of which diamonds represented £1,070,384; palm kernels, £884,812; iron ore, £325,605; gold, £269,465; ginger, £97,622. The chief imports were tobacco, coal, rice, metals, machinery, and wearing apparel. Great Britain received 69.07 per cent of the exports and sent 69.79 per cent of the imports.

Communications. In 1937 there were over 900 miles of roads suitable for motor traffic, 311 miles of open-line railway (2 ft. 6 in. gauge), 12 miles of motor-bus service operated by the railway, 790 miles of telegraph lines, and 850 miles of telephone lines. The radio broadcast service (inaugurated in May, 1934) is owned and controlled by the government. Vessels entering the ports in 1937 aggregated 2,740,408 tons. A weekly air service in both directions between Bathurst (Gambia) and Freetown, which links up with the Empire air service, was started during 1938.

Government. For the year ended Dec. 31, 1937, revenue totaled £1,025,709; expenditure, £919,266; public debt, £1,718,259 against which the accumulated sinking funds, for its amortization, amounted to £519,461. The colony and protectorate are administered by a governor assisted by an executive council of 5 members and a legislative council of 22 members (the governor, 11 official members, 7 nominated unofficial members, including 3 paramount chiefs of the protectorate, and 3 elected members). Governor and Commander-in-Chief, Sir Douglas Jardine (appointed May 21, 1937).

History. During 1938 a special coastal defense force was being organized and the regular garrison was to be re-established as part of a regular defense scheme in view of the importance of Freetown as a port of call.

SILESIA, si-lê'shî-a; -sha. (1) A part of the province of Moravia and Silesia in Czecho-Slovakia. (2) A county of Poland. (3) The two Prussian provinces—Lower Silesia and Upper Silesia. For the transfer of part of Silesia from Czecho-Slovakia to Germany and Poland in 1938, see those countries under *History*.

SILK. See TEXTILES.

SILVER. World silver production in 1938 was estimated by the *Handy & Harman Annual Review of the Silver Market*, at 264,000,000 oz., apportioned as follows in millions of fine oz.:

	1937	1938
United States	69.3	61.4
Mexico	85.7	85.
Canada	24.5	23.3
South America	32.7	32.4
All other countries	62.5	62.7
Total production	274.7	264.8

The total production showed a reduction of 9,900,000 oz., or about 3.5 per cent under 1937; the United States' decrease was over 11 per cent.

Based on data now available, total U.S. Government acquisitions for 1938 are estimated at 403,200,000 oz. divided into the following classifications: From domestic ores 60,300,000 oz., from nationalization 4400 oz., from inter-government agreements and open-market purchases, including miscellaneous deposits at the mints and assay offices 342,900,000 oz. The past year's acquisitions are the largest on record with the exception of 1935 when a figure of 534,900,000 oz. was reached. The total for 1938, added to the 2,171,800,000 oz. on hand at the beginning of the year, amounts to 2,575,000,000 oz., which represents an estimate of Treasury silver holdings Dec. 31, 1938, including coin in circulation. Silver in process of refining or remelting is not included in the above figure, even if it is ultimately destined for the Treasury.

In spite of a considerable improvement in the rate of consumption during the last quarter of 1938, only 27,500,000 oz. of silver were estimated as used during 1938 by the arts and industries of the United States and Canada, a decrease of nearly 13 per cent from the preceding year. This decrease was distributed among the various classifications as follows: Sterling silverware 15 per cent, silver-plated ware 5 per cent, jewelry 15 per cent, motion pictures 5 per cent. Less silver was also used in the dental trade. In the purely industrial field as distinct from the arts, a decline of approximately 35 per cent occurred. However, this situation is at-

tributable specifically to the past year's general business shrinkage, as basic conditions indicate a continued growth for the industrial use of silver.

Under the Silver Purchase Act of 1934, the President proclaimed on Dec. 31, 1938, a price of 64.64 cents per oz. for silver, at which price the Government will purchase silver to June 30, 1939. On this date the Gold Reserve Act will expire and when it does, the price of silver and gold will depend on legislation passed by Congress.

According to the U.S. Bureau of Foreign & Domestic Commerce, silver to the amount of \$7,082,000 was exported in 1938 and \$230,531,000 was imported.

The total mine production of recoverable silver in the United States (Territories included) as reported by the U.S. Bureau of Mines, was 61,560,737 fine oz. in 1938, a decrease of 15 per cent from 1937. The production and value for 1938, by States and Territories, are shown in the accompanying table at the bottom of the preceding column.

SIMMONS COLLEGE. A nonsectarian college for women in Boston, Mass., founded in 1899. The enrollment on Nov. 1, 1938, was 1515. The summer-school enrollment in 1938 was 137. The faculty numbered 163. The productive funds of the institution amounted to \$3,698,922, and the income for the year was \$591,944 (exclusive of gifts). There were 85,396 volumes in the libraries. The College received \$200,000 from the Paul Wilde Jackson Trust for the establishment of the Henry Clay Jackson Fund to be used for scholarships. A new residence hall was under construction. President, Bancroft Beatley, Ed.D.

SINGAPORE. See STRAITS SETTLEMENTS.

SINKIANG. See CHINA.

SIT-DOWN STRIKES. See STRIKES; FRANCE under *History*.

SIXTH AVENUE ELEVATED AND SUBWAY. See RAPID TRANSIT.

SKATING. See SPORTS.

SKIDMORE COLLEGE. A nonsectarian college for women at Saratoga Springs, N. Y., founded in 1911. The enrollment for the autumn of 1938 was 756. The faculty numbered 78. The endowment amounted to \$847,759, and the endowment income for the year was \$25,921. The library contained 51,119 volumes. President, Henry T. Moore, Ph.D., LL.D.

SKIING. See SPORTS.

SLOVAKIA. See CZECHO-SLOVAKIA.

SLUM CLEARANCE, NATIONAL CONFERENCE ON. An organization called into being by the Mayor and the City Council of Cleveland, Ohio, pursuant to a resolution adopted June 5, 1933. Its membership is composed of various Housing experts, public officials, technicians, and others interested in slum clearance, housing, and planning. The Conference provides an agency through which operators of large-scale housing projects, social workers, public officials, planners, realtors, material manufacturers, engineers, and architects can exchange experiences and discuss the solution of problems arising out of the existence of slums, blighted areas, and inadequate housing facilities. This is made possible through its conferences. It published *Proceedings* in 1933. The publication was widely distributed to all libraries, universities, Chambers of Commerce, Builders Exchanges, etc. The chairman is Ernest J. Bohn, Housing Center, West Mall Drive, Cleveland, Ohio, and the secretary is John H. Miller, Chicago, Ill.

SMITH COLLEGE. A nonsectarian college for women in Northampton, Mass., founded in

State or Territory	Ounces	Value *
Alaska	500,800	\$ 323,749
Alabama	2	1
Arizona	7,600,264	4,913,302
California	2,755,000	1,781,010
Colorado	7,776,600	5,027,297
Georgia	54	35
Idaho	18,601,127	12,024,971
Illinois	406	262
Maryland	24	16
Michigan	72,400	46,804
Missouri	142,167	91,906
Montana	6,306,792	4,077,118
Nevada	4,078,000	2,636,283
New Mexico	1,015,200	656,291
New York	29,400	19,006
North Carolina	4,300	2,780
Oregon	105,000	67,879
Pennsylvania	9,228	5,966
South Carolina	2,757	1,782
South Dakota	160,000	103,434
Tennessee	36,800	23,790
Texas	1,445,100	934,206
Utah	9,629,713	6,225,269
Virginia	520	336
Washington	290,582	187,851
Wyoming	400	259
Philippine Islands	998,101	645,236
Puerto Rico	1	1
Total 1938	61,560,737	\$39,796,840
Total 1937	72,128,397	\$57,791,315
Previous largest production (1915)	74,961,075	\$37,397,300

* Silver valued in 1938 at \$0.6464+, the amount per ounce returned to depositors of newly mined domestic silver produced in 1938.

1871. The enrollment for the autumn of 1938 was 2131, while that for the summer was 289. There were 247 faculty members. The productive funds amounted to \$6,564,989, and the income from such funds was \$258,961. The volumes in the library numbered 257,742. President, William Allan Neilson, Ph.D.

SMITHSONIAN GALLERY OF ART.

See ART MUSEUMS.

SMITHSONIAN INSTITUTION. An organization founded in 1846 according to the terms of the will of James Smithson of England, who in 1826 bequeathed his property to the United States of America "to found in Washington, under the name of the Smithsonian Institution, an establishment for the increase and diffusion of knowledge among men." The purposes of the Institution are carried out by scientific research, exploration, and publication. It also administers the following bureaus which are supported by Congressional appropriations: The United States National Museum, National Collection of Fine Arts, Bureau of American Ethnology, International Exchange Service, National Zoological Park, and Astrophysical Observatory. It also administers the Freer Gallery of Art and the Division of Radiation and Organisms. The new National Gallery of Art was established as a bureau of the Institution but is administered by the Board of Trustees of the Gallery.

The expendable income of the Institution for 1938, consisting of income from investments, income from miscellaneous sources, and gifts for special objects (excluding income from the Freer endowment) was approximately \$200,000. Its endowment funds (exclusive of the Freer endowment) totaled \$1,987,294. The Institution and the government bureaus under its direction published 67 volumes and pamphlets, of which 129,478 copies were distributed to libraries, educational institutions, and individuals. The secretary is Charles G. Abbot, D.Sc.; the assistant secretary, Alexander Wetmore, Ph.D.

SOCCKER. See SPORTS.

SOCIAL CREDIT. See ALBERTA.

SOCIAL ECONOMICS AND INSURANCE. See CHILD LABOR; CHILD WELFARE; CO-OPERATION; LABOR LEGISLATION; MINIMUM WAGE; OLD-AGE PENSIONS; STRIKES AND LOCKOUTS; UNEMPLOYMENT; WOMEN IN INDUSTRY; WELFARE WORK; WORKMEN'S COMPENSATION; LITERATURE, ENGLISH AND AMERICAN.

SOCIALISM. Despite an ideological unity rarely witnessed in the annals of the Socialist Party in America, this group apparently was meeting with more and more rebuffs at the hands of the American voter as the year progressed. Not only was it failing to establish itself as a significant third party, but its inability to indoctrinate with its political ideas the growing ranks of organized labor pointed to the conclusion that the future history of the Socialist Party as such was likely to be short-lived in the United States. The willingness of American Socialists to accept this decision, forced by the circumstances of the day, was evidenced late in the year when the New York State Socialist Party went out of existence and authorized its members individually to enter into the ranks of the American Labor Party in that State. Paradoxically enough, all this occurred in the face of the spirited and harmonious discussions and decisions which took place at the Twenty-first National Convention of the party in April. On the most vital issue before it—that of war—the Convention reaffirmed its faith in the principles of Socialism and declared

—as the Party had done similarly in 1917—that Socialists would fight to the bitter end to defeat any and all plans designed to push this country into war. On April 23 the war resolution adopted at the Convention in Kenosha, Wis., called for an implementation of the following program to keep the United States out of the war and advance peace in the world: (1) The immediate withdrawal of American ships and marines from China and the evacuation of American Nationals. (2) A people's boycott of Japanese goods. (3) The immediate lifting of the embargo against the democratically elected Loyalist government of Spain. (4) "Opposition to huge army and navy bills; national and international action toward disarmament; refusal to vote the military budgets." (5) Abandonment of all plans for industrial mobilization, notably as outlined in the May bill. (6) The abolition of military training in the public high schools. (7) An amendment to the Constitution providing for a war referendum, the so-called Ludlow referendum, so as to give to American citizens the right to vote on war. (8) The abandonment by the United States of all imperialist ventures in Latin America. (9) The granting of independence to American colonial possessions. (10) International co-operation for the lessening of economic friction between the nations of the world resulting from the struggle for trade, investment areas, raw materials, or from credit or currency policies, "but no alliance with any nation or group of nations for war, declared or undeclared, under any name or on any pretext." And the resolution terminated on the following:

Should, despite these efforts, war imminently threaten, agitation among the workers for whatever effective economic and political pressures they can bring to bear—including the general strike—to prevent the outbreak of war. In case of such outbreak, the use of political and economic pressure by the workers for the bringing about of a speedy peace; the organization of labor for higher living standards and in opposition to military conscription; the development of international working-class solidarity across military lines; and the strengthening of all forces leading to the abolition of capitalism and to the emancipation of mankind.

In the November elections, except for the unexpectedly large vote polled by Mr. Jasper MacLevy (who actually was not a member of the Socialist Party as such but of the more conservative Social Democratic Federation) in the Connecticut gubernatorial campaign, Socialist candidates everywhere were confronted by declining votes. Mr. Norman Thomas, in New York for example, despite an energetic campaign, was unable to attract more than an insignificant following, and polled something less than 25,000 votes in the whole State. It may be that the smallness of his vote was due to the anticipated closeness of the contest between Governor Lehman and District-Attorney Dewey and the fear on the part of many liberal-minded persons that a vote for Thomas might imperil the chances of Governor Lehman's re-election. In any case, the Socialist Party, as a result, was forced off the ballot in New York State and on December 24 it took the decision to dissolve and request its members to join the American Labor Party as individuals. This decision of the Socialists to join the American Labor Party marked the passing of a party which had existed in New York State since 1901. In the announcement reporting the decision to dissolve, Harry W. Laidler, State Chairman of the Socialist Party, said that the members of his group would continue their activities in education in Socialist principles and Socialist organization. The Socialists looked forward to the early appearance of a National Farmer-Labor Party which they

would be able to support if the Democratic Convention of 1940 failed to nominate a liberal candidate. The Socialist leadership had been inclining toward the formation of such a labor party for some time, again as the result of the decline in their following. Thus in February, 1938, Mr. Laidler had drawn up a platform in which he stressed the desirability of forming such a party by co-operation with the La Follette Farmer-Labor Progressive Federation of Wisconsin, the Farmer-Labor Party of Minnesota, and similar groups in North and South Dakota, Michigan, Illinois, Ohio, Iowa, Pennsylvania, Connecticut, California, Washington, and Oregon.

SOCIAL PROGRESS, INTERNATIONAL ASSOCIATION FOR. An international association, of which the American Association for Labor Legislation is the American section, created in 1925 by amalgamating three former allied organizations, the International Association for Labor Legislation, the International Social Insurance Committee, and the International Association on Unemployment. See LABOR LEGISLATION, AMERICAN ASSOCIATION FOR.

SOCIAL PSYCHOLOGY. See PSYCHOLOGY.
SOCIAL SECURITY. See ALASKA; CHILD WELFARE; OLD-AGE PENSIONS; UNEMPLOYMENT; UNITED STATES under *Administration*.

SOCIETY ISLANDS. See OCEANIA, FRENCH ESTABLISHMENTS IN.

SOIL MECHANICS. See DAMS; FOUNDATIONS.

SOILS. Especially notable progress was made in 1938 in the discovery of new knowledge and practical application of it in the conservation, improvement, and efficient use of soils. There never has been wider, keener, or more active interest in this subject than at the present time on the part of farmers as well as scientists. It is evident that the people of the country have become "soil conscious" and are determined to conserve and use to better advantage their rich heritage of soil fertility, so long neglected and abused. Striking evidence of the vast, varied, and rapidly accumulating knowledge available for this purpose is furnished by the reports and bulletins of the State agricultural experiment stations and the bureaus of the U.S. Department of Agriculture and especially in the voluminous and exhaustive *Yearbook* of the Department for 1938, entitled *Soils and Men*. The scope, purpose, and spirit of the *Yearbook* is plainly indicated by the titles of its major subdivisions, viz., the Nation and the soil, the farmer and the soil, soil and plant relationships, fundamentals of soils science, and soils of the United States. The book is appropriately dedicated to the memory of that master mind in soil science, Dr. Curtis Fletcher Marbut, so long in charge of the soil survey work of the U.S. Department of Agriculture and the builder of a true science of soils, who died Aug. 25, 1935, in Harbin, Manchuria, on his way to study the soils of China.

Soil Surveys. Carefully made soil surveys are recognized as a basic requirement in intelligent land use and management and for research relating thereto. The U.S. Department of Agriculture, in co-operation with the State agricultural experiment stations and other agencies, has for many years been engaged in such surveys. The Bureau of Chemistry & Soils of the Department of Agriculture reports that—

Approximately 23,000 square miles of rural lands in the United States and Hawaii were mapped by the Soil Survey Division during the past year. The total area [411,111,040

acres] covered by the soil survey is more than one-half of the arable lands of the Nation. The soil maps, together with the accompanying reports giving descriptions of the soils and their uses, provide farmers, research workers, extension leaders, and local officials with a practical working handbook of the land for the area covered.

In connection with the surveys there has been developed a useful system of rating land for crop production.

Minor Soil Constituents. So-called minor or trace elements in soils have continued to receive increasing attention with results of much practical importance in both plant and animal nutrition. In fact, it is being very definitely shown that many of these minor elements, in limited amounts, are just as essential as nitrogen, phosphorus, potassium, and calcium, mainly relied on in ordinary fertilizers for the production of foods and feeds.

The bad effects of zinc deficiency have been shown to be especially pronounced in the case of citrus fruits, and small applications of zinc salts have been found to be effective in controlling various plant diseases.

Of especial interest in this connection is the discovery by the U.S. Department of Agriculture and the South Dakota Agricultural Experiment Station of the relation of selenium in small amounts in the soils of certain range areas of the West to so-called alkali disease of livestock, which in some cases causes heavy losses to stockmen. A survey made by the U.S. Department of Agriculture revealed a seleniferous area of more than 3000 sq. mi. in southeastern Colorado. A highly seleniferous but less extensive area was also discovered in New Mexico. Some evidence has been found that sulphur and arsenic may aid in correcting or preventing the harmful effects of selenium.

Deficiency of cobalt in soils has recently been recognized as having a harmful effect in both plant and animal nutrition. The Florida Agricultural Experiment Station has described a type of malnutrition in calves fed locally grown Natal grass hay, shelled corn, and dried skim milk, presumably deficient in cobalt, which was corrected by the addition of a small amount of cobalt (chloride or sulphate) to the ration. Similar observations in Australia and with hogs and goats are reported. It is believed that soils containing less than three parts of cobalt per million are deficient.

Soil Erosion. Soil erosion, which takes such a heavy toll of soil fertility, has been characterized as inexcusable and largely the result of man's interference with Nature's processes. An erosion survey recently made by the U.S. Department of Agriculture brought out some rather startling facts. For example, of the present cropland area of the United States, "practically 61 per cent—about 253,000,000 acres—is either subject to continued erosion or is of such poor quality as not to return a satisfactory income to farmers at the price levels assumed. To continue present practices on the part of this land subject to erosion is to mine it and progressively destroy it. Over half of it is badly in need of good soil conservation practices to prevent serious damage.

It follows that only about 39 per cent—some 161,000,000 acres—of the present cropland area can be safely cultivated under prevailing practices or should be cultivated under the price levels assumed. But some land that is not now in cultivation could be safely cultivated. Adding this to the 39 per cent gives a total of about 211,800,000 acres as the maximum that can be safely cultivated under prevailing practices. This is equivalent to a little less than half of the present cropland area. Under prevailing practices, then, our agricultural plant would have to be reduced by half if we wanted to save the soil. . . .

It has been estimated that some 3,000,000,000 tons of

soil are washed annually from overgrazed pastures and cultivated or barren fields, to be poured into streams, harbors, reservoirs, lakes, and oceans, or deposited on bottom lands and flood plains.

Mechanical methods such as dams, contour furrows, terraces, and the like, but especially improved cropping systems, are doing much to arrest this devastating squandering of the land resources of the country. Reforesting, keeping in grass and other cover crops, and strip cropping have proved to be especially effective means of curtailing this waste.

A recent nation-wide survey by the Soil Conservation Service of the U.S. Department of Agriculture shows that farmers in increasing numbers are using strip cropping to protect their fields from soil erosion. A million or more acres are now planted to alternate strips of open-tilled and close-growing crops. Strips of legumes or other close-growing crops between strips of corn, cotton, tobacco, and other open-tilled crops on sloping fields slow down surface water with its load of soil in suspension. The denser vegetation filters out the soil particles, and larger quantities of water soak into the soil. Strip cropping is most effective with contour cultivation—rows running around the hillside instead of straight up and down—which also retards erosion.

Land-use Programs. A far-reaching reorganization of the U.S. Department of Agriculture announced near the close of the year is expected to have a profound effect on land use and conservation and crop-adjustment policies of the Department by providing for larger and more effective participation of farmers and farm organizations and research agencies in a comprehensive agricultural land-use program.

Protection of Highways from Run-off Waters. The unrestrained run-off of flood waters from land through highway ditches is proving to be a serious menace to the highways. The Soil Conservation Service of the Department of Agriculture is co-operating with local highway departments and farmers to control such erosion and thus to prevent decrease of land values and increase of taxation for road maintenance.

Tenancy and Deterioration of Farm Lands. The relation of tenancy to deterioration of farm lands is beginning to receive serious attention in recognition of the fact that lack of security and permanence in tenure results in great loss not only to tenants but to landlords through poor farming and consequent deterioration of land. Tenant farming will no doubt be greatly improved if conditions of tenure are such as to attract good farmers and encourage them to use efficient methods of farming and maintenance of soil productivity.

Soil Biology. There is encouraging evidence of a revival of interest in new approaches to the study of biological processes in the soil as a major factor in soil productivity, particularly fixation and transformation of nitrogen. Conventional methods of studying the subject had in large measure ceased to be productive. The history, progress, present status, and outlook in this interesting and important field of research are fully reviewed and interpreted in the Yearbook of the U.S. Department of Agriculture for 1938.

It has recently been shown that the maintenance of the fertility of rice soils in India is due in a measure to blue-green algae growing in the irrigation waters which have the power to absorb nitrogen from the atmosphere and thus, after decay, to enrich the soil, a fact which may prove of impor-

tance in rice growing generally and with other crops.

Irrigation and Drainage. Irrigation and drainage continue to play an important part in reclaiming and maintaining the fertility of farm lands but there have been few especially noteworthy recent developments in this field.

Hydroponics. Strange as it may seem with the great advances in soil conservation and use and research relating thereto, there has developed a lively interest in growing plants without soil—the so-called “soilless agriculture,” or hydroponics, in which natural soil is replaced by solution, sand, and similar cultures. An impetus has been given to this interest, especially by the California, New Jersey, Indiana, Ohio, and New York State Agricultural Experiment Stations, but also by amateur experimenters and commercial growers. The results of these experiments indicate that such methods may have practical value, especially for use in greenhouse and similar culture. Suggested advantages include absolute control of nutrients, frequent and complete aeration of roots, economy of fertilizers, few or no soil-borne insect pests and diseases, quicker root development, automatic feeding and watering operations with lowered labor costs, and possibility of extending the range of production of crops narrowly restricted by natural climatic and soil conditions. For example, it has been found possible with such a method to grow at Casper, Wyo., a mile above sea level, peanuts, sweet potatoes, cotton, and tobacco, which cannot be grown there under natural conditions. Use of methods of this kind, however, are considered still in the experimental stage, and attempts at large-scale use of them by amateurs are cautioned against.

BIBLIOGRAPHY.—The most important recent contribution to the subject of soils was, as already indicated, the *Yearbook of the U.S. Department of Agriculture for 1938*, entitled *Soils and Men*. This treats the subject exhaustively and gives a detailed list of special literature cited in the text.

Current progress in soils research continued to be reviewed in the *Journal of the American Society of Agronomy* (Geneva), *Soil Science* (Baltimore, Md.), and *Experiment Station Record*, published monthly by the Office of Experiment Stations of the U.S. Department of Agriculture. Other publications of special importance appearing during the year were:

The Wasted Land, G. W. Johnson (Univ. of N. C. Press), which deals with wasted human values as well as wasted land; *To Hold This Soil*, R. Lord, U.S. Department of Agriculture Miscellaneous Publication No. 321; *Selected Bibliography on Erosion and Silt Movement*, G. R. Williams et al., U.S. Geological Survey, Water Supply Paper 797; *Soil Blowing on the Southern Great Plains*, E. F. Chilcott, U.S.D.A. Farmers' Bulletin 1771; *Terracing for Soil and Water Conservation*, C. L. Hamilton, U.S.D.A. Farmers' Bulletin 1789; *Soil-Depleting, Soil-Conserving, and Soil-Building Crops*, A. J. Pieters, U.S.D.A. Leaflet No. 165; *Strip Cropping for Soil Conservation*, W. V. Kell, U.S.D.A. Farmers' Bulletin 1776; *Changes in Erodiability of Soils Brought About by the Application of Organic Matter*, G. M. Browning, Soil Science Society of America Proceedings, 1937 (W. V. Agricultural Experiment Station Scientific Paper 195); *Soil Defense in the South*, E. M. Rowalt, U.S.D.A. Farmers' Bulletin 1809; *Soil Defense in the Northeast*, G. K. Rule, U.S.D.A. Farmers' Bulletin 1810; *Selenium Occurrence in Certain Soils in the United States with a Discussion of Related Topics*, H. G. Byers et al., U.S.D.A. Technical Bulletin 482, 530, and 601; *Recent Studies on Boron in Soils*, J. A. Naflet, American Fertilizer (Philadelphia, Pa.), Oct. 1, 1938; Report of the Chief of the Bureau of Chemistry and Soils, U.S. Department of Agriculture, 1938.

As previously noted, a considerable bibliography of hydroponics has rapidly accumulated. One of the most important contributions is a mimeographed circular entitled “Growing Plants Without Soil by the Water Culture Method,” issued by the California Agricultural Experiment Station, where the technic of the method was first developed. Information regarding the subject will be found in a book entitled *Hydroponics*, by C. D. Dawson and M. V. Dorn (Los Angeles, Calif.), and in a quarterly magazine of the same title (Detroit, Mich.). Another book on the

subject is *Soilless Growth of Plants*, by C. Ellis and M. W. Swaney (Reinhold, N. Y.).

SOLAR SYSTEM. See ASTRONOMY.

SOLOMON ISLANDS. An archipelago in the Pacific, east of New Guinea (Papua). See NEW GUINEA, TERRITORY OF; SOLOMON ISLANDS, BRITISH.

SOLOMON ISLANDS, BRITISH. A British protectorate in the South Pacific, comprising the islands of Guadalcanal, Malaita, Ysabel, San Cristoval, New Georgia, Choiseul, Shortland, Vella Lavella, Kulambangra, Santa Cruz, Vanikoro, Rennell, and numerous smaller islands (including the Lord Howe atoll). Total land area, 11,000 square miles; population (1931 census), 94,066 including 478 Europeans. Capital, Tulagi.

The main products are copra, trochus, ivory nuts, timber, green snail shell, and bêche-de-mer. In 1936-37 exports totaled £331,438; imports, £197,967; revenue amounted to £68,136; expenditure, £63,027. Administration is under a resident commissioner acting under the High Commissioner for the Western Pacific, aided by a nominated advisory council. Resident Commissioner, Francis N. Ashley.

SOMALILAND (sô-mä'le-länd), BRITISH. A British protectorate along the Gulf of Aden in Africa. Area, 68,000 square miles; population (estimated), 344,700 including 2683 non-natives. Chief towns: Berbera (capital), 30,000 (cold season) and 15,000 (hot season) inhabitants; Hargeisa, 20,000 to 15,000; Burao, 10,000; Zeilah (Zeila), 5000; Erigavo; Borama.

Production and Trade. Agricultural crops included sorghum, maize, barley, and wheat. Livestock raising is the main occupation of the people. The protectorate had (1936 estimate): 2,500,000 sheep, 2,000,000 goats, 1,500,000 camels, 30,000 cattle, 2000 donkeys, and 1000 horses. In 1937 imports were valued at £685,481; exports, £286,821. Rice, dates, sugar, and textiles were the main imports. The chief exports were hides and skins, gum and resins, ghee, and livestock. During 1936 shipping entered and cleared totaled 57,287 tons and 55,921 tons, respectively.

Government. For 1937 revenue totaled £214,749; expenditure, £213,139. The protectorate is administered by a governor (with headquarters at Sheikh) who is represented by a district officer in each of the five administrative districts (Berbera, Burao, Erigavo, Hargeisa, and Zeilah). Governor and Commander-in-Chief, Sir Arthur Lawrance (appointed June 18, 1932).

SOMALILAND, FRENCH. A French colony in Africa. Area, about 8492 square miles; native population (July 1, 1936, estimate), 44,240 including 27,380 Somalis, 4200 Arabs, 12,000 Danakils, 304 Abyssinians, 239 Hindus, and 117 Jews. Djibouti (capital) had 14,870 inhabitants in 1936; there were 1221 Europeans, of whom 923 were French. The coast fisheries, salt mines, and inland trade are the main sources of livelihood. Cotton goods, cattle, sugar, and coal are the main imports. Coffee, hides and skins, animal wax, and salt (1936 production, 22,000 metric tons) are the chief exports. In 1937 the estimated value of merchandise imports (in old U.S. gold dollars) was \$6,400,000 (1936, \$5,300,000); exports, \$3,700,000 (1936, \$3,000,000). A railway connects Djibouti with Addis Ababa, capital of Italian East Africa (q.v.). Part of the shares of the French-owned railway company were transferred to the Italian Government in 1935. The transit trade with Ethiopia was valued at 73,313,000 francs in 1935. In 1937 there

were 131 miles of roads. The budget for 1936 was balanced at 12,100,000 francs (franc averaged \$0.0611 for 1936). A governor, assisted by an administrative council, administers the colony. Governor, M. Annet (appointed, December, 1935).

SOMALILAND, ITALIAN. A former Italian colony in East Africa, incorporated with Ethiopia and Eritrea into a single colony known as Italian East Africa, by the decree law of June 1, 1936. See ITALIAN EAST AFRICA.

SOUTH, UNIVERSITY OF THE. A Protestant Episcopal institution for the higher education of men in Sewanee, Tenn., founded in 1857. The enrollment for the autumn term of 1938 was 267, of whom 251 were registered in the college and 16 in the theological school. The faculty had 27 members. The income from productive funds was \$61,099, while the receipts from all sources totaled \$479,350. The library contained 48,444 volumes. President, Alexander Guerry, B.A., D.C.L.

SOUTH AFRICA, UNION OF. A self-governing dominion of the British Commonwealth of Nations. Capital, Pretoria; seat of the legislature, Capetown.

Area and Population. The area by provinces and the population by provinces and racial composition at the 1936 census are shown in the accompanying table.

SOUTH AFRICA: AREA AND POPULATION
[Census of May 5, 1936, final]

Province	Area, sq. miles	Euro- peans	Bantus	Asiatics & mixed
Cape of Good Hope	277,169*	791,574	2,045,570	692,756
Natal	35,284	190,549	1,553,629	202,290
Transvaal	110,450	820,756	2,444,380	76,334
Orange Free State	49,647	200,978	553,110	17,972
Total	472,550	2,003,857	6,596,689	989,352

* Including Walvis Bay (430 sq. miles).

The total census population was 9,589,898 in 1936 and 6,928,580 in 1921. The estimated mean population on June 30, 1938, was 9,979,900 (Europeans, 2,081,400; Bantus, 6,870,900; Asiatics, 227,600; mixed, 800,000). European births in 1937 were 51,289 (25.10 per 1000 of population) and deaths numbered 20,432 (10 per 1000). Excluding passengers in transit, 84,284 Europeans and 5049 non-Europeans arrived in the Union during 1937 and 77,282 Europeans and 2894 non-Europeans departed. Populations of the chief cities, including suburbs, at the 1936 census were, with the number of Europeans in parentheses: Johannesburg, 519,384 (257,671); Capetown, 344,233 (173,412); Durban, 259,606 (95,033); Pretoria, 128,621 (76,935); Port Elizabeth, 109,841 (53,461); Germiston, 79,440 (32,564); East London, 60,563 (31,311); Bloemfontein, 64,233 (30,291). The Witwatersrand, center of the Union's gold-mining industry, contained 402,223 Europeans and 614,967 non-Europeans, or more than one-tenth of the Union's total population, at the 1936 census. The same census showed that the home language of 1,120,770 persons (55.93 per cent of the European population) was Afrikaans, 783,071 (39.08 per cent) English, 50,411 (2.52 per cent) English and Afrikaans, 17,810 German, and 17,684 Yiddish.

Education and Religion. In 1936 there were 4609 state and state-aided schools for Europeans with 375,157 pupils and 4540 schools for non-Europeans with 500,130 pupils. The total normal state expenditure on these schools for the year was £8,956,345. There are four universities, at Capetown, Stellenbosch, Witwatersrand, and Pretoria, the latter having branches at Bloemfontein, Wellington, Gra-

hamstown, Pietermaritzburg, and Potchefstroom. In 1936 the average number of university students was 8358; the number of professors was 237, and the state expenditure £359,260. At the 1926 census 49.61 per cent of the European church adherents belonged to Dutch churches, 18.57 per cent were Anglicans, 6.28 per cent Methodists, 4.28 per cent Hebrews, and 4.25 per cent Roman Catholics.

Production. Agriculture, stock-raising, mining, and manufacturing are the chief occupations. The area under cultivation in 1936 was 13,121,000 acres (cereals, 9,229,000 acres). Estimated production of the chief crops in 1937-38, with final 1936-37 returns in parentheses, was: Wheat, 10,167,000 bu. (15,420,000); corn, 64,721,000 bu. (100,457,000); oats, 5,973,000 bu. (7,354,000); potatoes, 7,135,000 bu. (7,598,000); cane sugar, 446,000 short tons in 1936-37; tobacco, 20,260,000 lb. (20,462,000); kaffir corn, 26,000 short tons (54,000); peanuts, about 19,200,000 lb. (30,311,000). The figures for wheat, oats, potatoes, cane sugar, and tobacco are for European cultivation only. The wine output in 1936-37 was 37,904,000 gal.; wattle bark extract (1937), 91,535,000 lb. In the calendar year 1937 the output of creamery butter was 28,350,000 lb.; factory cheese, 10,253,000 lb.; factory bacon and ham, 9,433,000 lb. Wool production in 1937-38 was about 230,000,000 lb. The 1936 livestock census showed 10,904,000 cattle, 619,000 swine, 39,705,000 sheep, 85,000 angora goats, and 5,546,000 other goats. In 1930 there were 1,665,000 horses, mules, and asses, and 32,000 ostriches. Figures for swine and ostriches refer to those owned by Europeans.

The value of all mineral production in 1936 was 87,399,000 South African pounds (gold, £79,495,000, including the gold premium). Output of the leading minerals in 1937 was: Gold, 11,740,891 fine oz. (12,156,629 in 1938); asbestos, 27,821 short tons (exports); coal, 16,718,000 short tons (sales); copper, 14,021 short tons (sales); tin, 948 short tons (sales shipped); diamonds, 1,030,000 carats; silver, 1,101,000 fine oz.; osmiridium, 5,274,000 troy oz. (sales); platinum, 30,125,000 troy oz. (sales shipped). Dividends of the gold-mining companies in 1938 were £17,262,216. One of the world's largest deposits of high-grade iron ore was reported to have been revealed by tests made near Wolmaransstad in the Transvaal in 1938. In 1935-36 the manufacturing establishments of the Union employed 303,557 persons and produced goods to the value of £150,378,000 (£75,618,000 added in process of production).

Foreign Trade. General imports in 1937 were valued at 103,368,000 South African pounds (£86,282,000 in 1936) and exports at £121,261,000 (£109,444,000 in 1936). Iron and steel and their manufactures, machinery and apparatus, automobiles, cotton piece goods and other textiles were the leading imports. The value of the chief exports was, in U.S. currency computed at average exchange value: Gold bar, \$405,066,000; wool, \$61,914,000; fruits, \$17,824,000; diamonds, \$16,246,000; corn, \$15,639,000. The United Kingdom furnished 42 per cent of the 1937 imports; United States, 20.6; Germany, 5.5. Of the exports, 37.5 per cent went to the United Kingdom, 12.8 per cent to Germany, 8.6 to Japan, 6.4 to France, and 6 per cent to Belgium. United States trade figures for 1938 showed imports from South Africa of \$15,982,835 (\$14,402,112 in 1937) and exports to South Africa of \$70,064,955 (\$88,723,029 in 1937).

Finance. For the fiscal year ended Mar. 31, 1938, ordinary budget receipts amounted to £43,610,741 (£43,087,000 in 1936-37) and ordinary ex-

penditures were £39,258,741 (£37,711,000 in 1936-37). Budget estimates for 1938-39 placed receipts at £42,346,000 and expenditures at £42,846,000. The net public debt on Mar. 31, 1938, was £256,000,000 (external, £101,000,000) as compared with £254,936,935 on Mar. 31, 1937. Gold payments on the South African pound were suspended Dec. 29, 1932, but it remained pegged to the pound sterling at par.

Transportation. For the year ended Mar. 31, 1937, the Union railways, including those of South-West Africa, had 13,893 miles of line (all government-owned except 680 miles) and carried 96,496,000 passengers and 27,074,000 short tons of freight (excluding livestock), the gross receipts totaling £31,893,000. In 1937 the Union had 83,232 miles of roads of all kinds. A six-year road construction program was inaugurated by the National Roads Board in April, 1936. Up to June 30, 1938, about 1000 miles of gravel roads (313 miles bituminous-surface treated) were completed by the Board. Forty bridges out of 117 authorized had been finished. The number of automobiles in the Union on Jan. 1, 1938, was 324,084.

Services on all routes of the South African airways (Rand-Durban, Durban-Capetown, Rand-Capetown, Rand-Port Elizabeth, Rand-Windhoek, Rand-Bulawayo, Bulawayo-Kisumu, and Rand-Lourenço Marques) were increased effective Nov. 1, 1938. Imperial Airways linked the South African cities with London. An agreement for a South African-Angola air service was reached in 1938. During 1937 a total of 2163 vessels of 8,971,000 net registered tons entered South African ports in the foreign trade. Work on the extensive Capetown harbor improvements, to be completed in 10 years at an estimated cost of £6,000,000, was begun on May 10, 1938. Port works at Durban, to cost about \$9,000,000, were also approved.

Government. United (May 31, 1910) by an enactment of the British Parliament, the South Africa Act of 1909, the former colonies of the Cape of Good Hope, Natal, the Transvaal, and Orange River form the present Union, which is governed as provided by that act. The Union holds all state property, railroads included, and carries the debts of the former colonies. The present provinces' powers of taxation are limited by acts of the Union; they collect certain taxes, receive subsidies from the Union, and have charge of schools, primary and secondary, and of roads, hospitals, and poor-relief.

The Union is governed by an executive, the Governor-General, appointed by the sovereign, and by the Parliament, a legislature of two houses. The Governor-General is aided by an executive council, or ministry, which in practice depends on the confidence of Parliament for its tenure. The Parliament consists of a Senate and a House of Assembly. Of the members of the Senate, each province elects 8, and 8 are nominated by the Governor-General in Council: the members from the several provinces are elected by a body in each province, composed of the provincial council and the province's members of the House of Assembly. The popular vote of male and female adult British subjects of European descent elects, one from each electoral division, 150 members of the House of Assembly. These members serve for five years, unless the House be dissolved earlier. The Senate, until lately, consisted of 40 members, the House of 150. An act of 1936, however, provided that Cape natives should have a voice in the election of four additional Senators and three additional members of the House. The Governor-General in 1938 was

Sir Patrick Duncan, who took office in 1937; Premier and Minister of External Affairs, Gen. J. B. M. Hertzog, leader of the United Party, who took office in 1934.

HISTORY

Parliamentary Elections. The popular vote of the Union, cast on May 18, 1938, elected to the House of Assembly 111 members of the United Party, 27 of the Nationalist Party, 8 of the Dominion Party, 3 Laborites, and 1 independent. Thus constituted, the new House had 6 less of the United group, 7 more Nationalists, 3 more Dominionists, and 4 less of the remaining groups. Though the United Party of General Hertzog lost half a dozen seats, its retention of nearly three-fourths of the seats in the House constituted a victory in the judgment of its friends. It had won the election of 1933 as a coalition of two pre-existing parties, of which one, the old Nationalist group, had broken with Hertzog thereafter, the new Nationalists becoming the chief element in the parliamentary opposition. Thus in 1938 the United Party for the first time went before the voters as a single organization; its chiefs had held office for five years, not without the usual chance of losing the support of some by the very consequence of being in power; the international relations of Europe, moreover, had already become sufficiently disturbed to give point to the Nationalists' advocacy of abstention from any British war.

Relations with Britain. South Africa and Great Britain were more or less at variance on a number of specific matters, of which all, however, seemed well within the power of the parties to settle. The Union wanted its authority to extend over Bechuanaland, Basutoland, and Swaziland, three protectorates maintained by British authority as a safeguard for the interests of the colored populations. The British government had reason to want the South Africans to bind themselves more definitely to the British commonwealth of nations, while the Union, preparing to expend money for the improvement of its own defenses, was not by any means unqualifiedly ready to pool its defensive policy with Great Britain's. Important as these issues might be, they were eclipsed for a time by the controversy over the rival anthems (British and Boer) for official use on ceremonial occasions. While the dispute involved nothing of immediate and material character, it had to do, like the earlier controversy over the Union's flag, with symbols that corresponded to two ideals not easily to be merged. Premier Hertzog made a statement on the anthems in the House of Assembly on February 21, denying that "Die Stem van Suid Afrika" (Boer song) would supersede "God Save the King"; both, he said, would be sung; while "Die Stem" would serve as an anthem of the South African nation, "God Save the King" would be regarded literally, as an invocation of divine protection "for our King." This formula guided the government in the end, not indeed until the omission of the British anthem from the official programs of military parades on Union Day, at Pretoria, Capetown, and Johannesburg had led Minister of the Interior Stuttaford to offer his resignation by way of protest. The resignation was withdrawn when Stuttaford became satisfied that the military authorities' omission would not be repeated, and that the cabinet as a whole affirmed the position earlier taken by Prime Minister Hertzog.

The project of ending the British protectorates over Basutoland, Bechuanaland, and Swaziland

made some headway in 1938. The difficulty of carrying out the plan, as the Union desired, lay in the British authorities' promise not to transfer these territories into South African authorities' control until after careful consideration of the wishes of the natives involved in the transfers. The subject was left for settlement by mutual agreement, to be reached by Great Britain and South Africa, as to terms on which the territories should be transferred to the Union. Late in the year, terms were yet to be proposed by the government of the Union.

Policy toward South-West Africa. A body of colonists of German extraction, who continued to dwell in South-West Africa, received some sympathy among Afrikaners and others, in attempts to restore German influences in this neighboring area, held by the Union in virtue of a mandate of the League of Nations. Dr. E. Macmillan, a former moderator of the Presbyterian Church in South Africa, suggested that the Union voluntarily surrender the mandate over South-West Africa to Germany, "as a hostage to peace." The *Cape Times*, condemning this proposal, asserted that the German population in the area in question was in the minority by two to one. The Union's Legislature, prior to the Legislative elections of May, rejected demands of the German party in South-West Africa for the extension of the Union's citizenship to the mandate and for recognition of German as a third official language.

South African Defense. Early in its first session the newly elected House of Assembly gave attention to the subject of the Union's means for its defense, along with the related matters of the attitude for the Union to take in case of British entry into a distant war (such as the then-apprehended break with Germany over the rights of Czecho-Slovakia) and the facilities to be afforded to Great Britain for its naval needs. The attitude of the Union in case of Great Britain's going to war was thus expressed by General Smuts: It was inconceivable that South Africa should stand aside, but she would not automatically be at war, as she had been in 1914; the people would have to decide. Premier Hertzog thereafter said that the government refused to bind itself in advance on the advisability of joining Great Britain in war, and that such a question would be for the people to decide. Minister of Defense Pirow presented to the House the plans of the Ministry to expend £6,000,000 on the means of defense of the Union, in the course of the next three years. The plans included strengthened coastal works at Capetown, Durban, and other places, and the military enrollment of a citizens' force of 67,000 to be aided by organized rifle associations including 70,000 men. Pirow visited London in November to discuss technical points in the defensive plans with British experts.

Voortrekker Centenary. At Pretoria, on December 16, was observed the hundredth anniversary of the Great Trek led by Andries Pretorius from Natal into the interior; a throng of 150,000 people attended the laying of a foundation stone for a Voortrekker monument. The day was that on which Pretorius's band had defeated an army of Zulus on the Blood River. Apparently convinced that the Afrikaners would feel enraged if "God Save the King" were heard at this centenary of the Boers' trek to escape out of British jurisdiction, both the Premier and the Governor-General stayed away; thus the ceremony was strictly unofficial, and the strains of the British anthem did not sound.

SOUTH AMERICA. See articles on the various South American countries; **EXPLORATION.**

SOUTH AUSTRALIA. An Australian State. Area, 380,070 square miles; population, exclusive of full-blood aboriginals, 591,755 (Mar. 31, 1938, estimate), compared with 580,949 (1933 census). During 1937 there were 8985 births, 5247 deaths, and 5340 marriages. The principal cities are Adelaide (capital), with 318,190 inhabitants, including suburbs, on Dec. 31, 1937; Port Pirie, 11,677 (1933); Mount Gambier, 5542 (1933). In 1936 the 1088 State schools had 88,593 pupils; the 190 private schools, 17,007 pupils; there is a State university at Adelaide.

Production. Wheat (43,428,000 bu. estimated in 1937-38), barley, oats, hay, grapes, wine, and dried fruit are the main agricultural products. Livestock in the State (Dec. 31, 1936): 328,013 cattle; 200,-870 horses; 85,048 pigs; 8,904,402 sheep (1937 estimate). The principal dairy products for 1936-37 were butter, 20,418,765 lb.; cheese, 11,847,457 lb.; bacon and ham, 7,753,620 lb. Wool (greasy) produced during 1938 was estimated to total 85,-500,000 lb.

The estimated value of mineral production for 1937 was 2,502,795 Australian pounds, of which gold accounted for £A60,372. In 1936-37, from the 1916 factories, with 40,710 employees (including working proprietors), the estimated value of production was £A12,271,563 (Australian £ averaged \$3.9594 for 1936; \$3.9394 for 1937).

Government. For the year ended June 30, 1938, revenue totaled £A12,460,000; expenditure, £A12,-336,000; public debt, £A107,450,000. The 1938-39 budget estimates were: Revenue, £A12,517,140; expenditure, £A12,744,329. Executive power is vested in a governor, assisted by an executive council of responsible ministers. Legislative power is vested in a parliament consisting of a legislative council of 20 members (10 re-elected every 3 years) and a house of assembly elected for 3 years. The house of assembly, election of Mar. 19, 1938, comprises the following parties: Liberals, 15; Labor, 9; Independent Labor, 2; Independents, 13. Governor, Maj.-Gen. Sir Winston Dugan (appointed, Mar. 26, 1934); Premier, R. L. Butler. See **AUSTRALIA** under *History*.

SOUTH CAROLINA. Area and Population. Area, 30,989 square miles; included (1930) water, 494 square miles. Population: Apr. 1, 1930 (census), 1,738,765; July 1, 1937 (Federal estimate), 1,875,000; 1920 (census), 1,683,724. Charleston had (1930) 62,265 inhabitants; Columbia, the capital, 51,581.

Agriculture. Acreage, production, and value of the chief crops of South Carolina, for 1938 and 1937, appear in the accompanying table.

Crop	Year	Acreage	Prod. Bu.	Value
Cotton	1938	1,253,000	650,000 ^a	\$28,925,000
	1937	1,695,000	1,023,000 ^a	43,798,000
Corn	1938	1,846,000	26,767,000	16,060,000
	1937	1,663,000	24,945,000	16,214,000
Tobacco ..	1938	102,000	98,430,000 ^b	21,851,000
	1937	112,000	108,080,000 ^b	22,481,000
Hay (tame) .	1938	551,000	431,000 ^c	5,474,000
	1937	603,000	501,000 ^c	6,914,000
Oats	1938	467,000	10,648,000	4,366,000
	1937	458,000	10,076,000	5,844,000
Sweet potatoes	1938	66,000	6,468,000	4,204,000
	1937	57,000	5,130,000	3,796,000
Potatoes	1938	24,000	2,784,000	1,949,000
	1937	26,000	3,120,000	2,496,000
Wheat	1938	161,000	1,771,000	1,417,000
	1937	149,000	1,416,000	1,657,000

^a Bales. ^b Pounds. ^c Tons.

Finance. State expenditures in the year ended June 30, 1937, as reported by the U.S. Bureau of the Census, were: For maintaining and operating governmental departments, \$22,012,300 (of which \$3,296,874 was for highways and \$5,305,371 was for local education); for interest on bonded debt, \$1,712,203; for capital outlay, \$9,123,199. Revenues were \$36,340,841. Of these, property taxes furnished \$3,002,577; income taxes, \$3,260,103; sales taxes, \$11,967,634 (including tax on gasoline, \$8,706,161); departmental earnings, \$1,717,970; sale of licenses, \$6,563,658; unemployment compensation, \$2,617,037; Federal or other grants-in-aid, \$6,224,344. Funded debt outstanding on June 30, 1937, totaled \$41,595,752, not to include \$24,-385,001 of county-reimbursement road bonds. Net of sinking-fund assets, the debt was \$40,770,528. On an assessed valuation of \$363,333,058, the State levied in the year ad-valorem taxes of \$2,939,594.

Education. South Carolina gave much attention in 1938 to matters of vocational education. Twelve months of training, at public expense, in home-making were provided for both women and girls. New buildings were erected so as to permit of an increase in agricultural training.

Charities and Corrections. The Department of Public Welfare and the Board of Public Welfare, both administrative units of the State government and both dealing with groups of the population requiring special public care, were nevertheless separate as to organization and function. The Department of Public Welfare, under the State's laws as to Social Security, administered public support under that head, save for unemployment compensation, handled by the Unemployment Compensation Commission. The State Board of Public Welfare, a body headed by the Governor, supervised four institutions having among them, by the latest count in 1938, 1291 inmates. These institutions were: South Carolina Industrial School for Girls, at Columbia; South Carolina Industrial School for Boys, Florence; Reformatory for Negro Boys, Columbia; and State Training School, Clinton.

Legislation. The General Assembly met in regular annual session early in January. It passed an act limiting labor in the textile industry to not over 40 hours, nor over 5 days, a week. The limit was to terminate May 1, 1939, unless Congress should impose the same limit on textile labor throughout the country. The State's law of 1933 excluding from the highways motor trucks above the weight limit of 20,000 pounds and the between-wheel spread of 90 inches was amended; load weights up to 40,000 pounds were permitted, also between-wheel widths up to 96 inches. An appropriation bill somewhat higher than that of 1937 was voted. An effort to repeal workmen's compensation and a plan to retire farmers at 60 and pension them at \$300 a year were both beaten. See **CHILD LABOR**.

Political and Other Events. Charleston was struck (September 29) by a band of four tornadoes; one of these tore through the center of the older city; 29 persons were killed, hundreds injured, and damage in excess of \$2,000,000 was done to property. The non-material damage was serious, for some of the old residences and public buildings that gave the city distinction and charm were harmed; among the latter were St. Michael's Church and St. Philip's Church.

An organizing campaign of a branch of the C.I.O.—the Textile Workers' Organizing Committee—was reported as making much headway among textile workers, despite slackness of em-

ployment in the industry. The State's act of 1933 limiting the breadth and weight of motor trucks, long in litigation, had not been enforced. The U.S. Supreme Court's decision (February 14), pronouncing the act constitutional, rendered enforcement practicable. The State Highway Patrol started enforcement (May 16) of the act as amended by the year's legislative session. Governor Johnston charged (March 8), in a communication to the Legislature, that the State Highway Department had exceeded the legal limit of its bonded debt. A convention of the State's Democratic party (May 18) modified that party's rule requiring members not to vote against the regular Democratic nominees; the rule was made no longer to apply to candidates for President and Vice-President. This action was opposed in the convention by a group who called it a slap at the President and the New Deal, but its supporters denied any such intention. Severe forest fires in Aiken and other western counties, as well as in eastern Georgia, broke out early in February, at about the same time in a number of spots; they ruined much timber.

Elections. The Democratic nominees were as usual all elected, at the general election (November 8). U.S. Senator Ellison D. Smith won a sixth term. Burton R. Maybank, Mayor of Charleston, was chosen for Governor. The subordinate elective offices of the State government and the State's six seats in the U.S. House of Representatives were also filled. The Democratic candidates had either perfunctory opposition or none. Senator Smith's opponent, J. D. E. Meser, made no campaign.

The Democratic primary election, giving the virtually conclusive party nomination, was contrastingly strenuous. Senator Smith was marked by the Federal Administration for elimination from the Senate, his record of votes on legislation being regarded as disloyal to the President. Governor Johnston, issuing from conference in the White House offices on May 16, announced that he would enter the primaries against Smith, offering "a record of constant, unshakable loyalty to the Democratic platform and . . . President Roosevelt." Johnston's active campaign was considerably weakened by the charge of an opposing faction, that he had given aid to Huey Long and to Governor Talmadge of Georgia when the two were hostile to President Roosevelt. The primary gave Smith for Senator a nominating vote. Its vote for Governor did not give a nominating majority, but a run-off primary (September 13) named Maybank.

Officers. South Carolina's chief officers, serving in 1938, were: Governor, Olin D. Johnston (Dem.); Lieutenant-Governor, J. E. Harley; Secretary of State, W. P. Blackwell; Treasurer, E. P. Miller; Attorney-General, John M. Daniel; Comptroller, A. J. Beattie; Superintendent of Education, James H. Hope.

Judiciary. Supreme Court: Chief Justice, John G. Stabler; Associate Justices, Jesse F. Carter, Milledge L. Bonham, D. Gordon Baker, E. L. Fishburne.

SOUTH CAROLINA, UNIVERSITY OF. A nonsectarian, State institution of higher education in Columbia, chartered in 1801. Enrollment for the autumn session of 1938 totaled 1717; in the summer session, 682. The faculty numbered 100. The State appropriation amounted to \$325,000 from July 1, 1938, to July 1, 1939. The library contained 130,000 volumes. President, J. Rion McKissick, A.M., LL.D.

SOUTH DAKOTA. Area and Population. Area, 77,615 square miles; included (1930) water, 747 square miles. Population: Apr. 1, 1930 (census), 692,849; July 1, 1937 (Federal estimate), 692,000; 1920 (census), 636,547. Sioux Falls (1930) had 33,362 inhabitants; Pierre, the capital, 3659.

Agriculture. Acreage, production, and value of the chief crops of South Dakota, for 1938 and 1937, appear in the accompanying table.

Crop	Year	Acreage	Prod. Bu.	Value
Corn	1938	2,974,000	35,688,000	\$15,346,000
	1937	3,130,000	43,820,000	19,719,000
Wheat	1938	3,043,000	27,777,000	14,444,000
	1937	2,738,000	15,381,000	14,766,000
Oats	1938	1,535,000	46,050,000	7,368,000
	1937	1,462,000	30,702,000	7,368,000
Barley	1938	1,315,000	28,930,000	8,390,000
	1937	1,384,000	20,068,000	8,228,000
Hay (tame)	1938	848,000	870,000 *	3,741,000
	1937	1,081,000	948,000 *	5,214,000
Rye	1938	636,000	10,176,000	2,951,000
	1937	509,000	6,108,000	3,726,000
Potatoes	1938	29,000	1,624,000	893,000
	1937	26,000	1,534,000	951,000

* Tons.

Mineral Production. As usual in South Dakota, one mineral, gold, provided about nine-tenths of all the yearly yield of the State's minerals, and one mine, the Homestake, in Lawrence County, produced about nineteen-twentieths of the gold. This situation, evidenced in full data for 1936 published in the *Minerals Year Book* of 1938, apparently was true for 1938 as well. The production of gold rose somewhat to 594,000 (Bureau of Mines' approximation) for 1938, from 581,544 oz. (1937); by value, to \$20,790,000, from \$20,354,040. A little silver, to the value of some \$100,000 a year, was obtained, mostly with the gold.

Finance. South Dakota's State expenditures in the year ended June 30, 1937, as reported by the U.S. Bureau of the Census, were: For maintaining and operating governmental departments, \$12,003,226 (of which \$2,339,340 was for highways, \$2,274,980 for charities, and \$1,950,894 for local education); for interest on debt, \$2,154,800; for capital outlay, \$6,260,570. Revenues were \$22,625,472. Of these, "selective" property taxes furnished \$236,559; income taxes, \$485,620; sales taxes, \$8,391,625 (including tax on gasoline, \$4,093,295); departmental earnings, \$1,966,947; sale of licenses, \$1,565,250; rents and interest, \$1,640,417; unemployment compensation, \$503,179; Federal or other grants-in-aid, \$6,961,401. Funded debt outstanding on June 30, 1937, totaled \$44,869,000. Net of sinking-fund assets, the debt was \$2,510,748. No assessed valuation of real property was made for 1937, and the State levied in the year no general ad valorem taxes on such property. It did, however, levy a small sum (\$50,940) on money, credits, and private car lines, the three being assessed at \$44,679,815.

The State operated a cement manufactory, keeping separate accounts. This enterprise showed, for the fiscal year, expenditures totaling \$672,700; its receipts came to \$838,430 earned and \$556 received from the State.

Education. Inhabitants of school age (from 6 to 21 years) were reckoned for the academic year 1937-38 at 191,872. Enrollments of pupils in the public schools totaled 142,514. This comprised 104,785 in elementary study and 37,729 in high schools. In addition, enrollments in private and in parochial schools numbered 6960 elementary and 1173 in high schools. The year's expenditures for public-school education, exclusive of retirement of bonds, totaled

\$12,164,333. Teachers numbered 8267. The year's teaching salaries averaged \$688 for elementary and \$976 for high-school positions.

Consistent progress was made in 1938 in building schools in divers parts of South Dakota, according to the *Journal* of the National Education Association.

Political and Other Events. Chandler Gurney (Rep.) was elected U.S. Senator, defeating ex-Governor Tom Berry (Dem.) at the general election (November 8); the seat, vacated by the death of Senator Peter Norbeck in December, 1936, had been temporarily filled but was now filled by vote for a new term. Running for Governor, Harlan J. Bushfield (Rep.) defeated Oscar Fosheim (Dem.). Two Republicans were elected U.S. Representatives.

The primary elections (May 3) had a bearing on national politics, as the incumbent ad-interim Senator, Herbert E. Hitchcock, failed to win the Democratic nomination for a full Senatorial term. Hitchcock, known as possessing a perfect record of voting conformity with the legislative proposals of the President, was defeated by Berry, who also declared himself for the New Deal but was thought the less thoroughgoing of the two.

Officers. The chief officers of South Dakota, serving in 1938, were: Governor, Leslie Jensen (Rep.); Lieutenant-Governor, Donald McMurchie; Secretary of State, Goldie Wells; Auditor, Raymond A. Kelly; Treasurer, W. H. Hinselman; Attorney-General, Clair Roddewig; Commissioner of School and Public Lands, Ben Strool; Superintendent of Public Instruction, J. F. Hines.

Judiciary. Supreme Court: Judges, Everett D. Roberts (Presiding Judge), Samuel C. Polley, Frederick A. Warren, St. Clair Smith, and Herbert B. Rudolph.

SOUTH DAKOTA, UNIVERSITY OF. A State institution of higher education at Vermilion, founded in 1882. The enrollment for the autumn term of 1938 was 950 and for the summer session 484. The faculty and staff numbered 165. The operating income for the year 1937-38 was \$372,952. President, I. D. Weeks, LL.D.

SOUTH DAKOTA STATE COLLEGE OF AGRICULTURE AND MECHANIC ARTS. A State college of agriculture and mechanic arts at Brookings, founded in 1881. The enrollment for the autumn of 1938 was 1221 collegiate students, 175 vocational school of agriculture students, and 22 students in the two-year vocational course in aviation mechanics. The 1938 summer school had an attendance of 209. On the teaching staff were the equivalent of 101 full-time teachers and officers of general administration in the collegiate departments and 10 in the secondary vocational courses. The income for 1937-38 was \$566,149. The library contained approximately 60,215 volumes (June 30, 1938), 20,000 pamphlets, and 478 periodical subscriptions. (The above does not include data in connection with the experiment station and agricultural extension.) President, Charles W. Pugsley, D.Agr.

SOUTHERN CALIFORNIA, UNIVERSITY OF. An institution of higher education for men and women in Los Angeles, Calif., founded in 1879. The enrollment for 1937-38, including summer session and extension classes, was 16,721. In the autumn of 1938 there were 583 members on the faculty. The endowment was \$1,554,600; the income from tuition and fees, \$1,941,100; and other income, \$154,000. The library contained 238,182 volumes. President, Rufus B. von KleinSmid, Sc.D., J.D., LL.D.

SOUTHERN RHODESIA. See RHODESIA, SOUTHERN.

SOUTH GEORGIA; SOUTH ORKNEYS. See FALKLAND ISLANDS.

SOUTH-WEST AFRICA. A territory administered as a part of the Union of South Africa (q.v.) under a mandate approved by the League of Nations. Total area, 317,725 square miles; population (1936 census), excluding Walvis Bay, 357,787, including 261,724 natives and 30,677 Europeans (of whom 9632 are German speaking and of these 6244 are British or South African subjects). Chief towns: Windhoek, the capital, 10,651 inhabitants in 1936; Lüderitz, 2560; Keetmanshoop, 2716; Swakopmund, 1976; Walvis Bay. In 1937 there were a total of 10,640 pupils enrolled in the 169 primary and secondary schools.

Production and Trade. Agriculture is not carried on in a large way because of the low rainfall. The raising of livestock is the principal industry. Livestock in the territory (1937): 806,669 cattle, 25,447 horses, 1050 mules, 88,051 donkeys, 11,541 pigs, 2,897,791 sheep, and 1,295,559 goats. Mining is an important industry—the chief minerals being diamonds (196,802 carats produced in 1937), copper, lead, vanadium, tin, and gold. In 1937 total imports were valued at £2,420,753 (foodstuffs, textiles, metals and manufactures, vehicles, and oils were the chief items); total exports, £3,705,488 of which hides and skins accounted for £1,285,761; diamonds, £916,968; vanadium ore, £202,286; copper ore, £189,007; butter, £344,215.

Communications. In 1937 there were 1891 miles of railway line and this was supplemented by a total of 902 miles of road motor services. During 1937, 252 vessels entered the ports and 80,947 tons of cargo were landed and 59,270 tons were shipped. Telephone and telegraph lines totaled 8514 route miles in 1937. The public roads extended over 20,000 miles.

Government. For the year ended Mar. 31, 1937, revenue totaled £868,116; total expenditure, £991,992 (including capital expenditure of £187,806). The budget estimates for 1937-38 indicated revenue of £708,250 and expenditure of £746,645. South-West Africa is regarded as part of the Union for the purposes of customs and excise duties and a sum approximating the customs and excise duties paid on goods consumed in the territory is paid over each year to the administration. Under the Union Act No. 49 of 1919 the exercise of the mandate is vested in the governor-general who, by Proclamation (Union) No. 1 of 1921, delegates his powers to an administrator appointed by the Union government. The constitution (Union Act No. 42 of 1925) provides for an executive committee (5 members), an advisory council (8 members), and a legislative assembly (12 elected members and 6 members appointed by the administrator subject to the approval of the governor-general). Administrator, Dr. D. G. Conradie (reappointed, Apr. 1, 1938).

History. The Union of South Africa Government, as a result of the findings of the South-West Africa Judicial Commission on the question of interference from Germany in the internal affairs of South-West Africa, stated (during December, 1937) that it could not recognize dual allegiance, nor permit either outside interference or the management of any political party by aliens taking their instructions from foreign organizations. During March of 1938, legislation was enacted under which no alien was entitled to be a member of any organization declared to be political or of certain

public bodies, or to be declared as such by competent authority, or to participate in the political activities of the people of South-West Africa. Conviction could be followed by deportation.

Almost at once, the Führer of the Bund, Herr Neundorff, wrote to members of that organization in language which was regarded by the local administration as defiant. The administrator then published a list of political parties in the territory, which included the United Party of the Union Section and the Deutsche Bund. This meant that the existing Führer and many of the office bearers and members of the Bund would have to leave it. Germany protested but there was no reason to suppose that the local administration or the Union Government would modify the action taken or refrain from enforcing the law. A new German party, said to have a "democratic basis," was formed to take the place of the Deutsche Bund. See SOUTH AFRICA, UNION OF, under *History*.

SOVIET CENTRAL ASIA. A region in central Asia, including the territory formerly known as Russian Turkestan. Administratively it comprises the divisions, affiliated with the U.S.S.R., shown in the accompanying table.

<i>Division</i>	<i>Sq. m.</i>	<i>Population</i>	<i>Capital</i>
Tajik S.S.R.	55,040	1,500,000 (1936)	Stalinabad
Turkmenistan S.S.R.	171,384	1,268,900 (1933)	Ashkhabad
Uzbek S.S.R.	66,392	5,044,300 (1933)	Tashkent
Kara-Kalpak A.S.S.R.	46,154	338,100 (1933)	Nukus
Kirghiz S.S.R.* ..	75,926	1,302,100 (1933)	Frunze

* According to the new constitution of the Union of Soviet Socialist Republics, adopted on Dec. 5, 1936, the Kirghiz A.S.S.R. was made one of the 11 constituent republics of the U.S.S.R.

The chief towns are: Tashkent, 491,000 inhabitants in 1933; Samarkand, 154,600; Andizhan, 97,700; Kokand, 84,700; Namangan, 80,784; Ashkhabad, 79,000; Frunze, 71,680; Stalinabad, 60,000 (1935). See UNION OF SOVIET SOCIALIST REPUBLICS, as well as the several constituent republics under separate headings.

SOVIET UNION. See UNION OF SOVIET SOCIALIST REPUBLICS.

SPAIN. A state of southwestern Europe. Capital, Madrid. After the outbreak of the civil war in July, 1936, the capital of the Loyalist Government was successively Madrid, Valencia, Barcelona, and Madrid, while that of the Insurgent Government was at Burgos.

As little statistical information on Spain has been available since 1935, the following statistical summary is in the main a reproduction of material contained in the 1937 YEAR BOOK.

Area and Population. Spain has an area of 195,258 square miles, including 2894 square miles in the Canary Islands. The estimated population on Dec. 31, 1935, was 24,849,000, compared with 23,563,867 at the 1930 census (555,128 in the Canary Islands). Living births in 1935 were 631,561 (25.2 per 1000 inhabitants); deaths, 383,935 (15.3 per 1000); marriages, 146,084 in 1934 (6.0 per 1000); emigration in 1934, 64,553. Estimated populations of the chief towns on Jan. 1, 1935, were: Barcelona, 1,148,129; Madrid, 1,048,072; Valencia, 352,802; Seville (Sevilla), 238,727; Málaga, 203,844; Saragossa, 189,062; Bilbao, 175,898; Murcia, 166,341; Granada, 128,681; Córdoba, 117,919; Valladolid, 97,528; Cartagena, 102,705 (1933); Palma (Majorca), 93,014; Santander, 90,774; San Sebastian, 86,929; Las Palmas, 83,553; Coruña, 79,614; Alicante, 78,383; Oviedo, 78,045; Cádiz, 75,393.

Education and Religion. According to the 1930 census, 43 per cent of the population of over 10 years of age were unable to read or write. Enrollment in primary schools in 1933 was 2,397,562; in secondary schools (1932-33), 114,645; university (1932-33), 31,905. The Constitution of Dec. 9, 1931, deprived the Roman Catholic faith of its status as the official religion and established liberty of worship and freedom of conscience. The great majority of Spaniards adhere to the Roman Catholic Church.

Production. Primarily an agricultural country, Spain in 1933 had 39,973,000 acres of arable land (32 per cent of the total area), 57,812,000 acres of pastures and forests, and 10,621,000 acres of fruit trees, vineyards, etc. The value of field crops in 1933 was 8,535,000,000 pesetas. Estimated yields of leading cereals in 1936 were (in metric tons): Wheat, 3,306,500; barley, 1,709,600; rye, 458,600; oats, 552,600; corn, 735,500 in 1935. The production of rice in 1935 was 14,467,000 bu.; potatoes, 177,716,000 bu.; beet sugar (1935-36), 224,000 metric tons; olive oil, 143,743,000 gal.; wine (must), 450,071,000 gal. The wool production in 1935 was 29,900 metric tons.

The value of crude mineral products in 1934 was 463,341,236 pesetas; of refined mineral products, 986,586,363 pesetas. Production of the chief mineral and metallurgical products in 1935 was (in metric tons): Coal, 7,017,000; lignite, 304,000; coke, 736,000 in 1934; iron and copper pyrites, 2,286,000; pig iron, 356,000; iron ore, 2,633,000; steel ingots and castings, 580,000; copper (smelter), 10,800; lead (smelter), 62,700; zinc (smelter), 7600 (7800 in 1936); mercury, 1096 in 1934; superphosphates, 1,032,823 in 1934; cement, 1,362,000 in 1934. The cotton textile industry in 1933 had 2,048,549 spindles and 71,950 looms. Paper, glass, and other manufactures were produced. The total catch of the fisheries (mainly sardines, tunny fish, and cod) totaled 387,800 metric tons, valued at 307,300,000 pesetas, in 1934.

Foreign Trade. General imports in 1935 were valued at 878,298,000 pesetas and exports of merchandise at 583,449,000 pesetas. In old U.S. gold dollars the totals were: Imports, \$169,511,000; exports, \$112,606,000. The value of the leading 1935 imports was (in 1000 gold dollars): Chemicals and related products, \$24,529; raw and waste cotton, \$17,948; machinery, \$16,150; automobiles, \$10,780; mineral oils, \$8027. Leading 1935 exports, by value, were (in 1000 gold dollars): Fresh fruits, \$23,696 (including oranges, \$20,062); olive oil, \$10,496; wines, \$7842; chemicals and related products, \$7793; almonds, \$7264. The percentage distribution of the value of imports by countries of origin in 1935 was: United States, 16.8; Germany, 13.7; United Kingdom, 10.4; France, 5.5; Argentina, 2.5. The United Kingdom purchased 21.7 per cent of the value of all 1935 exports; Germany, 12.7; France, 11.7; United States, 9.5; Argentina, 5.4. United States trade figures for 1938 showed imports from Spain of \$9,157,413 (\$13,806,402 in 1937) and exports to Spain of \$12,225,913 (\$6,012,026 in 1937).

Finance. Ordinary budget receipts, in the calendar year 1935, amounted to 4,455,000,000 pesetas, including loans of 316,000,000 pesetas, and ordinary expenditures were 4,557,000,000 pesetas. By the law of July 3, 1936, the 1935 budget was extended into 1936. However, the subsequent civil war (see *History*) threw the financial system into complete chaos. The 1939 budget for Loyalist Spain, as approved by the Cortes, placed revenues at 8,309,-

636,320 pesetas and expenditures at 8,403,042,633 pesetas. The public debt on Jan. 1, 1936, totaled 21,-850,522,510 paper pesetas, as compared with 21,-608,317,219 pesetas on Mar. 31, 1935. The funded debt on Jan. 1, 1937, was 19,012,300,000 pesetas. The exchange value of the peseta averaged \$0.1368 in 1935, \$0.1286 in 1936, \$0.0605 in 1937, and \$0.0560 in 1938.

Communications. The Spanish railways, with 10,340 miles of line in operation, carried during 1934 a total of 107,667,000 passengers and 38,856,-000 metric tons of freight; the gross receipts amounted to 845,609,000 pesetas. Highways of all kinds in 1937 extended 70,760 miles; the number of automobiles was 155,368. The gross tonnage of the merchant marine on June 30, 1938, was 958,900 (1,054,700 on June 30, 1937). During 1935 the net tonnage of overseas shipping entering Spanish ports with cargo and in ballast was 32,106,000.

Government. The Constitution of Dec. 9, 1931, declared Spain a democratic republic of workers of all classes, organized as an integral state but with autonomy for municipalities and certain regions such as Catalonia (q.v.). Legislative power was vested in the people, who exercised it through the unicameral Cortes, or Congress of (473) Deputies, elected for four years. The President was elected for six years conjointly by the Cortes and by an equal number of electors chosen by universal, secret suffrage. He was ineligible for re-election for six years after the end of his term. The President appointed the Premier and also the members of the Premier's cabinet on nomination of the latter.

Following the military revolt that broke out in July, 1936, the Constitution remained in effect only in the dwindling territory in the possession of the Loyalist forces supporting the constitutional government. The composition of the Cortes following the election of Feb. 16, 1936, was: Left parties, 248; Right parties, 175; Center parties, 50. The parties of the Left and Center continued, in the main, to function within Loyalist territories during the civil war. President of Loyalist Spain in 1938, Manuel Azaña, who was elected May 10, 1936, by a presidential convention and assumed office May 11, 1936. Premier, Juan Negrin (Socialist), heading a Popular Front cabinet of the Left Republican, Socialist, Catalanian Left, Basque Nationalist, and Communist parties, formed May 17, 1937.

In the territories controlled by the Insurgent forces led by Generalissimo Francisco Franco, all political groups, including the pre-revolutionary Right parties, were merged on Apr. 19, 1937, into a single party under his control called the Spanish Traditionalist Phalanx of National Syndicalist Workers Youth (see 1937 YEAR BOOK, p. 693). The new party adopted as its program the 26-point platform of the Spanish Fascist movement and was organized on a basis similar to that of the Italian Fascist party. For political developments in both Loyalist and Insurgent territories during 1938, see *History*.

HISTORY

Progress of Civil War. The sanguinary civil conflict precipitated by the military revolt of July 17, 1936, continued its bloody course throughout 1938. At the end of the year, the United Press estimated that the struggle had cost Spain 55 billion pesetas (of prewar value), about one million lives of soldiers and civilians, and some 250,000 other casualties. It estimated that 750,000 casual-

ties were incurred during 1938 alone, testifying to the increased intensity of the fighting and of air bombardments of cities behind the front lines. The tide of the war turned more definitely than in 1937 in favor of the Insurgents, who succeeded in driving a wide wedge between the Loyalist forces in Catalonia and in east central Spain.

At the end of the year the Insurgents held 30 of the 47 provinces of Spain, the Loyalists held 9 and the remaining 8 were divided between them. About 71 per cent of the total population was in Insurgent territory and 39 per cent under the Loyalist banner. Yet the war seemed far from ended, with 800,000 Insurgents and 1,000,000 Loyalists still under arms. The Loyalists, while more numerous than their foes, were handicapped by lack of arms, munitions, airplanes, and tanks, with which the Insurgents were plentifully supplied from Italy and Germany. The Insurgent preponderance of *matériel* was largely responsible for the gains made during 1938 and for the progress achieved in the great offensive against Catalonia that got under way in the last days of December. See 1936 YEAR BOOK, p. 704, for map of Spain.

Recapture of Teruel. As described in the preceding YEAR BOOK, the Insurgent plan of campaign was upset late in 1937 by the successful Loyalist drive into Teruel, spearhead of the Insurgent salient in northeastern Spain from which a drive eastward to the Mediterranean was planned. The Insurgent counter-offensive, launched on December 28, met stubborn resistance and was unable to relieve some 2000 troops and civilians trapped in the Teruel Seminary and other buildings, who were forced to surrender to the Loyalists on Jan. 7, 1938. It was February 22 before Franco's troops finally forced the Loyalists out of Teruel by recapturing the heights dominating the city.

The Aragon Offensive. General Franco followed up his advance into Teruel by launching an offensive on March 9 along a 60-mile front in Aragon south of Saragossa that achieved sensational results. In this offensive the Insurgents used their superiority in the air and their heavily mechanized and motorized forces with great skill. Repeatedly they picked out weak spots in the Loyalist lines, pierced them with the aid of terrific air and artillery bombardments comparable in intensity to the battles of the World War, and by rapid flanking movements forced the enemy to retreat from more easily defended positions. By March 17 the Insurgent columns were in Caspé, headquarters of the Loyalist army in Aragon, only 50 miles from the Mediterranean. From Caspé they advanced down the Ebro River toward Tortosa and the sea, capturing Gandesa on April 2, but stiffened Loyalist resistance in the Sierras Mountains stopped them some 25 miles short of their objective.

Meanwhile on March 22 the Insurgents unleashed another drive into the Catalan province of Lerida against its capital of the same name. This force advanced rapidly and within a few days effected a junction with a third Insurgent army, operating in Upper Aragon, which had taken Huesca on March 23. The city of Lerida, considered the key to Catalonia, was occupied after stubborn resistance on April 3. The Insurgents pressed on toward Balaguer, but their army was stalled short of that town on the west bank of the Segre River. A third Insurgent army meanwhile struck eastward from Jaca and Huesca along the foothills of the Pyrenees. By April 7 they had captured nine of the 12 passes over the Pyrenees and

the great hydro-electric station at Tremp, which supplied 60 per cent of Catalonia's power.

No sooner had these three offensives spent their force than General Franco shifted his attack and struck southeastward along the Teruel-Valencia highway. The Loyalists were again caught off guard and their lines crumbled under the powerful and rapidly shifting Insurgent blows. By April 15 Franco's men had sheared through all opposition to the Mediterranean coast at Viñaroz, cutting Loyalist Spain in two and exposing Tortosa to attack from the south. The Loyalist defenders of that port were forced to withdraw to the north bank of the Ebro.

The Insurgent advance throughout March and April was accompanied by repeated disastrous air raids on Barcelona, Valencia, Madrid, and the other cities behind the Loyalist lines. Barcelona, for example, was bombed 18 times on March 16-17. The powerful explosives used made a shambles of large parts of the city and cost hundreds of lives. Gen. José Miaja, the Loyalist commander at Madrid, sought unsuccessfully during March to relieve pressure on the Aragon front by efforts to cut Franco's communications on the Madrid and Toledo-Córdoba fronts. The Loyalists in Catalonia also undertook to recapture the Tremp hydro-electric plant in the Pyrenees, but failed. A division of some 9000 Loyalists, cut off in the Pyrenees, was forced to cross the mountains into France to escape capture. The men were disarmed and returned to Barcelona; later they rejoined the Catalanian army.

The Valencia Offensive. Entrenched behind the Segre and Ebro rivers, the Loyalists blocked further Insurgent progress into Catalonia throughout May. In the second week of May, however, the Insurgents widened the wedge they had driven into Loyalist territory by driving southward along the Teruel-Viñaroz front toward Valencia. Repeating the same tactics employed in the Aragon drive, they drove rapidly ahead in a series of crushing attacks that demoralized the Loyalists and resulted in the capture of large numbers of troops with much armament and war material. By June 13 the Insurgents had advanced southward along the coast road to Castellón de la Plana. A new drive was then launched from Teruel along the highway to Segorbe and Sagunto that carried the Insurgents to Viver, 45 miles from Valencia, by July 22. Two days later it was announced that an Insurgent drive in Estremadura on the western front had conquered 3000 square miles of territory, and forestalled a projected Loyalist drive toward the Portuguese border.

Battle of the Ebro. At this critical juncture, when the fall of Valencia seemed assured, the Loyalist armies in Catalonia launched a surprise attack across the Ebro River on July 25. Some 60,000 shock troops crossed the river during the night and advanced 15 miles to the outskirts of the Insurgent regional headquarters at Gandesa before being checked. From their new foothold on the southern bank of the Ebro, the Loyalists constituted such a threat to Franco's communications that he was forced to halt his drive on Valencia and gather his forces for a counter-attack upon the Ebro salient. This commenced early in August. The battle of the Ebro raged for 14 weeks, with casualties on both sides totaling more than 130,000, before the Loyalists on November 14 were forced to abandon the strategic bridgehead at Moro-de-Ebro, leaving all of the south bank in Franco's

hands except the small and weakly defended Asco sector, which was soon afterward evacuated.

While the great struggle along the Ebro held the center of the stage, minor and indecisive campaigns took place in other sectors. In Estremadura Franco's forces made another drive toward the rich mercury mines at Almaden, the objective of an abortive offensive in 1937, but again they failed. The Loyalists in northern Catalonia had no better success in a renewed effort, beginning November 16, to recapture the hydro-electric plant at Tremp. Early in November the Loyalists made an effort to divert Insurgent pressure from the Ebro front by striking farther north in Catalonia across the Segre River to cut the Saragossa-Lerida highway. This offensive met with only moderate success and after the termination of the Ebro battle the Loyalist forces withdrew across the Segre on November 24.

The Drive on Barcelona. The Ebro battle, however, had effectively interrupted Franco's drive against Valencia and cost him months of severe fighting, with exceptionally heavy losses, to regain the offensive. By the end of November he had restored his lines along the Ebro and the Segre to approximately the positions occupied the previous July. After nearly a month of preparation, he launched a great offensive against the Loyalist lines along the Segre commencing December 23. The Insurgents had developed an overwhelming superiority over the Loyalists in heavy artillery, munitions, airplanes, and tanks, as they had received an uninterrupted flow of war materials from Italy and Germany while Loyalist supplies had been cut off by the closing of the French border early in June and the Insurgent blockade of the sea approaches to Loyalist ports.

Using his heavy armaments with notable skill and repeating the tactics that had proved so successful in the Aragon and Valencia offensives, Franco registered substantial gains during the last week of December, even before the full force of his drive had been developed. The offensive opened in the northern sector of the 100-mile front, between Lerida and Tremp. Balaguer, Villanova, and the last of the hydro-electric plants supplying Barcelona with power fell before the end of the year and Insurgent columns were advancing on Artesa and Pons.

Meanwhile another Insurgent offensive, launched across the Segre south of Lerida at Seros, was making steady headway. Aided by four Italian divisions, this offensive smashed through the Loyalist lines to beyond Grandella on the Lerida-Tarragona highway, 18 miles east of the Segre, by the end of December. This advance forced the Loyalists to withdraw from the apex of the triangle formed by the Segre and Ebro rivers. Meanwhile Barcelona, Tarragona and the other communications centers behind the Loyalist lines were subjected to constant air raids which interrupted the flow of munitions and supplies to the hard-pressed Loyalists. The tide of the war seemed to be turning strongly against them at the year end.

The Blockade. Although denied belligerent rights by most of the governments of the world, including Britain and France, Franco's forces managed to tighten the blockade of the Loyalist coast during 1938. Neutral ships carrying food and other supplies to the Loyalists were frequently attacked by Insurgent ships or airplanes at sea or bombed from the air while resting in Loyalist ports. Many of them were sunk, with the loss of numerous



Acme

BARCELONA DEVASTATED BY BOMBS

A street of the Loyalist capital littered with debris and shrouded in smoke and dust immediately after one of the innumerable Insurgent air raids that marked Franco's Aragon offensive in March, 1938. In the background is the burned-out shell of a streetcar



Wide World

THE INSURGENT DRIVE TO THE SEA

General Franco's troops rest at Viñaroz on the Mediterranean. Their advance to the coast, reached Apr. 15, 1938, split Loyalist territory in two parts

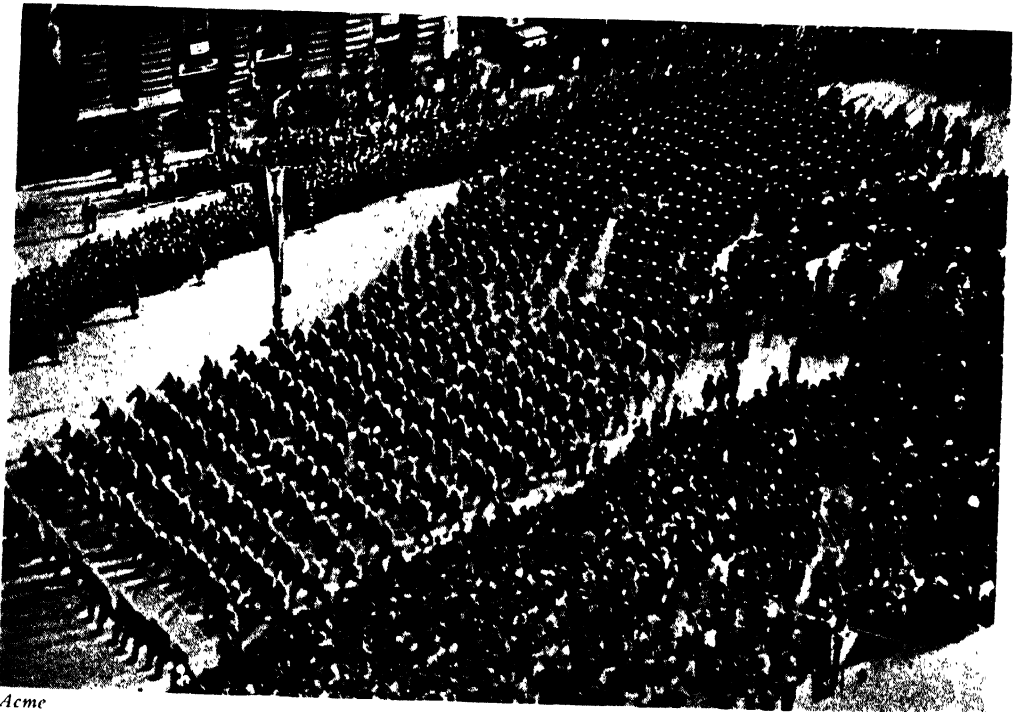
SPAIN



Acme

AMERICAN VOLUNTEERS RETURN FROM SPAIN

These veterans of the Lincoln Brigade, many of whom were wounded during two years of fighting with the Spanish Loyalists, arrived in New York July 20, 1938. Later in the year the Loyalist Government discharged all foreigners serving in its armies.



Acme

MUSSOLINI REDUCES HIS FORCES IN SPAIN

Italian troops parading through Naples Oct. 20, 1938, upon their return from service with the Insurgent armies. Of some 40,000 troops officially acknowledged to be participating in the Spanish civil war, Il Duce withdrew about 10,000.

members of their crews. In January and February there was a renewal of the 1937 attacks upon neutral shipping by "pirate" submarines. The submarine blockade was ended again when France and Britain ordered their ships to sink on sight any submerged submarine found in the Mediterranean patrol area.

Despite the loss of the *Baleares*, one of the two strongest vessels in the Insurgent fleet, in a battle with the Loyalist navy off Cartagena on March 6, the Insurgents retained full control of the seas. While many neutral merchant ships managed to run the blockade, they did not suffice to meet Loyalist needs for either war materials or food supplies, particularly after the closing of the French border. Before the year end the food shortage in Loyalist territories, aggravated by the influx of some 3,000,000 refugees from areas conquered by the Insurgents, had become acute. Malnutrition was widespread and thousands of persons in the Madrid area were reported to be suffering from pellagra. Efforts to relieve this food shortage were made toward the end of 1938 by the United States and other neutral governments and by various private relief organizations. But the food situation served to sap morale in the Loyalist regions and contributed to the growing sentiment for peace.

Foreign Intervention. German and Italian intervention on behalf of the Spanish Insurgent cause increased in 1938 and became the decisive factor in Franco's impending victory. But most of the 25 other European governments represented on the London Non-Intervention Committee continued their policy of cutting off arms and munitions shipments to both sides in Spain in an effort to prevent the civil war from spreading and engulfing all of Europe (see 1937 YEAR BOOK, p. 693 f. for "non-intervention" negotiations in that year). The beginning of 1938 found the London Committee still engaged in efforts to secure the agreement of all its members and of the two parties in Spain to the withdrawal of foreign "volunteers." It was months later before the Committee finally agreed that an international commission should arrange for the proportional reduction of foreigners fighting on both the Insurgent and Loyalist sides. This plan was accepted in principle by the Loyalists but was rejected on August 21 by General Franco, who proposed that both sides withdraw 10,000 volunteers. This would deprive the Loyalist army of practically all troops serving in the International Brigades, but since there were some 40,000 Italian troops in Spain, would leave 30,000 to continue the war. The Insurgent leader rejected other points in the plan also, and demanded belligerent rights at once. His reply brought the activities of the London Committee to an end.

Meanwhile Britain and France had agreed to continue their non-intervention policy, which made an Insurgent victory certain, in order to facilitate an agreement with Mussolini (see FRANCE, GREAT BRITAIN, and ITALY under *History*). During Franco's rapid advance in the Aragon offensive, the French in March permitted shipments of Soviet and Czecho-Slovak munitions and arms across their territory to Catalonia. But Premier Blum rejected a personal appeal for direct French aid made on March 15 by the Loyalist Premier, who flew to Paris for the purpose. And after Daladier became Premier, he yielded to British urgings and on June 2 cut off practically all foreign shipments over the French frontier.

The British and French policy was bitterly denounced by Premier Negrin before the League

Assembly on September 20. The next day Negrin announced that the Loyalist Government had decided on "immediate and complete withdrawal of all non-Spanish combatants taking part in the struggle in Spain on the government side." The League Council set up a committee of neutrals to supervise the withdrawals, which took place during ensuing weeks. Meanwhile Franco was reported to have angered Mussolini and Hitler by announcing during the European crisis of September over Czecho-Slovakia (q.v.) that he would remain neutral if war came. At the Munich Conference Mussolini gave Prime Minister Chamberlain new assurances that Italian troops in Spain would be reduced. About 10,000 Italians set sail for Italy from Cadiz on October 15, leaving between 20,000 and 30,000 still in Spain. According to the Loyalists, additional Italian troops and numerous airplanes were sent to Spain during the remainder of the year.

During the September crisis, it was reported that some German technicians and arms were withdrawn from Spain. At Munich Hitler assured Chamberlain and Daladier that he had no designs on Spanish territory. Observers in Spain reported, however, that German influence with the Franco Government was even higher than that of Mussolini's agents. Nazi economic and financial methods were being introduced. It was repeatedly charged that German engineers had established artillery emplacements dominating the Straits and Rock of Gibraltar. These and other activities of Nazi agents aroused Anglo-French fears that Franco was being won over to a policy of alliance with Germany and Italy.

See also BELGIUM, FRANCE, GERMANY, GREAT BRITAIN, ITALY, NETHERLANDS, NORWAY, PORTUGAL under *History*.

Insurgent Political Trends. Serious dissensions developed during the year among the supporters of both the Insurgent and Loyalist governments. Lending substance to frequent reports of friction between Franco's monarchist and the Fascist supporters, the Insurgent leader on January 31 issued a decree substituting a cabinet of 12 ministers for the technical *junta* established in the fall of 1936. Franco retained supreme control as president of the cabinet and commander of the armed forces. The remaining seats were distributed among three generals and eight civilians. The important Ministry of the Interior was given to Franco's brother-in-law, Ramón Serrano Suñer, who became increasingly influential as the year progressed. All three of the principal Insurgent factions—the Fascist Phalanx, the reactionary Carlist monarchists, and the Alfonsists, supporting restoration of ex-King Alfonso or one of his sons—were represented. On January 26 the Carlist pretender, Prince Xavier de Bourbon-Palma, was expelled from Spain by General Franco for allegedly engaging in political activity. On February 2, Gen. Queipo de Llano, commander on the Estremadura front who had won a wide following by his radio broadcasts from Seville, was forced to discontinue his radio talks.

In April, Gen. Juan Yagüe, prominent Nationalist commander sympathetic to the Fascist Phalanx, made a speech at Burgos that was critical of Franco's Italian associates. He urged the release of political prisoners and reconciliation with the so-called "Reds" of Republican Spain. In ensuing weeks the repression of certain Fascist activities in Insurgent territories was reported. A mass break of some 800 war prisoners from the Insurgent

prison at Pamplona on May 22 was attributed to Falangists. The Carlists were gratified by Franco's order of May 4 re-establishing the Jesuits in his territories and restoring their properties confiscated by the Republic on Jan. 23, 1932. But they openly resented the growing influence of Nazi agents in Spain, having been antagonized by Hitler's anti-Catholic policies. A decree promulgated at Burgos on December 15 restored full rights of citizenship to former King Alfonso, who was deprived of his rights and properties in Spain by the Republican Cortes on Nov. 26, 1931. This action was reassuring to both factions of monarchists, who had agreed to back the restoration of Alfonso's son, Prince Juan, to the throne upon termination of the civil war. The Falangists, however, opposed restoration of the monarchy.

Loyalist Government Reorganized. Meanwhile the dissensions that had plagued Loyalist Spain in previous years continued (see 1937 YEAR BOOK, p. 692 f.). Indalecio Prieto, the Socialist Minister of Defense, who had turned the Loyalist Government away from communism and extremism toward liberal, middle-of-the-road policies in the hope of winning British and French aid, strengthened his position in January when Largo Caballero, extremist former Premier, was ousted as executive director of the powerful Socialist General Union of Workers. But with the Loyalist defeat on the Aragon front in March, attributed in part to the treachery of some old-line army officers, Prieto's influence was obliterated. The Communists charged that his action in eliminating the Soviet system of war commissars from the army had caused the setback. At the same time further Soviet aid was promised, while Britain and France rebuffed Loyalist appeals for aid.

Consequently Prieto was dropped from the cabinet in a reorganization effected April 4, that gave Premier Negrin wide executive powers. While Communist party posts in the cabinet were reduced from two to one, the Communist leader Jesús Hernández was made head of the revived system of army commissars and Alvarez del Vayo, regarded as a Communist sympathizer, became Foreign Minister and second in command to Premier Negrin. Gen. Sebastian Pozas, Loyalist commander in Catalonia, was replaced and Gen. José Miaja, the defender of Madrid, was named head of all the Loyalist forces. At the same time the Socialist and Syndicalist unions temporarily forgot their rivalries and united to raise a new force of 100,000 volunteers.

The military crisis was accompanied by a wave of terrorism in Barcelona late in May, attributed to Insurgent supporters of the so-called "Fifth Column." This outbreak was severely repressed by the government. In August a crisis developed within the Negrin Cabinet over the question of militarization of war industries. The issue was resolved in favor of militarization by the resignation of two members of the cabinet and their replacement by a Basque Nationalist and a Catalan, thus preserving the National Union character of the government. But all political activity by the component parties of the government was forbidden and on September 11, the Catalan national holiday, only patriotic and cultural groups paraded.

Seven leaders of the Trotskyist Workers' Party of Unification (P.O.U.M.), charged with fomenting the May, 1937, uprising against the Loyalist Government in Barcelona, went on trial in October. On October 29 the tribunal freed two defendants and sentenced four to 15 years' and one to 11

years' imprisonment. Dissolution of the party was decreed at the same time. On December 9 all police and military forces were centralized under Premier Negrin's control. At the same time a Commissariat General of Religion was created as a step toward the restoration of normal religious worship. It was announced December 15, on the eve of Franco's December offensive against Catalonia, that 200 spies and traitors had been rounded up and condemned to death, while another 200 were sentenced to prison for long terms.

SPANISH-AMERICAN LITERATURES. The following presentation of the year's literary activities must not be taken as exhaustive, nor must the omission of any country be held as evidence that it was non-productive in 1938.

The following works are of general interest: Luis Alberto Sánchez, *Historia de la literatura americana* (fine, well-balanced history of the literatures of Spanish-America); Estela Miranda, *Poetisas de Chile y Uruguay* (critical essays, with quotations); Ildefonso Pereda Valdés, *El negro rioplatense* (interesting, thought-provoking study of Negro influence in language, literature, and music in several South American countries); Gastón Figueira, *Quelzalcoatl* (first of a series of volumes about each of the American republics).

Argentina. Enrique Larreta still enjoys popularity, since new editions have appeared of his *La Gloria de Don Ramiro* and of his dramas *El Linchera*, *Santa María del Buen Aire*, and *Pasión de Roma*.

Prizes. National Prizes for 1933-36, belatedly awarded, were: 1st, *Rubén Darío y su creación poética*, by Arturo Marasso; 2d, *Radiografía de la pampa*, by Ezequiel Martínez Estrada; 3d, *Contribución al tema de la teórica pura*, by Patricio Grau.—Municipal Prizes for 1936 were: Verse—*Romancero del Río de la Plata*, Luis Cané; *Pájaro de fuego*, Juan Fuscaldo; *Romancero de Don Pedro Echagüe*, Elías Cárpene; Prose—*Endemoniados*, Lorenzo Stanchina; *El teatro de Pirandello*, José María Monner Sans; *El espíritu y la letra*, Ernesto Palacio.

Fiction. L. A. Arpsella, *La heroína*; Artemio Aran, *Pampa* (short sketches of life on the pampas); and J. Alvaro Sol, *La madre esclava* (mother devotion).

Verse. Luis A. Ledesma Medina, *Fugacidad* (poemas); and María Alicia Domínguez, *Romanzas del lucro* (surpassing her excellent earlier work).

Erudition seems to have outrun all other forms: Arturo Marasso, *Joaquín V. González, el artista y el hombre*; G. Martínez Zuviria, *La Biblioteca Nacional en 1937* (annual report to the Minister of Justice and Public Instruction); Ricardo Levene, *A History of Argentina* (translated by Wm. Spence Robertson) (a social, economic, and literary history brought down to 1933); José Antonio Bergez, *Hacia una democracia orgánica*; Carlos Ibárguren, *Las sociedades literarias y la revolución argentina (1800-25)* (annotated study of the influence of literary societies in the pre-revolutionary and revolutionary years); Lucilo Pedro Herrera, *Sugestiones críticas*; Norberto Piñero, *Los escritos de Mariano Moreno*; Angel Fragapane, *El libro del sentido vital* (essays); Ricardo Rojas, *Echenique, autor de las "Laudationes"* (Notice by J. Francisco Silva); Juan Rómulo Fernández, *Sarmiento (semblanza e iconografía)*; Eduardo Mallea, *Historia de una pasión argentina* (novelistic account of the psychological and spiritual development of the author).—The Instituto de Filo-

logía, under the direction of Amado Alonso, has published two fine works: Amado Alonso, *Castellano, Español, Idioma Nacional (historia espiritual de tres nombres)*; and *El Español en México, Los Estados Unidos, y la América Central* (a monumental work, reproducing the works of Hills, Semeleder, Marden, Revilla, Nykl, Lentzner, Gagini, and Cuervo, with notes and studies by Pedro Henríquez Ureña, the Dominican scholar who published in 1936 *El Idioma Español en Santo Domingo*).

Necrology. Argentina suffered severely through death: Leopoldo Lugones, born 1874, died by suicide: man of letters (prose and verse), journalist, professor of literature, secretary of the Commission for the centenary of Sarmiento, and author of the *Historia de Sarmiento* (1911). Enrique García Velloso, b. 1880: dramatist, widely traveled (France, Spain, Italy), professor, founder of the Sociedad de Autores Argentinos, author of more than 100 plays, many novels, and a *Historia de la Literatura Argentina*.—Héctor Díaz Leguizamón, b. 1892: lawyer, teacher, diplomat, man of letters (prose and verse), Consul in Norway, 1919–24, pure lyric poet.—Alfonsina Storni, called the deepest feminine voice in Argentina, threw herself into the sea, Oct. 27, 1938.

Bolivia. Five very interesting books have reached us, two in belles-lettres, and three in erudition: Ernesto Vaca Guzmán, *Mirando atrás y 13 de Artillería (comedias de corte moderno)*; Abel Alarcón, *Cuentos del viejo alto Perú* (of special interest to folklorists); Alberto Zelada, *La Universidad y el concepto revolucionario*, and *El Kollasuyo* (study of the origins of the primitive races of Peru and Bolivia); Augusto Guzmán, *Historia de la novela boliviana*.

Chile. Despite certain attractive prizes, national and other, for belles-lettres, the Chilean works that have reached us are primarily erudition.

Prizes. The Chilean Society of Writers awarded their short-story prize to Juan Marin, *El Infierno Azul y Blanco (Paralelo 53 Sur)*, (realistic novel of the Straits of Magellan).—The Atenea awarded its prize for the best Chilean book of 1937 to *Hombres y zorros*, by Mariano Latorre.

Drama. Armando Moock (author of more than 400 plays that have filled the Chilean theaters for years) will soon have a reading public, when people come to know his *Teatro seleccionado* (2 volumes of which, out of a proposed set of 12, have already appeared).

Versé. Rubén Darío, *Poesías y Prosas raras* (compiled and annotated by Julio Saavedra Molina); J. Lagos Lisboa, *Tiempo ausente (poemas)*; José María Souvirón, *Romancero del Alcázar*; Antonio de Undurraga, *La siesta de los peces*.

Erudition. Miguel Luis Amunátegui Reyes, Gregorio Víctor Amunátegui: *Anhelos de un padre recordados por su hijo* (charming volume of important reminiscences); *Don Julio Vicuña Cifuentes (1865–1936)* (tribute published by the Biblioteca Nacional); Domingo Amunátegui Solar, *Recuerdos biográficos* (six outstanding characters of early Chilean history); Eugenio Orrego Vicuña, *Iconografía de San Martín* (with many plates, portraits, and facsimiles); Manuel Antonio Talavera, *Revoluciones de Chile*; Benjamin Vicuña MacKenna, *San Martín: La revolución de la independencia del Perú*.

Colombia. With one exception, the materials received from Colombia have been in the field of erudition: Victor M. Londoño, *Obra literaria, verso y prosa* (complete and definitive edition com-

plied by Cornelio Hispano—real contribution to Colombian letters); Antonio Gómez Restrepo, *Bogotá* (published by the Colombian Academy of History as a tribute to the city on its Fourth Centenary), and *Historia de la Literatura Colombiana, Vol. I* (brings the story down to the end of the 18th century); Daniel Samper Ortega, *Bogotá 1538–1938, Homenaje del Municipio de Bogotá a la ciudad en su IV Centenario* (texto de Daniel Samper Ortega; oleos de Luis Núñez Borda; edición y notas de J. V. Ortega Ricaurte) (splendid quarto volume of 212 pages, richly illustrated), and *Nuestro lindo país colombiano, descripción y antología del paisaje* (beautifully illustrated, won the National Geography Prize); Francisco Rivas Vicuña, *Las guerras de Bolivia*, t. 3; J. M. Restrepo-Millán, *Horacio: su lirica ante el gusto moderno*; Arnoldo Michaelsen, *Dibujos a pluma de la época colonial de Colombia* (extremely interesting pen-and-ink sketches); Germán Arciniegas, *Los Comuneros* (American life at the end of the 18th century).

Necrology. Two deaths have come to our attention: Ismael Enrique Arciniegas, born 1865, poet, lawyer, politician, journalist; in the Floral Games of 1905 his poem *Inmortalidad* won First Prize; and José Alejandro Bermúdez, b. 1886, priest, historian, juriconsult, professor of Canon Law and of the Philosophy of Law in the National University.

Cuba. The Dirección de Cultura of the Ministry of Education awarded a number of literary prizes, the one for 1000 pesos (under the heading General Literature) going to Medardo Vitier for his *Las ideas en Cuba*.

Fiction. Virgilio Ferrer Gutiérrez, *Itinerario (Temas Americanas)*; Enrique Serpa, *Oro en isla de pinos* (won Prize of the Dirección de Cultura); Luis Felipe Rodríguez, *Ciénaga* (powerful novel with the "swamp" as protagonist, awarded National Prize for Letters [novel] for 1937); Enrique Labrador Ruiz, *Cresival, novela*.

Drama. Miguel A. Macau, *Teatro* (containing three dramas performed in La Habana, one in 1925, and two in 1936); Ramón Sánchez Varona, *La Sombra* (Prize of the Dirección de Cultura).

Versé. Miguel A. Macau, *Ritmos del ideal: Paz perdida (versos)*; Emilia Bernal, *América (poesías)* and *Mallorca (prosa y verso)*; Mirta Aguirre, *Presencia Interior* (awarded a Dirección de Cultura Prize); Rafael Rodríguez Vidal, *Las Sinfonías de las Campanas (La Nueva Poesía)* and *El jardín de las revoluciones* (verse); Amparo Rodríguez Vidal (sister of Rafael), *Brote y Ala* (profound human sentiment, intimate association with nature, exquisite melodic values).

Erudition. Ramón Infesta, *Máximo Gómez* (awarded the prize in the extraordinary competition for the centenary of Gómez's birth); *Orbita de la poesía afrocubana 1928–1937 (antología)* by Ramón Guirao (won the Essay Prize of the Dirección de Cultura); Emeterio S. Santovenia, *Genio y acción, Sarmiento y Martí*; Francisco Ichaso, *Defensa del hombre* (fine spiritual portrait of Unamuno); Felix Lizaso, *Pasión de Martí*; Gilberto Gonzáles y Contreras, *Música y poesía*.

The *Academia Nacional de Artes y Letras* has resumed publication of its important *Anales* by issuing Tomo xvii, Año xxi, Julio 1935–Junio 1936.—At the formal opening of the *Academia Nacional* for the year 1938–39, the President thereof, Eduardo Sánchez de Fuentes, read a discourse: *La música aborigen de América*.

Dominican Republic. The following materials have come to hand.

Verse. D. Moreno Jimenes, *Embiste de razas* (poema bucólico-ciudadano); Juan Goico Alix, *Los Poemas del Insomnio* (dainty lyrics); Emilio A. Morel, *Pequeños Poemas* (volume highly praised); Juan B. Lamarche, *Patria recóndita* (won first, second, third, and fourth prizes out of five in a poetic contest).—José María de Heredia, *Los Trofeos* (Discurso preliminar, traducción, apéndices y acotaciones por Max Henríquez Ureña).

Fiction. Juan Bosch, *La mañosa* (la novela de las revoluciones); Andrés Francisco Requena, *Los enemigos de la tierra* (Novela); Ramón Marrero Arísty, *Balsié* (Narraciones, estampas y cuentos); Rafael Damirón, *Estampas, Ciudad Trujillo, República Dominicana, 1938*.

Erudition. Tomás E. Morel, *Del llano y de la loma* (folklore in popular language); Emilio Rodríguez Demorizi, *Poesía popular dominicana*, vol. i (collection of popular poems accompanied by historical notes and an introductory sketch on Dominican popular verse), and *Juan Isidro Pérez, el ilustre loco* (the study won the Ateneo Prize in the competition for the Centenary of La Trinitaria); Sócrates Nolasco, *El General Pedro Flor-entino, y un momento de la restauración*; Angel Rafael Lamarche, *Siempre—el libro de la madre muerta* (devoted to the memory of his mother); Gustavo Adolfo Mejía Ricard, *Crítica de Nuestra Historia Moderna, Primer Período del Estado Independiente de Haití Español*; Gilberto Sánchez Lustrino, *Trujillo, el constructor de una nacionalidad*; Tomás Bobadilla y Briones (prominent statesman, who served Dominica under monarchy and republic), *Discursos* (arreglados por Emilio Rodríguez Demorizi); J. Marino Inchaustegui, *La República Dominicana de hoy*, vol. i (important documents).

The *Academia Dominicana de la Historia* continues its work of investigation into the history of the whole Island and its relations with other countries. Its official bimonthly organ *Clio* publishes much of this and gives timely information concerning the progress of such studies.—The *Academia* published also *Homenaje i Ofrenda a los heroes del Vuelo Colombista*. In its History Competition, the *Academia* awarded the prize to José Manuel Machado for his *Ensayo sobre la obra revolucionaria realizada por Duarte y La Trinitaria desde . . . 1838 hasta . . . 1844*.

Ecuador. Nicolás Rubio Vásquez produced *La Paz Bienhechora* (heartwarming plea for peace, with prologue by the classical scholar, Aurelio Espinosa Polit).—Other belletristic productions are: Wenceslao Pareja, *El canto de las últimas sirenas* (poem awarded the first-class Medal "Al Mérito"); Alfonso García Muñoz, *Estampas de mi Ciudad, Segunda Serie* (searching stories of everyday Quito life); Gerardo Gallegos, *El embrujo de Haití* (powerful short stories of witchcraft among the Negroes), and *El puño del amo* (study of the Venezuelan tyrant, Juan Vicente Gómez).

Erudition. Roberto Agramonte, *Biografía del dictador García Moreno*; Roberto Andrade, *Historia del Ecuador*, 7 vols.; Aurelio Espinosa Polit, *La cooperación de los Padres en la educación*, and *Musicalismo en Virgilio*; Centro de Investigaciones Históricas, *Boletín*, 1937 (in honor of the 400th anniversary of the founding of Guayaquil, 1537–1937; articles concerning history and notable families of the city).

Necrology. Carlos Matamoros Jara, b. 1871, in

Guayaquil, educator, historian, Director of the Municipal Library and Museum of Guayaquil, died Apr. 10, 1938.

Guatemala. Agustín Mencos Franco (of the Academia Guatemalteca), *Literatura guatemalteca en al período de la colonia* (scattered articles collected and published now by order of the Academy); J. Antonio Villacorta C., *Prehistoria e Historia Antigua de Guatemala* (sturdy new study, with maps and facsimiles).

Honduras. Two volumes of verse and two of erudition have been received: Fausta Ferrera, *Alas* (her first book of verse); Juan Ramón Molina, *Tierras, mares y cielos* (preface by Enrique González Martínez, bibliography by Rafael Heliodoro Valle, illustrations by Enrique Galindo); Rómulo E. Durón and Augusto C. Coello, *Las islas del Cisne* (heavily documented report of a Commission appointed to make the study); the Biblioteca Nacional published *Bosquejos biográficos de algunos autores hondureños* (very important).

Mexico. Erudition has far outstripped the other genres in the materials we have received.

Belles-Lettres. Federico Gamboa (Director of the Academia Mexicana, Correspondiente de la Española) gave us *Reconquista* (2d ed. of his novel first published in 1906), *Mi Diario, Mucho de mi Vida, y Algo de la de Otros*, Segunda Serie, II; *La Llagla* (first appeared 1910; new edition 1922; later dramatized, has recently appeared in a dramatic cinematographic version in Mexico and the United States); Julio Torri, *Ensayos y poemas* (essays in poetic prose on philosophical ideas, first appeared in 1917, 2d ed. 1937, translation into English by Dorothy M. Kress, 1938); Gregorio López y Fuentes, *El Indio* (National Prize for Letters for 1935, now translated into English by Anita Brenner); J. Rubén Romero, *La vida inútil de Pito Pérez* (novel); Alfonso Teja Zabre, *Alas abiertas*; and Alfonso Taracena, *Los abrasados* (*Novela tropical*).

Erudition. Alberto María Carreño, *Pastorales, edictos y otros documentos del Excmo. y Rmo. Sr. Dr. D. Pascual Díaz, Arzobispo de México* (37th Archbishop of the Archdiocese), and *Colección de Obras Diversas* (begun in 1936, has now reached vol. vi): IV. *Nuestros vecinos del norte* (criticism of many things in the United States, frankly adverse, but useful), V. *Semblanzas* (*Segunda Parte*), VI. *Temas económicos* (*Primera Parte*); Genaro Fernández Mac Gregor, *Genaro Estrada* (essay read in a meeting held Jan. 4, 1938, in honor of the recently deceased statesman, man-of-letters, and author of the "Estrada Doctrine," and *El Dr. Mora Redivivo, selección de sus obras* (with critical study); Herminio Ahumada, Jr., *José Vasconcelos* ("una vida que iguala con la acción el pensamiento") (well informed, sympathetic study of the man who has been hailed as "the most representative thinker of America"); Manuel Orozco y Berra, *Historia de la dominación española en México, con una advertencia por Genaro Estrada*, 2 vols.; Alfonso Reyes, *Aquellos Dias* (1917–1920), and *Las Vísperas de España* (1914–1924); Alfred Louis Deverdun, *The True Mexico, Mexico-Tenochtitlan* (originally written in Spanish but not published—this translation by P. M. del Campo and P. Cheal—very important); Juan Marinello, *Literatura hispanoamericana* (work of critical acumen, declaring that literature must be the handmaid of progress); and Alfonso Taracena, *Madero: Vida del hombre y del político* (prólogo de José Vasconcelos).

Necrology. Mexico suffered a severe loss in the death of Luis González Obregón, June 20; Director of publications of the National Museum; Director of the *Boletín* of the National Library; Director of the Archives; and chief of the division of Historical Research; author of *The National Library of Mexico, 1833-1910*.

Panamá. Ricardo Miró, *Antología poética (1907-1937)*. The present collection, made by the Secretariat of Education and Agriculture, is part of a tribute to the author, arranged by the students of the Instituto Pedagógico.—Diego B. García Monje, *Anfora* (Ensayos y frases sobre temas esotéricos y espirituales).—Octavio Méndez Pereira (Rector of the National University and Director of the Academia Panameña de la Historia), published *Historia de Ibero-América*, keen study of the development of American ideologies, and ringing summons for all the Americas to lay the bases of the new civilization.

Perú. Sponsored by President Oscar Benavides, and under the General Editorship of Ventura García Calderón (diplomat and litterateur), the *Biblioteca de Cultura Peruana* is being published, and 12 volumes have already appeared, as Series I: vol. 1, *Literatura Inca*; 2, *Los cronistas de la conquista*; 3, *Páginas escogidas*; 4, *Los cronistas de convento*; 5, *El Apogeo de la literatura colonial*; 6, *El lazarillo de ciegos caminantes*; 7, *Los místicos*; 8, *Los románticos*; 9, *Los costumbristas y satíricos*; 10, *Diccionario de peruanismos*; 11, *Tradiciones escogidas*; 12, *Poesías escogidas*. Every volume has a brief biographical and bibliographical sketch.—José Díaz Canseco, *Estampas mulatas* (short stories).—Manuel González-Prada, *Nuevas páginas libres* (continuation of his *Páginas libres* (1894), collection made and edited by his son Alfredo, of all his unpublished writings).

Erudition. Jorge Basadre, *Historia del derecho peruano*; Victor Andrés Belaúnde, *Bolívar and the Political Thought of the Spanish-American Revolution* (very valuable for a broad picture of the whole movement and analysis of Bolívar's thought); Luis E. Valcarcel, *Músicos* (Cuadernos de arte antiguo del Perú, No. 6); Estuardo Núñez, *Panorama Actual de la Poesía Peruana* (sensitive study of Peruvian poetry for the past 20 years); José Antonio Encinas, *La Educación de Nuestros Hijos* (serious psychopedagogical study by the ex-Rector of the University of Lima); Manuel González-Prada, *Figuras y Figuronas . . .* (with critical study by Rufino Blanco-Fombona—another posthumous work); J. de la Riva-Agüero, *Por la Verdad, la Tradición, y la Patria* (Opúsculos), Tomo 2º (continuation of his important series of studies on outstanding persons and events in the cultural history of Perú); Ventura García Calderón, *Ricardo Palma* (brief but searching analysis of the position of Palma in Peruvian letters and culture).

Necrology. Peru suffered a great loss through the death, April 15, in Paris, of the journalist, novelist, and poet, César Vallejo, who was born in 1896. Although he had lived for many years in France, the Association of Writers, Artists, and Intellectuals of Peru paid him a great tribute in August, 1938.

Uruguay. Erudition and belles-lettres are both represented in materials at hand.

Erudition. Víctor Pérez Petit, *Rodó, su vida, su obra* (three volumes of biographical and critical studies by an intimate friend of Rodó); Carlos Travieso, *Montevideo en la época colonial: su evolución, vista através de mapas y planos españoles* (copied direct from the originals in the Span-

ish archives—an Album); Arturo Scarone, *Uruguayos Contemporáneos: Nuevo Diccionario de Datos Biográficos y Bibliográficos* (second revised edition, very important).

Belles-Lettres. Vicente Carrera, *El Cubil de los Leones, novela evocadora*; Alberto Zum Felde, *Aula Magna; o La sibyla y el filósofo* (a mystery, a dramatic dialogue); Ramón F. Díaz, *Liberación, poemas*; Francisco Espinola, *Raza ciega* (short stories in fable form, dealing with illiterate and superstitious negroes and Indians—the "blind race").

Venezuela. Erudition and belles-lettres are the two fields represented.

Erudition. The Academia Nacional de la Historia has resumed its publication of the *Archivo del General Miranda*. Tomo XV has just appeared and is entitled *Negociaciones, 1770-1810*.—Esteban Gil Borges, *Tendencias de la Evolución de los Métodos de Solución Pacífica de los Conflictos Internacionales; Conciliación y Arbitraje*; and *Notas sobre la Estructura Técnica de los Tratados Multilaterales Interamericanos* (three keen studies of international problems by the Minister of Foreign Affairs in Venezuela).—José Nucete-Sardi, *Cuadernos de indagación y de impolítica* (urges that Venezuelans develop their own country and that North and South America co-operate to defeat totalitarianism).

Belles-Lettres. Ada Pérez Guevara, *Tierra Talada* (regional novel); Rómulo Gallegos, *Pobre Negro: Novela*; Julián Padrón, *Candelas de verano* (short stories); Antonio Spinetti Dini, *Hambre* (Poemas de 1934 a 1937), (worthwhile volume of verse on important subjects of the day); José Ramón Heredia, *Los Espejos de más allá*; Marcial Hernández, *Sueño de un mediodía* (tales); and Enrique Bernardo Núñez, *La Galera de Tiberio (crónica del Canal de Panamá)* (the prefatory note remarks that it is a strange tale; but that does not deprive it of interest).

SPANISH LITERATURE. Despite war conditions throughout 1938, there were some creditable literary performances on both sides of the civil war, over and above the works of propaganda.

The following works which are of interest in the Hispanic field may be mentioned.

War. Connected with the Civil War, on both sides, the following have reached us:—*El Romanero de la Guerra* (ballads by thirty poets; all the poems have been translated by American poets, and printed in a volume entitled: ". . . and Spain Sings," edited by M. J. Benardete and Rolfe Humphries); *Lo que han hecho en Galicia* (Episodios del terror blanco en las Provincias Gallegas, contadas por quienes los han vivido); *From Spanish Trenches* (edited by Marcel Acier); *Cancionero General de la Guerra*.—Antonio Ruiz Vilaplana, *Burgos Justice* (translation of the author's *Doy Fe*, an account of his year's experience of Nationalist Spain, as an officer of the Courts of Burgos); Antonio Bahamonde y Sánchez de Castro, *Un año con Queipo (Memorias de un nacionalista)*; N. Sanz y Ruiz de la Peña, *Romances de Guerra y Amor (1936-1937)*; Ramón J. Sender, *Contraataque*; Vicente Saenz, *España Heroica* (account of the rebellion from the beginning until December, 1937); *A Catholic Looks at Spain*, by a professor of the philosophy of law at the University of Madrid, Sr. Sempérn Gurrea; Angel González Palencia (professor at the University of Madrid and visiting professor at Stanford), *The Flame of Hispanicism*; Georges Bernanos (Cath-

lic and monarchist, eye-witness of the White Terror in Mallorca), *Les grands cimetières sous la lune*; Francisco Gonzalbez Ruiz, *J'ai cru en Franco: Procès d'une grande désillusion. Deux mois dans la prison de Séville*; Concha Espina, *Retaguardia* (novela) (pictures of the quick and the dead); Pedro Salinas (visiting professor at Wellesley), *Lost Angel* (volume of selections of his verse, the originals and the English translations on facing pages, the title poem appearing for the first time); and Keith Scott Watson (English journalist), *Single to Spain* (bald statements of scenes witnessed in the trenches and behind the trenches in Spain's civil war—no opinions, no prophecies).

Erudition. Francisco Rodríguez Marín, *Adiciones y enmiendas al comentario de mi nueva edición crítica (1927-28) de El Ingenioso Hidalgo Don Quijote de la Mancha*, and *250 Refranes entresacados de los 4,500 que ha reunido en la villa de Piedrabuena* (the octogenarian folklorist and Cervantes scholar does not let a year pass without publishing something); Gregorio Marañón (the great physician, surgeon, and philosopher), *Estudios de endocrinología, primera edición* and *Vida e historia: ensayos, and Crónica y gesto de la libertad* (*Avatar de Tiberio César; Psicología del gesto*) (a searching psychological study into the basis for international peace); Angel Valbuena Prat, *Historia de la literatura española*, 2 vols. (highly praised by scholars of foreign lands); Elliot Paul, *The Life and Death of a Spanish Town* (extremely important from folklore point of view and written in exquisite style); Juan de Zavaleta, *El Día de Fiesta por la Tarde* (ed. by George L. Doty, published by the Gesellschaft für Romanische Literatur); Adolfo Salazar, *La Música en el Siglo XX* (*Ensayo desde el punto de vista de su función social*) (the printing was completed in 1936, but the publication was delayed); and Josephine de Boer, *Mallorcan Moods in Contemporary Art and Literature*—illustrated by José Creff (six charming studies, made on the ground).

The Hispanic Society of America was very active and produced several works of extreme value and helpfulness, to wit:

The Hispanic Society of America Handbook: Museum and Library Collections (highly illustrated, intensely interesting articles on Paintings, Sculptures, Ceramics, Glass, Gold and Silver Work, Ironwork, Furniture, Textiles, Laces and Embroideries, Manuscript Maps, Prints, and Manuscripts and Books, by 10 specialists and the Society's photographic staff);

A. Van de Put, *The Valencian Styles of Hispano-Moresque Pottery, 1404-1455* (companion to the *Apuntes sobre Cerámica Moresca* of the late G. J. de Osma) (12 ills.);

Translations from Hispanic Poets (verse translations, by 17 translators, of poems of 48 Spanish and Portuguese poets from the XIII-XIX centuries; and of poems of 35 poets from 11 Central and South American countries);

List of Books Printed 1601-1700, in the Library of The Hispanic Society of America (vol. xxvi-972 pp.) by Clara Louisa Penney, continuation of the Society's *List of Books Printed before 1601, in the Library of The Hispanic Society of America* (1929).

Necrology. Spain lost heavily through death in 1938. In this article we list only those that have come to our attention in the field of scholarship and belles-lettres. These include Armando Palacio Valdés (q.v.) born in Asturias in 1853 and died

Feb. 2, 1938; Leopoldo Alas and Serafin Álvarez Quintero (see NECROLOGY).

SPECTROSCOPY. See PHYSICS.

SPITSBERGEN. See SVALBARD.

SPORTS. As the final curtain was drawn across the activities of 1938, the world of sports presents a kaleidoscopic view of surpassing achievements in almost every department of athletic competition. Records were shattered with such reckless abandon that one is left almost bewildered in an attempt to pluck the most noteworthy from the wreckage, in order to make any kind of orderly recording of their merit.

Perhaps, at the outset, the greatest victory and one involving an all-time record, was the one in which no actual competition occurred. We refer to the victory of the spirit of Sportsmanship which, influenced by the traditional code of ethical fair play that has elevated athletics into a permanent and important moral attribute to cultural education, caused utterances of protest to reverberate around the entire World. That voice of sportsmanship, raised in protest of what it considered a violation of the code of ethics for which it stands, was responsible for a national government to yield up "for political reasons," its award of the greatest of all international athletic events, the first time such a contretemps has occurred in its history.

Thus the 1940 Olympic Meet will be held in Helsingfors, Finland, instead of in Tokyo, Japan. And, in awarding the event to Finland, one detects, though possibly not intended, an ironical rebuke to the defaulting champion for, what other nation better exemplifies the true spirit of sportsmanship in meeting its obligations and in its international attitude than the land which has produced some of the greatest of modern athletes?

Turning to the world-wide arena of activity we find the high spots of the year's events in the feat of the great Glenn Cunningham running the mile faster than any pair of human legs ever negotiated the distance before; two Englishmen drove their automobiles at a speed in excess of 350 miles per hour, while a third totally wrecked all previous motorboat records for the mile; a precedent was set in Major League Baseball when the New York Yankees won their third successive World Series and in Tennis we had the unprecedented spectacle of Don Budge capturing the four major tennis titles of the World, pacing the United States in its successful defense of the Davis Cup, voted the outstanding American athlete of the year, and closing his amateur career with a professional contract giving him the highest financial guarantee ever offered a tennis player. The year again demonstrated the superiority of American athletes in virtually all international competition.

Archery. Archery, which has been steadily increasing in popularity during the past decade, reached a new high in championship achievement during the month of August at the fifty-eighth annual meet of the National Archery Association held in Golden Gate Park, San Francisco, Cal. Ten N.A.A. records were shattered, two were equaled, and two world records set. The National champions were Miss Jean Tenney, Clearspring, Md., and Pat Chambers, Portland, Ore. Pat Chambers won the National Single and Double York Rounds, setting World records of 139-813 and 262-1614 respectively. Miss Tenney won the National Single and Double rounds with scores of 72-492 and 141-939 respectively. She also won the Single and Double Columbia rounds, equaling the 1936 record set by Mrs. Olive Besco Layer in the

Single (72-550), made a new record in the Double with 144-1088, and won the American Double round with a record score of 177-1271. Men's R.F.S. champion, Gene Warnich, Portland, Ore., 462 yds. 1 ft. 9 in. (record 478 yds., Homer Prouty, 1933). Men's F.S.F.S. champion, Curtis Hill, Dayton, O., 610 yds. 4 in. (Record 614 yds. 6 in., Curtis Hill 1936.) Women's F.S. champion, Glendolene Vineyard, 345 yds. 1 ft. 6 in. (Record Mrs. Millie Hill, 355 yds. 2 ft. 4 in., 1937.) Men's Team Shoot, Greenwood Archers, Oakland, Cal., 382-2440; Women's Team Shoot, Ahwahnee Archers, San Francisco, 376-2192.

Automobile Racing. Out on the Bonneville Salt Flats of Utah two Englishmen of iron nerves drove their machines faster than wheels had ever traveled before while an American won the 500-mile classic at Indianapolis. On September 16, Capt. George E. T. Eyston, retired British Army officer, established an all-time record of 357.5 m.p.h. over the 13-mile course, traversing the measured mile in the center in 10.04 seconds. Two weeks previously he had raised his own previous record from 311.42 to 345.49. On September 15, John R. Cobb, a London fur broker, in his automobile *Railton*, half the weight of Eyston's 7-ton *Thunderbolt*, smashed this record over the same course traveling at an average of 350.2 m.p.h. Within 24 hours, Eyston bettered Cobb's mark by 7.3 miles. Eyston's speed on the north run was 356.44 and on the return trip 358.57 for his 357.5 average. Memorial Day was the date when Floyd Roberts, 38-year-old aviation engineer of Van Nuys, Cal., in a snub-nosed four-cylinder Burd Special, drove his car round the 2½-mile brick and asphalt track at Indianapolis to win the National championship in the 500-mile classic at the unprecedented speed for this distance of 117.200 m.p.h., awarded on a point basis by the American Automobile Association contest board. Roberts drove the entire distance without relief and only one 30-second stop for a tire change and gasoline. Rogers crossed the finish line 5 miles ahead of Wilbur Shaw, 1937 winner, his time for the 500 miles being 4:15:58.40. Roberts was credited with 1000 tallies and Shaw achieved second place with 825. Following in order were Chet Miller of Detroit, Ted Horn of Los Angeles, and the late Chet Gardner of Long Beach, Cal., with 675, 660, and 450 respectively. The previous record was 113.580 m.p.h., which Shaw had created the previous year. Gardner was killed early in September during a trial at the Fair Grounds, Flemington, N. J. Jimmy Snyder of Chicago won the National 100-mile dirt track championship at the Syracuse Fair Grounds. The Midget class increased in popularity and more than 50 tracks were active during the year. Six of these were formed into the Eastern Circuit operating under A.A.A. sanction and included Philadelphia, New Haven, Bridgeport, Nutley, N. J., Cedarhurst, L. I., and the Castle Hill Stadium in the Bronx. Paul Russo of Chicago scored highest points, with Eddie Staneck of Caldwell, N. J., runner-up. European results were: Annual Acerbo Cup, Pescara, Italy, August 14, 412.800 kilometers (256.501 miles), Rudolph Caracciola, 3 hrs. 3 min. averaging 83.770 m.p.h.; Italian Automobile Sporting Federation Cup annual 6-hour race, Frank Cortese driving 669.09 kilometers (414.4 miles), average speed 69.13 m.p.h.; May 15, Tripoli Grand Prix, Tripoli, Lybia. Herman Lang, German, drove over the 325.404-mile course in 2 hrs. 33 min. 17 sec.; Italian 1000-mile road race, Bologna, April 4, team of Biondetti and Stefani, time 11:58.29, an average

speed of 83 m.p.h.; Italian Grand Prix, Monaz, September 11, Tazio Nuvolari; German Grand Prix, Nuremberg, July 24, 311-mile intricate course in the Eifel Mountains, Richard Seaman, Great Britain, Mercedes-Benz, 3 hrs. 51 min. 1 sec., average speed 80.4 m.p.h.

Badminton. Badminton continued its rise in popular favor during 1938, registering a general increase in interest throughout the country. The Championships, held in Philadelphia, March 24-26 resulted in the 1937 champion Walter Kramer, of Detroit, retaining the singles title, defeating a rising young star, William Markham of the Old Sixty-ninth B. C., 15-12, 17-15. Markham, virtually unknown at the start of the season, won impressive victories in the District of Columbia, Eastern, and Metropolitan championships to reach the final of the National event. Mrs. D. Barkhuff of Seattle defeated Miss M. Whittemore 7-11, 11-6, 11-4, to retain the Women's Singles crown, and with Hamilton Law won the mixed doubles with a 15-5, 15-11 victory over Mrs. Wightman and Goss. Law and Dick Yeager won over Goss and Eversoll 15-10, 15-10 to win the men's doubles, and the women's doubles were captured by Mrs. Roy Bergman and Miss Helen Gibson who defeated last year's champions, Mrs. Del Barkhuff and Miss Zoe Smith 18-13, 10-15, 18-14. Henry Henriques of Philadelphia and George McCook, Pasadena, Cal., won the veterans' doubles.

Baseball. For the first time since the institution of the World Series, this great baseball classic was won for the third successive year by one team. It was an exciting race with the Giants, Tigers, Red Sox, Cubs, and Cardinals all bidding for pennant honors up to mid-season, and the Pirates, not considered at the start, hammering their way up to a real threat. The Yankees themselves had a shaky start, but at the half-way mark hit their stride. The Cardinals dropped to a new low, the Giants blew up in August and with the Yankees in an assured position it became a tail-end struggle between the Cubs and Pirates with the Cubs clinching the race on next to the last day. In the grand climax, however, Joe McCarthy's outfit completely overshadowed the Chicago team, submitting them to four straight defeats with scores 3-1; 6-3; 5-2; 8-3. A total of 7 home runs were scored, Crosetti, Henrich, DiMaggio, Dickey, and Gordon each scoring for a total of 5 for the Yankees, and Marty and O'Dea scoring one apiece to tally 2 for the Cubs. The total attendance for the four days was 200,833 and the receipts \$851,166, the highest gate for any series of the same number of games played. The players' share amounted to \$5815 each for the Yankees and \$4674 each for the Cubs.

The 1938 All-Star game played in Cincinnati, July 6, was won by the National League with a score of 4-1.

Jimmie Foxx won the American League batting championship with an average of .349 and Murphy of New York took the pitching honors with an average of .800 per cent. Lombardi, Cincinnati Reds, captured the national batting crown with .342, and Dizzy Dean of Chicago averaged .875 per cent to win the pitching crown. Mancuso, N. Y. Giants, had a batting average of .348, but played in only 52 games against Lombardi's .329. Foxx won the most valuable player award in the American League; Lombardi in the National League. St. Paul won the American Association title and Newark the International crown. Dartmouth won the Eastern Intercollegiate League title and the Western Conference wound up

with a tie between Iowa and Indiana Universities.

Among the highlights in individual performance, Johnny Vander Meer of the Cincinnati Reds pitched two successive no-hit no-run games on June 10 and 15 respectively; Lou Gehrig completed one of the most remarkable sporting feats in history when he wound up his 1938 season with a record of 2123 consecutive games; Rudy York, catcher for the Detroit Tigers tied the major league record of four home runs in a season with the bases loaded, playing against the Chicago White Sox September 3; Hank Greenberg, another Tiger, smashed the major league record for hitting two or more homers in one game when he collected two from the Cleveland Indians September 23. It was the tenth time Hank accomplished the feat during the 1938 season. Frank Higgins, third baseman for the Boston Red Sox, on June 19, broke Tris Speaker's record made in 1920 when he cracked out a double and three singles combined with a walk, and two days later in a double header against the Tigers, collected three singles and a double in the first game and four singles in the second, netting 12 straight hits in 12 times at the bat.

Basketball. Operating through the 1938 season with a new and radically revised code, basketball showed a distinct increase in speed and the game took on an increased popularity. Accepted with reluctance and misgivings by the Easterners, the elimination of the center jump except to start the game and at the beginning of the second half resulted in a speedier game and an increase in scoring averaging about 5 points a contest. Dissatisfaction over the use of the zone or team defense influenced the rulemakers to modify the restriction on the foul lane pivot play, giving teams another weapon with which to attack zones.

A vivid season, crammed with exciting finishes and upsets, hardly a team of prominence went undefeated. Dartmouth won the Eastern Intercollegiate and a powerful Temple University team took the Eastern Conference crown. Purdue led the Big Ten, Kentucky won the Southeastern Conference, and the Pacific Coast Conference was won by Stanford in the Southern Division and Oregon in the Northern Division with Stanford winning in the North-South playoff. Kansas won the Big Six and Oklahoma A and M topped Missouri Valley, while Rhode Island, Montana State, and Arkansas headed the New England, Rocky Mountain, and Southwest Conferences, respectively.

The N.A.A.U. Championships was captured by Healey Motors, Kansas City, at Denver, Colo., March 13-19, defeating Denver Safeways 40-38 in the final game. The women's championship was won by Galveston Anicos which defeated Wichita Thorstons 13-8 at Wichita, Kans., March 21-26.

The Metropolitan Basketball Writers Association inaugurated a post-season national invitation tournament which proved a signal success and was productive of the outstanding game of the entire year. The series was played in Madison Square Garden, and was won by Temple when this great team defeated Colorado in the final game 60-36. In the semi-final, however, between Colorado and N.Y.U., with the latter team leading 47-46 and only 20 seconds to go, Colorado took possession, snatched a goal and won the right to meet Temple in the final with the score at 48-47.

Temple's victory in the final put them on a par with the four outstanding teams of the country. King-pin of the Eastern Conference that had beaten in the regularly scheduled games Stanford Uni-

versity, 3-time ruler of the Pacific Coast Conference; Illinois of the Big Ten; Southern Methodist of the Southwest Conference, and N.Y.U., unbeaten in seven encounters with Metropolitan foes. In the semi-final of the tournament, it had smothered Oklahoma A. and M., three times champion of the Missouri Valley Conference.

Outstanding player of the season and one of the greatest of all time was Stanford's Hank Louisetti who set up an unprecedented record of 1550 points (exclusive of the Pacific Coast play-offs) and a new one-game mark of 50 points against Duquesne.

Billiards. The most important billiard championship passed to Roger Conti, veteran French cue expert, when he defeated Welker Cochran of San Francisco last March in Paris for the World 3-cushion professional championship which Cochran had held since 1926. The tournament was decided on a point basis, 2 for a victory and 1 for a tie, wound up with Cochran and Conti even, but the French ace won two of the three extra games and achieved the crown. The final standing of the players gave Conti 14 points, Cochran 12, and Jake Schaefer of Chicago third place with 8.

Because of no contest, Willie Hoppe did not have to defend his world title in the 18.1 balkline and his cushion-carom honors nor his 71.2 National title.

Pocket Billiards. Only one other important title was contested during 1938, when Arthur Cranfield, youthful Syracuse, N. Y., ace defeated Ted Murray of Burlington, Vt., 375-207 in the play-off series for the amateur pocket-billiard crown after the pair had tied in the finals of the round robin tournament. Cranfield succeeds C. E. Rogers of Glen Cove, L. I.

Ralph Greenleaf of New York, allowed the World pocket-billiard championship to go undefended. Considered the best in the world, Greenleaf refused to participate in the titular event, thus paving the way for Caras to return to top honors.

Bobsledding. Despite the mild winter of 1937-38, bobsledding was not without its achievements. Aubrey (Bucky) Wells of Keene Valley, N. Y., was the dominating figure at Lake Placid and rang up a record as the only pilot in history to win every major American four-man title in one season. He steered the winning crew in the North American, the National A.A.U., the Commissioner Lithgow Osborne Trophy, the Governor Lehman Trophy, and the Packer Trophy events, setting new marks in every start. Wells' crew comprised three veterans who have shared his daring in every race for years, Warren Martin, Hubert Nye, and John Otis. The quartette trimmed the course record over icy Mount Van Hoevenberg, their best time being in the North American four-man when they negotiated the four one-mile heats in 4 min. 24.90 sec. Another team from Keene Valley carried the honors in the two-man events when Ivan Brown and Bob Washbond won the North American and National titles. This pair who won for the United States in the 1936 Olympics, also hung up a record achieving the four one-mile heats in 4:52.63, almost 18 seconds below the old mark. They have been unbeaten since 1935.

Bowling. All the major honors in 1938 bowling were swept into the bag by the Middle West. At the Thirty-eighth American Bowling Congress tournament for men, held at Chicago, and the twenty-first Women's International Bowling Congress meet at Cincinnati, the results were the same.

The A.B.C. victors were Birk Brothers Brew-

ing Company of Chicago in the 5-man team events; Don Johnson and Fannie Snyder of Indianapolis, doubles; Knute Anderson of Moline, Ill., singles, and Don Beatty, Jackson, Mich., all-events. The Birk Brothers quintet won their event with the highest aggregate score ever recorded by a 5-man team—an all-time high of 3234 and, with the team championship, received a \$1000 prize and diamond medals. The previous record was made in 1927 by Milwaukee with a total score of 3190. The Chicagoans also claimed the heroes of the tournament in Jule Lellinger and George Geiser who represented the same company 21 years ago, their team winning the same championship with the then record score of 3061. The tournament itself, which ran from March 3 to April 19, established a record with a total of over 20,800 entries; \$297,000 in prize money, and 15,000 sets of pins used. Over 180,000 games were rolled and one perfect score of 300, the fifth in the 38 years of A.B.C. competition, was made by M. Blazek of Chicago. Cleveland was selected for the 1939 meet.

The Women's I.B.C. champions included the Heil Heat Company of Milwaukee (winners in 1937) in the 5-woman event; Florence Probert and Ethel Sablatnik of St. Louis, doubles; Mrs. Rose Warner, Waukegan, Ill., singles, and Dorothy Burmeister, Chicago, all-events. The Heils team is the first in the history of the championship to defend its title successfully.

Boxing. Throughout the history of the prize ring the Negro race has flashed a spot of color across the limelight, but never before have members of that race dominated the major classes as demonstrated with the close of 1938. With four of the leading crowns resting on the dusky brows of a notable trio, Joe Louis, heavyweight, John Lewis, light heavyweight, and Henry Armstrong carrying both the welterweight and lightweight titles (having resigned the featherweight tiara after being the first to achieve three major titles and hold all three at one time), it would appear that the color line in the fight game has been definitely erased.

Joe Louis successfully defended his title against three challengers during the year, defeating Nathan Mann by a knockout in 1.56 in the third round of their bout at Madison Square Garden February 23. On April 1 he met Harry Thomas in Chicago, knocking him out in 2.50 of the fifth round and on June 23 literally wrecked Max Schmeling in 2.04 of the first round in their second meeting at Madison Square Garden before 70,025 fans and bringing back the long sought "million-dollar" gate. The actual receipts were \$940,096, but with the addition of a \$75,000 share in the cinema and radio rights the total reached \$1,105,096 of which \$349,288 went to the champion. With back injuries that sent him to the hospital, Schmeling sailed for Germany 10 days later with \$174,644 balm for his terrific beating.

Almost overshadowing Louis in the limelight was the spectacular showing of Armstrong. Having captured the featherweight crown the previous year, on May 31, 1938, he defeated Barney Ross for the world welterweight title and, on August 17, won the lightweight title from Lou Ambers and immediately defended his welterweight crown against two contenders within 10 days—Ceferino Garcia and Alf Manfredo. He had not suffered defeat in 40 bouts over a period of two years.

The heavyweight campaign was also marked by the retirement of James J. Braddock after his defeat of Tommy Farr, champion of Great Britain,

in 10 rounds. In 1937 Braddock lost his title to Joe Louis by the knockout route in 8 rounds, yet, two months later the latter was extended to the entire 15 rounds to secure a judges' decision in his championship bout with Farr.

John Henry Lewis was called upon to defend his light-heavyweight title only once during the year, defeating Al Gainer in 15 rounds at New Haven, October 28. He was signed to meet Louis in January, 1939.

Sixto Escobar, Puerto Rican bantam weight, regained his 118 lb. title on February 20 when he defeated H. Jeffra in San Juan, gaining the decision in 15 rounds. The middleweight class was somewhat muddled with Solly Krieger having defeated Al Hostak who won the crown from Fred Steele. Krieger, however, was not recognized in New York and California because he ignored a challenge from Fred Apostoli, the recognized champion in both those localities. With the surrender of the featherweight title by Armstrong, the title was left for contention between Joey Archibald, Providence, R. I., and Leo Rodak of Chicago. The flyweight title was confused for lack of a class leader. Peter Kane won the recognition of the British Board of Boxing Control while Little Dado, a Filipino who defeated Small Montana recently in the West, had the backing of the California moguls.

In the amateur ranks, which had a most successful season, the outstanding event was Army's victory in the Eastern Intercollegiates when West Point's cadet team broke up the ten-year dominance of Syracuse and Penn State and the dividing of honors between Virginia and West Virginia, in the N.I.C.A.A. championships.

In the Golden Glove tournament between the United States and Europe held in Chicago, May 18, the Mid-Western teams defeated teams representing Finland, Germany, Poland, Italy, and Ireland, 5 bouts to 3. A record attendance of 22,234 was present at this event.

Court Games. Court Tennis. The National singles court tennis championship saw the return of James H. Van Alen to amateur titular honors. Ogden Phipps, winner of the title from 1934 to 1937 inclusive, was unable to compete through illness and Van Alen, his closest rival for several years, came through the field to win the crown he last had worn in 1933. Van Alen also won the Tuxedo Gold Racquet event. Recovered later, Phipps, paired with William Rand of New York, won the doubles. The open championship was retained by T. Iannicelli, Forest Hills club professional, who defeated Rowland Dufton of the New York Athletic Club.

Racquets. In this, fastest and most exclusive of all court games, Robert Grant III of the Harvard Club, New York, dominated the amateur competition and added new laurels to his credit. Successfully defending his National singles title, Grant, paired with Clarence C. Pell, Jr., won the doubles. He successfully defended his Canadian singles title and, again with Pell, retained the Canadian doubles crown and the Tuxedo Gold Racquet which he won for the first time in 1937. In addition, Grant entered the first annual invitation open tournament for the Clarence Pell Cup, defeating Kenneth Chantler, professional, and, in the final round, Norbert Setzler, New York professional and winner of the 1937 open championship, 15-9, 15-4, 15-10, 15-12. In the entire season Grant lost only three games in singles play and is rated the greatest racquets player in history.

Squash Racquets. Germain G. Glidden of Englewood, N. J., won his third successive victory in the National singles squash racquets championship tournament, defeating LeRoy Weir in the final round at Cleveland in four games. Hunter Lott, Jr., and William E. Slack of Philadelphia won the doubles. Miss Cecile Bowes, Philadelphia, won the women's singles title. The National Intercollegiate singles title was captured by LeRoy Lewis, Univ. of Pennsylvania. Boston won the National Team championship and A. M. Sonnabend of Boston won the veterans' National title. Al Ramsey of Cleveland won the National professional singles honors, defeating Lester Cummings of New York in the final round. The International Team championship for the Lapham Cup was won by the United States, 18-2.

Squash Tennis. Harry F. Wolf, Montclair, N. J., perennial champion since 1930, again dominated the Squash Tennis competition to retain the National singles championship. Roland B. Haines, who preceded Wolf as title holder, won the National veterans crown, and the National Intercollegiate singles title went to LeRoy Lewis of the Univ. of Pennsylvania.

Cricket. The dominant feature on the 1938 cricket crease was England's record defeat of the visiting Australian team at the Oval in London in August. England won by 579 runs with an inning to spare. The Australians were completely baffled by the bowling of the home team which ran up a total of 903 runs for the loss of only seven wickets. The Antipodeans were retired twice with total of 201 and 123, respectively. In that match Leonard Hutton ran up the record individual score for the test series of 364. Leyland tallied 187 and Hardstaff 169 not out. Australia, however, came out even, each side gaining a victory and two draws. One of the five scheduled games was canceled on account of rain.

The championship of New York and Metropolitan District Cricket Association was won by Philadelphia General Electric Cricket Club with Brooklyn C.C. in second place. The Brooklyn Team toured Canada, winning 1, losing 2, and drawing 2 matches. Philadelphia General Electric C.C. visited New England and Nova Scotia, won 5 and drew 2 games. A Canadian team defeated a picked New York and Metropolitan team and also the Haverford Alumni. C. H. Archer of Philadelphia won the individual batting honors in the New York and Metropolitan District Ass'n with an average of 45 and high score of 104, not out. A. E. Edwards of Brooklyn scored a century, compiling 101 for Hudson County against Bloomfield, N. J., and A. A. McLellan made a record for New York in championship games by taking all 10 wickets in an inning for 33 runs, bowling for Staten Island against Crescent A.C.

Yorkshire won the English County Championship. The annual Oxford and Cambridge University match ended in a draw due to rain. J. B. Hobbs has achieved a record of 197 centuries in first class which, with 43 in minor games, gives him a grand total of 240.

Cross-Country Running. Donald Ray Lash, now a member of the Indiana State Police, won the National A.A.U. cross-country run for the fifth consecutive time and was the only one to retain his title in all the distance running and walking championships decided during the year. He negotiated the 6.25 miles over hill and dale in 34:33.2. Millrose A.A. was the team winner. Lash survived a cramp during the first mile, jockeyed with the

field, depending on the power of his sprint at the end. With young Drygall of Millrose in the lead, Lash caught him 15 yards from the tape, beating him by a step over the line.

The National I.A.A.A. championship at Van Cortlandt Park over a distance of 5 miles was captured by the Manhattan team with Smith of Penn State taking individual honors. Time, 26:33.3. Indiana won the Big Ten championship at Lafayette, Ind., with Truitt of Indiana winning the individual title in 11.8 for the 4 miles. J. Gregory Rice, Notre Dame, won the first National Collegiate A.A. cross-country championship held at East Lansing, Mich. The Metropolitan ended in a dead heat and was won by Manhattan, nine of whose runners crossed the line even, and the Metropolitan A.A.U. was won by New York A.C., McCluskey taking the individual crown.

Curling. With one of the most decisive scores registered in many years, the curling team representing the United States and led by John Anderson, President of the Grand National Curling Club, regained the Gordon International Medal, first competed for in 1884 and lost to Canada in the 1937 contest. Anderson's team defeated the Canadian branch of the Royal Caledonia Curling Club 228 to 145. The U.S. team also scored over a British Empire squad comprised of Canadians and members of the Scottish team which toured Canada.

This is the thirteenth time that the United States has won the coveted Gordon Medal, Canada having had 30 victories. A total of 16 matches were played of which the U.S. Team won 11, Canada 4, and one ended in a draw.

The next most important curling event of the year was won by the Utica, N. Y. Curling Club who annexed the Douglas Medal by defeating the Brookline Country Club team 14-7 in the final round that helped celebrate the golden jubilee bonspiel of the St. Andrew's Golf Club.

Teams winning other fixtures were the Utica Curlers who retained the Munson Shield and the Country Club of Brookline whose team won the Patterson Memorial Cup, one of the oldest trophies in the sport, and the Stockton Cup.

Cycling. Due to the competition for control between the Amateur Athletic Union, Amateur Bicycle League of America, and the National Cycling Association, the cycling competition was somewhat marred during 1938. The N.C.A. seems to have gained control.

The Netherlands annexed the amateur and professional sprint titles and only two champions were able to defend successfully their titles. In Europe, Jan Van der Vyver of the Netherlands retained his crown as amateur sprint champion of the world and on this side of the Atlantic, Mickey Francoise of Montclair, N. J., held for the third successive year his title as amateur sprint champion of the United States. Van der Vyver outsprinted Bruno Loatti of Italy in the final of the World sprint race and two other Hollanders took third and fourth places, Derksen and Oems respectively. Francoise is the first amateur to win the U.S. title three times in succession since the days of Marcus Hurley who held it from 1901-04 inclusive, in which latter year he also captured the world title in London.

The most astounding upset of the year was the defeat of the veteran, Joseph Scherens of Belgium, who for six consecutive years held the professional world sprint crown, and yielded his title to Arie Van Vliet of Holland, the latter winning the first and third heats of the final race for the world

championship. Only one other sprinter—Thorwald Ellegard of Denmark—held the title six times in the history of the sport, but not consecutively as in the case of Scherens.

Albert Sellinger of Newark, winner in 1935 of the amateur sprint crown, became the champion of the National professional when he defeated Mathias Engel of Germany. Tino Riboli won the American paced championship, dethroning Gerard Debaets of Belgium. Eric Metz, of Germany, led his compatriot Walter Lohman, 1937 Champion, over the tape to win the World professional motor-paced title. The German team of Gustav Kilian and Heinz Vopel repeated their victory of 1937 in the New York six-day event which they also won in 1935 and 1936.

In the National A.A.U. road racing championship held in Chicago September 17-18, Stanley Gadrin, Chicago, won the mile in 2:36.3; Albin Jurca, Kenosha, Wis., won the 5-mile in 13:34.6; James Matthews, Los Angeles, Cal., won the 10-mile in 22:49, and Norman Aprile, Hawthorne, N. J., won the 25-mile event in 57:33.9.

Dogs. Because he is an imported dog, the one who is generally agreed to be the greatest dog in America today was ineligible for the American Kennel Club awards. Nevertheless, with a total of 39 best-in-show awards during 1938 to his credit, a record unsurpassed if even equalled, Champion Nornay Saddler of the James M. Austin kennels, Westbury, L. I., is undoubtedly the king-pin of the show class. Saddler is a smooth fox terrier. The A.K.C. award went to the white standard poodle bitch Champion Blakeen Jung Frau, a Hoyt entry from Blakeen Kennels with 32 variety group victories to her credit. Intense rivalry between Jung Frau and the smooth dachshund dog Champion Herman Rinkton, owned by Mrs. Annis A. Jones, S. Orange, N. J., caused so serious a situation that after an investigation the A.K.C., subsequently made sweeping changes in the regulations to avoid another such complication. The two entries were deadlocked with 31 points each when Anton Rost awarded the "dach" third in the hound group and Harry Rushton put up the poodle in the non-sporting class.

At the Morris and Essex out-door show, with the largest entry in its history, 4213 dogs for a single day show, Leonard Collins' Old English Sheepdog, Champion Ideal Weather, carried off the honors and repeated at the new International Kennel Club exhibit in Chicago. Dwight Ellis's Daro of Maridor, English setter puppy, was the winner at the Westminster Kennel Club's exhibit at Madison Square Garden. In the gun class, the Fraser Horn entry, Finglen Johnnie, received the "Field and Stream" award for the best springer spaniel and Gordon B. Kelly's magnificent Labrador retriever, Nigger of Barrington, won that magazine's retriever award. A. G. Sage's Sedgfield's Nigger, was accorded the "American Field" futurity derby award.

American breeding of thoroughbred dogs showed steady progress; there was an increase of exhibitors and the bench shows increased from 317 in 1937 to 336 last year. A.K.C. Field trials jumped from 83 in 1937 to 96.

Fencing. Topping the list as the finest all-around swordsman in the United States in 1938, Dr. John R. Huffman, New York A.C., for the fifth time won the National Senior Individual saber championship, defeating his perennial opponent of the past nine years, Norman C. Armitage. To clinch his supremacy, Dr. Huffman also annexed

the three-weapon laurels. Other National champions were: Foil, Dernell Every, N.Y.A.C.; Epee, Jose R. de Capriles, Salle Santelli, N. Y., who also won the out-door Epee title; Out-door Saber, Dr. John R. Huffman; Women's Foil, Helene Mayer, Los Angeles; Team championships, Foil, Salle Santelli, N. Y.; Epee, New York A.C.; Saber, New York A.C.; three-weapon, New York A.C.; Women's Foils, Salle d'Armes Vince, N. Y. New York University retained the three-weapon crown in the National Intercollegiate Team championships and also the team saber laurels. The foil and epee team titles were divided between Yale and Navy. The individual intercollegiate champions were Danny Bukantz, of City College, N. Y., Foils; Harry Foley, Jr., Navy, Epee; and W. W. Thackeray, Army, Saber. Seton Hall College won the team honors in the Eastern Intercollegiate Conference. Junior National champions included Ted Gold, Salle Santelli, foils; William Randall, Yale, Epee; Bruce Wallis, Columbia, Saber, and Miss Dorothy Grimmelmann, Salle Santelli.

Football. Despite the usual academic criticism decrying its commercialism, whether this be justified or not, as far as popular interest and alumni support is concerned, football, during the 1938 season, more than lived up to its reputation as the dominating sport feature on the entire competitive program. Throughout the country, record attendance was frequent, the game gave evidence of improvement, and the teams of greater strength than ever. Attendance reached climactic heights at the Army-Navy game in Philadelphia with 102,000 braving weather conditions that could hardly have been more uncomfortable and in which Army was victorious 14-7. The Southern California-Notre Dame meeting saw the Los Angeles Coliseum packed with 101,000 enthusiasts who witnessed the Trojans deliver the only defeat suffered by the South Bend team, shattering their championship hopes as in 1931. Southern California-California drew 95,000. In nine games Notre Dame played to nearly 500,000 devotees and in the East, four games drew attendances of 70,000 on one day, the largest in the history of that section. Thrilling, almost split-second, finishes with the forward pass and field goal prominent elements in such hair raising rallies, attractive schedules, and the two changes in the code, were contributing factors to one of the most successful seasons the game has had. Elimination of the penalty for a pass into the end zone prior to the fourth down and bringing the ball out 15 instead of 10 yards when it has crossed the side line between the goal lines are the changes referred to. They increased the offensive trend, resulting in the highest scoring average since 1931.

The Conference champions were as follows: Big Ten (Western) Minnesota; Pacific Coast, shared by Southern California and California; Southern, Duke; Southeastern, Tennessee; Southwestern, Texas Christian; Big Six, Oklahoma; Ivy League, Cornell. Harvard won the Big Three title, Rutgers the Middle Three, and Amherst the Little Three.

Undoubtedly, the ranking teams of the season, in order, were Texas Christian, Tennessee, and Duke. But for their defeat by Southern California, Notre Dame, box-office magnets of the season, might have headed the list. Duke, the only major team to hold all its opponents scoreless was invited to meet S. California in the annual Rose Bowl contest. Texas Christian, unbeaten and untied was selected to meet Carnegie Tech., beaten only by Notre Dame, in the Sugar Bowl contest.

at New Orleans and Tennessee vs. Oklahoma, both unbeaten and untied were the scheduled attraction for the Orange Bowl in Miami. In addition to the leaders, there were numerous undefeated teams, some tied, the three best being Carnegie Tech., Pittsburgh, and Holy Cross, Carnegie's defeat of the other two causing its preference for the Sugar Bowl contest. Deserving of special mention was Villanova's record in completing two successive seasons without defeat, a fact responsible for its coach, Maurice (Clipper) Smith's country-wide popularity.

Davy O'Brien was deservedly awarded the Heisman and Maxwell trophies as the outstanding player of the year, due to his leading T.C.U., in the strongest all-round offensive play exhibited by any team. Other outstanding performers were Goldberg of Pittsburgh, Young of Oklahoma, Wolff of Santa Clara, Aldrich of T.C.U., Heikkinen of Michigan, and Beinor of Notre Dame. The East was well represented in addition to Goldberg and Aldrich by Luckman of Columbia, MacLeod of Dartmouth, Wysocki of Villanova, and Holland of Cornell. Carnegie Tech. received the Lambert Memorial trophy.

Professional football also gained in popular favor, over 1,100,000 fans attending the National League games. A huge financial success, it furnished another thrilling race in which the New York Giants, at the bottom of the league standing in the early part of the season, spurred ahead to capture the National championship, defeating the Green Bay Packers, Western champions, 23-17. Danowski, the Giants' offensive key-man established a league record by completing over 50 per cent of his passes. With the brilliant offensive tackle, Ed Widseth and Mel Hein, captain and unrivaled center, Danowski was named on the All-League team.

Golf. The golden anniversary of American golf was made notable by some performances that will add historical luster to the game. It was just 50 years ago that the "Apple Tree Gang," a small group headed by the late John Reid, father of the present head of the U.S.G.A., founded the first organized club in America, St. Andrews, improvising a 6-hole course laid out in an apple orchard in Yonkers, N. Y. The year also was the 25th anniversary of the triumph of Francis Ouimet over Harry Vardon, which gave the American game a new impetus.

Premier honors for 1938 go to Ralph Guldahl, who performed the rare feat of winning the U.S. National Open championship, over the Cherry Hills course at Denver, twice in succession, flashing home in the final round with a 69, his total score being 284. In 41 years of championship history, only three others accomplished Guldahl's feat—Anderson, McDermott, and Bobby Jones. A week after his open victory, Guldahl clinched his right to pre-eminence by creating a record in winning his third straight Western Open title. The National Amateur was won by Willie Turnesa, who displayed a brand of bunker play that was uncannily brilliant. Paul Runyan, White Plains professional was the outstanding match-play artist of the year, winning the National P.G.A. title for the second time in his career.

With the Canadian Open title his only major triumph, and the only one in his career, Sam Snead, young White Sulphur professional, led the entire professional field in prize winnings throughout 1938, his largest purse, \$5000, coming from his Westchester 108 hole victory.

Across the water, the British Walker Cup Team

celebrated the American Jubilee year by capturing the famous trophy for the first time since its inception in 1922. The British 7-4 victory at St. Andrews, however, was offset by Charley Yates, member of the American team, winning the British Amateur title at Troon. Our women golfers, too, contributed their share by their successful defense of the Curtis Cup, defeating the British team at Manchester, Mass., 5½-3½.

Miss Patty Berg achieved her ambition by winning the Women's National amateur championship, defeating the titleholder, Mrs. Estelle Lawson Page 6 to 5 in Chicago, where also, British threats were turned back. Albert Leach, Cleveland, O., won the National Public Parks crown and J. P. Burke, Georgetown U., was victor in the National Intercollegiate championship. R. A. Whitcombe won the British Open.

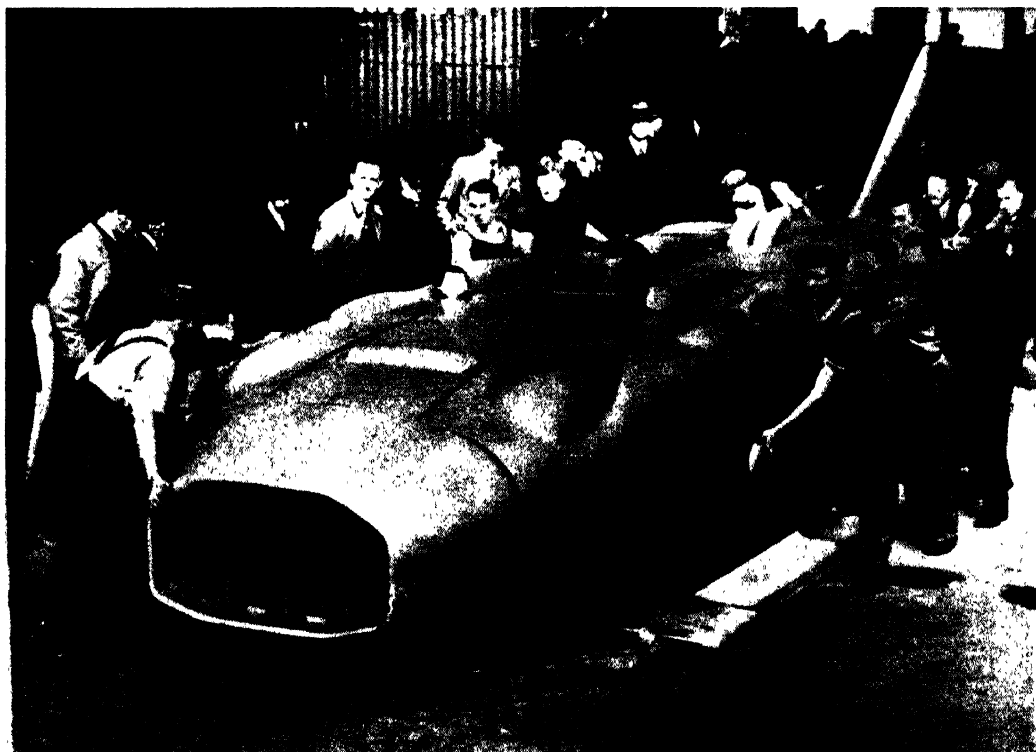
Gymnastics. George Wheeler, University of Pittsburgh and member of the '36 Olympic Team, retained his all-around title in the 1938 National A.A.U. Gymnastics Championships. He won 5 of the 9 individual events including calisthenics, long horse, side horse, horizontal, and parallel bars. Miss Helen McKee of Philadelphia dethroned Miss Pearl Perkins of the same city in the women's championships. The Swiss Turners of Hudson Co., N. J., won the team honors with 71½ points.

Handball. A record was made in the National Championships when big Joseph P. Platak, Lake Shore A.C., Chicago, annexed the senior 4-wall singles for the fourth consecutive year, the first time this has been accomplished in the history of the game. Paired with Bob Weiller, however, he lost the doubles title won in 1937 to Eddie Linz and Frank Coyle of New York. The Junior singles 4-wall laurels went to Walter Plekan of Buffalo, N. Y., and the doubles to Jack Schwartz and Paul Pearlman of Washington, D. C. Joe Garber of Brooklyn captured the 1-wall singles title and George Baskin and Harry Goldstein, also of Brooklyn, won the 1-wall doubles. The National Hard Ball singles crown was captured by William Lauro of New York.

Hockey. A record upset closed the 1938 hockey season when the Chicago Black Hawks, under the first year's management of Bill Stewart, former referee, fought through the National Hockey League schedule from third place, hurdled the post-season play-offs, and conquered the Toronto Maple Leafs to win the emblem of world supremacy, the coveted Stanley Cup, defeating Toronto 3-1. In the play-off series the Hawks defeated the Montreal Canadiens 2-1 and the New York Rangers by the same score.

In the International American League, Providence won the Eastern Division title and Cleveland annexed the Western Division crown. The International Intercollegiate championship was won by McGill University. The World's Amateur Championship, held at Prague, Feb. 20, 1938, was won by Canada, with England second, Czechoslovakia third, Germany fourth, Sweden fifth, and Switzerland sixth. The U.S. team was eliminated in the second round. The Allan Cup, Canadian Amateur trophy was won by The Trail (B.C.) Smoke Eaters; Wembley defeated Haringay for the English title, and Oxford defeated Cambridge in their annual meeting 1-0.

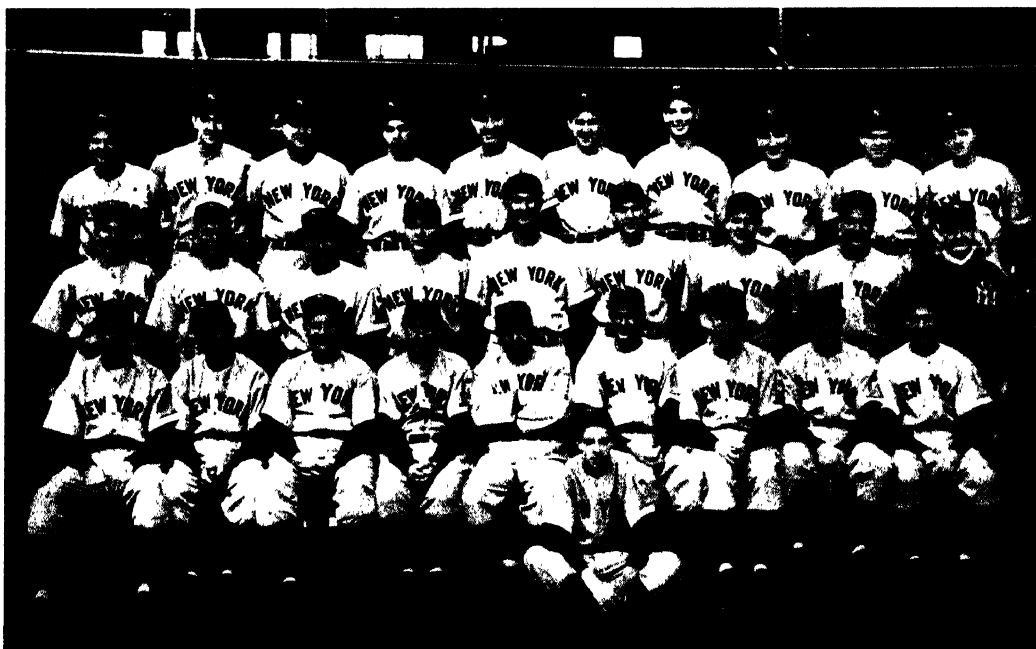
Field Hockey. The Women's National Field Hockey Tournament, held Thanksgiving week-end at Merion Cricket Club, Haverford, Pa., ended with the Southeastern team (Philadelphia) winning the laurels. The team selected to represent the



Brown Brothers

CAPT. G. E. T. FYSTON IN HIS "THUNDERBOLT"

Driving this racing car at 357.5 m.p.h., he broke the automobile speed record at Bonneville Salt Flats, Utah, Sept. 16, 1938.



Brown Brothers

THE NEW YORK YANKEES WORLD CHAMPIONSHIP BASEBALL TEAM

This team, under the management of Joe McCarthy, captured the World Series, for the third year in succession; it was the first team to achieve this feat.

United States in England in 1939 comprises the following: Miss Virginia Meryweather, C.F.; Mrs. Catherine Kendig Clegg, R.I.; Miss Anne Parry, R.W.; Miss Barbara Strebeigh, L.H.; Miss Elizabeth Tausig, C.H.; Miss Anne Page, L.F.B.; Miss Anne Townsend, R.F.B., and Miss Francis Elliott, Goal. Miss Page is Captain of the Team. A feature of 1938 was the visit paid to Australia in which 11 matches were played, the American girls won 6, tied 3, and lost 2.

Lacrosse. Navy's midshipmen scaled to top ranking in intercollegiate lacrosse in 1938, defeating Princeton 8-3, Maryland 8-7, and downing their Army rivals 10-3, biggest margin in the history of the series between the two service teams. Hobart was unbeaten and untied in its series, while Baltimore A.C. was topped twice by Mount Washington, which was in turn upset by St. John's of Annapolis, leaving the open championship unsettled. The All-American Ten, selected by the United States Intercollegiate Lacrosse Association, comprised three Navy stars, two each from Army and Maryland, and one each from Princeton, Rutgers, and St. John's of Annapolis.

Motorboating. Foreign invasion dominated the American classics in inboard motorboat honors during 1938. Count Theo Rossi, wealthy Italian nobleman, crashed through all competition to win the American Power Boat Association Challenge Gold Cup, driving his *Alagi* at Detroit, on September 5th, over the 3-mile course at 72.707 m.p.h. and over the 90-mile course at 60.340 m.p.h. At Washington, D. C., the Count won the President's Cup with a speed of 70.866 over the 2½-mile course and 69.675 for the 15 miles on September 25th. Two days later he made a mile record for 12-liter Gold Cup boats of 91.408 m.p.h. In his class, Count Rossi smashed all world records. The *Alagi* is a 20-ft. hydroplane of 400 h.p. The Albany to New York City outboard handicap (135 miles) was won by Ted Roberts, N. Y. City, Class B. motor, at an average speed of 33.02 m.p.h. The 1938 Outboard National high-point champions were, amateur, Wullschleger, Larchmont, N. Y., 15,637 pts., and Fred Jacoby, Jr., No. Bergen, N. J., professional, 25,897 pts. Wullschleger also won the individual Intercollegiate outboard championship and Princeton won the Intercollegiate outboard team championship.

A total of 41 world records were registered in all classes during 1938 in which a total of 2073 boats competed in 380 events. Some of the outstanding performances should be referred to. Jack Rutherford in *Juno*, unsupercharged craft, which split four races with Rossi's *Alagi* in Italy early in the season prior to the latter's coming here, was the fastest of the year in a mile trial in March at Miami Beach, doing 89.776 m.p.h. Jack Cooper's 225 *Tops II* did 75.393 m.p.h., in a mile straightway at Washington and 63.739 for 5 miles in Red Bank competition. Clinton Ferguson who won the interscholastic championship for the second time, drove an international class X of 1-liter displacement 5 miles at 61.393 m.p.h., the first time an outboard motor has made a mile-a-minute in competition over an oval course. Gar Wood, Jr., won two national amateur titles on the Tennessee River and Harry Birdsall, Jr., of Ardsley, coaxed 62.776 m.p.h. from his Class F outboard. In other waters, S. Mortimer Auerbach brought the Duke of York Cup back from England in a 3-race series for 4-liter boats in which his *Emancipator* was victorious and Sir Malcolm Campbell on Lake Halwil lowered his 1937 World's record for unlimited hy-

droplanes when he drove his *Bluebird* 130.930 m.p.h. on September 19th. And now there's talk of resuming the Harmsworth Trophy event.

Olympic Games. As a result of Japan's decision to relinquish voluntarily the award of the 1940 Olympics to Tokyo, an action unprecedented in the history of this world sports classic, the games will be transferred to Helsingfors, Finland. The opening date has been set for July 20 and will close on August 4th. The change in the date from September will benefit the American teams by not interfering with their college semesters. The winter games were awarded to St. Moritz, Switzerland. The change in locale was received with virtually unanimous approval throughout the sports world and the American Committee has revised its budget, organized its sub-committees, and is proceeding with plans for the participation of United States teams.

Polo. Old Westbury repeated its 1937 victory over the Greentree Polo team to retain the United States Polo Association championship 11-7. The victorious team, one of the greatest in recent years, comprised Michael Phipps No. 1 (9 goals); Cecil Smith No. 2 (10 goals); Stewart Inglehart No. 3 (10 goals); C. V. "Sonny" Whitney, back (5 goals). Greentree played the famous Argentine, Roberto Cavanagh at No. 2; Pete Bostwick No. 1; Tommy Hitchcock No. 3 and J. H. (Jock) Whitney at back. In reward for his brilliant season's record at No. 1, Phipps was raised to 10 goals by the National Association. In the Monty Waterbury Memorial Cup the Aknusti team composed of Elbridge and Robert L. Gerry, Jr., Capt. Pat Roark of Ireland, and Raymond Guest sprang two upsets by defeating Greentree in the semi-finals and Old Waterbury in the finals to win the trophy. Smith, injured in the final of the National event, was substituted by Ivor Balding on the Old Westbury team. The National Junior championship was won by Bostwick Field team which defeated Aknusti 8-5, in the finals.

Harvard defeated Yale 7-1 to annex the Intercollegiate laurels. The Indoor championships resulted with the Optimists winning Senior championship; 124th F. A., Juniors; Yale, Intercollegiates; Lawrenceville Academy, Interscholastics. The Field Artillery School of Fort Sill, Okla., won the National Intercircuit title.

Charles Wrightsman took his Texas Rangers to England and won the championship cup corresponding to the American open. Wrightsman, Aldan Roark, Cecil Smith, and Eric Tyrrell-Martin comprised the quartette which played at Hurlingham.

A challenge from Great Britain for a renewal in 1939 of the international series for the Westchester Cup resulted in the U.S. Polo Association appointing the following defense Committee: R. E. Strawbridge, Jr., Devereux Milburn, Thos. Hitchcock, Jr., C. V. and J. H. Whitney. With the raising of Michael Phipps to the highest goal ranking, the United States can now assemble a 40-goal side, higher than that of any other competitive country. The breed of mounts, too, has steadily improved, demonstrated the past season by both Old Waterbury and Greentree.

Rifle Shooting. The National Rifle and Pistol championships sponsored by the National Rifle Association of America, drew a record field of competitors to Camp Perry, Ohio, last September, totaling over 5000 expert marksman and tyros from every state in the Union, its various territories, and from all walks of life. The National All-Around Shooting champion (DuPont Tro-

phy), was Gunner's Mate Melvin O. Wilson, U.S.C.G., 1054 x 1150. National .22 Cal. Grand Aggregate (Critchfield Trophy), Wm. B. Woodring, Alton, Ill., 1593 x 1600. National 50-Meter .22 Cal. (Austin Trophy), Erwen Menzen, Atlanta, Ga., 400 x 400. National .22 Cal. Team (Caswell Trophy), New Jersey First Team, 2391 x 2400. National Grand Aggregate .30 Cal. (Wright Memorial Trophy), Sgt. C. N. Harris, U.S.M.C., 633 x 655. National Individual .30 Cal. Rifle, 200, 300, 600, and 1000 yds., Corp. Malcolm J. Holland, U.S.M.C., 281 x 300. National .30 Cal. team, U.S. Infantry, 2792 x 3000. President's Match, 10 shots, 200, 600, 1000 yds., Sgt. E. V. Seeser, U.S.M.C., 146. Wimbledon Cup, 1000 yds., Sgt. V. J. Kravitz, U.S.M.C., 100-19V's, perfect score equaling 1936 world record. Leech Cup Match, 7 shots, 800, 900, 1000 yds. (1738 entries), Corp. Wadie Giacobe, U.S. Infantry, 105. Team Match, Herrick Trophy, 1000 yds., U.S.M.C., 797 x 800, new world record. International .22 Cal. Team Match, Dewar Trophy, United States won with World record score of 7953 vs. England, 7900.

Pistol. In the pistol competition the U.S. Infantry won the National Pistol Team championship with a score of 1335, just 27 points ahead of the Los Angeles Police team which won the N.R.A. Revolver team trophy with a score of 1069. C. E. Ward of Los Angeles won the National Individual Pistol crown with a world record score of 285-300 and Harry Reeves of Michigan won the N.R.A., .22 Cal. pistol championship with 292 x 300.

Rowing. Two scintillating performances marked the 1938 rowing events, one at home, the other on England's historic Henley-on-the-Thames. On June 27 a great Navy eight broke the 6-year domination of the Pacific coast and tore over the Poughkeepsie 4-mile course in record-breaking time through a tempest of wind, rain, and tossing waters, finishing a doughty winner in 18.19. A close second, the splendid California crew finished in 18.20½, while Washington, Columbia, Wisconsin, Cornell, and Syracuse trailed in that order. California won the Freshman eights in 9.30½ and Washington captured the Junior event 13.49½.

A few days later, on the other side of the Atlantic, Joe Burk of the Penn A.C., Philadelphia, at the Royal British Henley, created a new record for that event when he won the famous Diamond Sculls (the third American to win this trophy), negotiating the 1¼ miles in 8m. 2s. Returning home, Burk successfully defended his National Singles title at Red Bank, N. J., and won the Canadian championship. The West Side R.C., Buffalo, again won the Senior 8-oared National championship, in one of the most successful of the N.A.A.O., regattas. Harvard was victor in the Yale-Harvard regattas.

Among several American crews competing in the Royal British Henley, the Kent School won the Thames Trophy and in the first international interscholastic crew race held in the United States, the Tabor Academy 8-oared crew defeated Radley College of Abingdon, England, at Marian, Mass., August 25. The 95-year-old Oxford-Cambridge classic was won by Oxford over a much favored Cambridge eight, the winning time over the 4¼-mile course being 20.30.

Skating. **Figure.** In a close contest decided at the Philadelphia Skating Rink, Ardmore, Pa., February 24-26, Miss Joan Tozzer, Boston, Mass., 16 years old, won the Women's Senior National Figure Skating title and 18-year-old Robin Lee of Chicago, annexed the Men's Senior championship

for the fourth successive time. The Senior Pair crown went to Miss Tozzer and Bernard Fox of Boston. Miss Nettie Prantell and Harold Hartshorne of New York were awarded the Dancing laurels.

At Stockholm, Sweden, Miss Megan Taylor of England won the Women's World championship and in Berlin, Felix Kaspar retained the Men's World title, while Fräulein Maxi Herber and Ernst Baier again captured World's Pair crown.

Speed. American speed skating, for the first time in the 48-year records of the Amateur Skating Union of the United States, was dominated by a single individual, 21-year-old Vic Ronchetti of Chicago, in 1938. In January at St. Paul, Minn., he won the North American Indoor crown. In February he won the North American Outdoor title at Saranac Lake and a week later at Oconomowoc, Wis., he garnered 130 points by taking the 440 yds., mile, and five-mile events to win the National championship. Miss Janet Milne with 110 points won the Women's National championship, having annexed the Middle Atlantic and North American Outdoor diadems.

In Switzerland, the veteran Ivar Ballangrud won the World's All-Around championship with 1909.07 points and set a new record of 17:17.4 for the 10,000-meter event. Miss Laila Schou Nilsen of Norway took the honors from Miss Verne Lesche of Finland for the Women's World championship.

Skiing. With weather conditions more favorable, skiing, stimulated by a record invasion of foreign talent, reached greater heights of competitive activity and an increasingly popular winter pastime. The National Open Jump championship held at Brattleboro, Vt., February 19-20, was won by B. Ruud, Norway, 216 ft. Class A, Sigurd Ulland, another Norwegian, entered from Lake Tahoe, California. The National Downhill at Stowe, Vt., March 5-6, amateur and open events won by U. Beutter, Germany, 2.35; Slalom by E. Meservey, Dartmouth, 0.55.8; combined, U. Beutter, 253 pts. In the first National championships for women, held at Stowe, Vt., April 9-10, Miss M. McKean, Beverly, Mass., won the downhill (2.56) and the combined, 296.6 pts.; Mrs. G. Lindley, Sun Valley, Ida., won the slalom honors, 2.02.6.

The National Intercollegiate Team championships were won by Dartmouth's crack team with 499.6 pts., followed by McGill U., 445.1 pts., and New Hampshire, 398.5 pts., in 2d and 3d places, respectively. Individual honors were captured by D. Dorrance, Dartmouth, Downhill, 0.43.2; Cross Country, D. Bradley, Dartmouth, 0.39.57; Slalom, T. Hunter, Dartmouth, 0.45.45; Jump, W. Chivers, Dartmouth, 97 ft.

In the International Open at Sun Valley, Ida., March 12-13, Downhill was won by U. Beutter, Germany, 0.4.15-4½ miles; Slalom, W. Prager, Switzerland; combined, D. Dorrance, Dartmouth.

At Helsingfors, Finland, February 27, A. Ruud, Norway, won the World's Jump championship, 226.4 pts.; Combined Jump and Downhill, O. Hoffbrakken, Norway, 432.6 pts. The World's championships held at Engelberg, Switzerland, resulted in J. Coutlet, France, winning the Downhill title, 0.3.17.8; Lisa Resch, Germany, Women's Downhill, 0.3.32.2; All-Round, E. Allais, France, 331 pts.; Slalom, R. Rominger, Switzerland, 0.1.32.2 and 0.1.31.2; Women's Slalom and All-Round championship for women, C. Cranz, Germany. Parsenn Ski Derby, Davos, Switzerland, 7-mile, 6700 ft. drop, won by M. Fopp, Switzerland, 14.49; Women's

3-mile, 3770 ft. drop, D. Friendrich, N. Sudder tied, 9.22. Canadian championships: Cross-Country, 11 miles won by B. Heightveitt, Ottawa, 1.12.00; Slalom, K. Ringer, Germany, 0.1.15, held at Camp Fortune, Que., February 26-27.

Soccer. With 117 clubs in the National Challenge Cup competition, under the sponsorship of the United States Football Association, the championship again went to the West. The East-West finals were won by the Chicago Sparta Club, which defeated St. Mary's Celtics in two home-and-home games 3-0 and 3-2, respectively. The Ponta Delgada Football Club of Fall River, Mass., won the National Amateur Cup, defeating the Heidelberg eleven at Heidelberg, Pa., 2-1. Honors in the National Junior series were annexed by the Light-house Blues of Philadelphia who were victors over the Beadling Juniors of Beadling, Pa., 1-0. The American Soccer League's championship was won by the Scots-Americans of Newark.

In International Soccer, Italy was awarded the championship by defeating Hungary in Paris in the finals. England won the British Isles championship and Preston North End defeated Huddersfield Town for the English Cup. East Fyfe created an upset in the Scottish Cup competition by beating Kilmarnock of the first division. The Scottish League was topped by the Glasgow Celtics and the Belfast Celtics won the honors in the Irish League. Arsenal led the first division and Aston Villa topped the second in the English League.

Swimming. Outstanding features of the 1938 swimming season centered in a successful visit to Central Europe by nine of our leading men swimmers, the achievements of Mrs. Katherine Rawls Thompson and Ralph Flanagan and the promising material evidenced in a group of young girl contestants in the senior events. Among the accomplishments of the touring group was their defeat of an all-Europe team in a dual meet in Berlin, 38-36. Accomplished in 50-meter pools, Takashi Hirose, Otto Jaretz, Paul Wolf, and Peter Fick lowered the world record for the 400-meter relay from 4:02 to 3:59.2; the first three with Ralph Flanagan did the 800-meter relay in 9:03.6, a sound average of 2:15.9 per 200 meters; a notable sprint of 100 meters in 0:59.3 by Jaretz, 16-year-old Chicago lad, and Flanagan's 400-meters free-style in 4:46.2, a rating long-course mark for 1938.

Mrs. Thompson collected 6 National A.A.U. titles—the 440, 880, and mile free-style, 100-yd. breast stroke and the 300-yd. and 300-meter medleys. Flanagan captured the 220, 440, 500, 880 yds., and the mile free-style. Participating in the National A.A.U., senior classes Misses Helene Rains and Gloria Callen, N.Y.W.S.A., Mary Mooreman Ryan and Ann Hardin of Louisville, Nancy Merki and Brenda Helser of Portland, Ore., and Patricia McWhorter of New Brunswick, N. J., all displayed qualities of promise for the 1940 Olympics. Thirteen-year-old Helene Rains amazed in her all-round skill winning the 500-yd. free-style title; forced Mrs. Thompson to cut the record from 4:06.3 to 4:03.2 in order to just about win the National 300-yd. medley and annexed several metropolitan senior titles including the 220-yd. breast stroke and the 220-yd. backstroke.

Of many National records made in 1938, both men's and women's, most replaced figures of old standing and not representative, therefore misleading for comparisons. Outstanding new marks among the men's, however, were Flanagan's 500-meters free-style in 5:56.3 and 100-meters breast stroke in 1:08.6 by Jack Kasley of the University

of Michigan, hung up in 25 pools, both World figures; American records of 2:53.6 for the 300-yd. medley race, short course, made by Albert Vande Weghe, Richard Hough, and Hendrick Van Oss of Princeton; 1:33 for 150-yds. backstroke, 20-yd. course, by Vande Weghe and 4:02 for the 300-meter medley, long course, by Adolph Kiefer of Chicago.

Impressive among the women's events was Mrs. Thompson's short-lived world mark of 23:47.4 for the mile, long course slashing the then listed world record of 24:07.2, but failing to approach the since listed mark made by Miss Ragnhild Hveger of Denmark, 23:11.5; the short course standards of 2:32.4 for 220-yds free-style by Miss Halina Tomaska of Detroit and 1:23.2 for 100-meters breast stroke by Miss Jane Dillard of Austin, Tex.; a long course of 2:11.2 for the 150-meter medley by Miss Rains.

Ohio State University ascended to country-wide supremacy by winning the National A.A.U. all-round indoor and outdoor team championships for men. The women's indoor title went to Washington A.C. of Seattle and the outdoor to the Women's S.A. of New York. Steve Wozniak of Buffalo and Miss Gloria Callen won the laurels in the individual long distance classics while the Scranton Y.M.C.A. and the New York W.S.A. gained the team title. Al Patnik of Ohio State and Miss Marjorie Gestring of Los Angeles lifted the Fancy Diving crowns from springboard and Albert Root of Detroit and Miss Ruth Jump of Los Angeles took the high platform honors. New York A.C. again annexed the hardball and softball titles in water polo. In the National Intercollegiate championships, Michigan, thrice defeated, twice by Ohio State and in the Western Conference title carnival 62-54 accomplished the unprecedented feat of turning the tables on their victors and nosing out the Scarlet team 46-45 for the N.C.A.A. title. In addition to the National Intercollegiate records made by the Princeton trio and Vande Weghe in the 150-yd. backstroke, William Kendall of Harvard created a record in the 440-yd. free-style in 4:46.4.

Tennis. The world of tennis centered on one figure during 1938, a red-thatched young man who rose from 9th place in the National ranking in 1934 to No. 1 two years later. From then on his lethal racquet carried him to achievements never before accomplished in the history of international lawn tennis. When he entered the National Singles championship to defend successfully his title, his last appearance in National amateur tennis, J. Donald Budge had, within one year, the four major tennis crowns, United States, Australia, France, and All-England champion, had won his two singles in the Davis Cup Challenge Round which, with Bobby Riggs' singles victory, kept the greatest single sports trophy in the United States for another year and, was the acknowledged tennis champion of the World. With his doubles partner, Gene Mako, he won the doubles title in both Wimbledon and the United States and with Miss Alice Marble, won both mixed doubles crowns also. Having no other worlds to conquer he joined the professional ranks with the highest guarantee ever offered a professional player.

For the first time in his career, Mako reached the National Singles final to face his doubles partner and while Budge permitted him to win a set, the ultimate end was a foregone conclusion. Bobby Riggs, who had won 14 major tournaments during the season, including the National Clay

Court, and had made a creditable showing in his first appearance in defense of the Davis Cup was expected to be the runner-up to Budge, but due to an unexplicable laxity in his playing was eliminated before he reached the semi-finals. With Budge out of the running, the problem of a strong enough Davis Cup team to match the formidable Australian threat is a serious one. Riggs will undoubtedly be the key man around whom selections must be made from Bryan Grant, Sidney Wood, Frank Shields, Joe Hunt, Elwood Cooke, Jack Kramer, possibly W. R. Sabin, and Mako a strong contender for the doubles team.

The Australians are virtually certain to present the most formidable Davis Cup contenders. Jack Bromwich is a power to be reckoned with and will probably be stronger in 1939. If Quist can overcome his tendency to foot-fault, Schwartz coming up, and Crawford by no means out of the reckoning their chances for victory would be a cause for worry. The British Isles are hardly in the reckoning, and France is unable yet to replace her "four horsemen" of a decade ago. Von Cramm, released from his imprisonment last summer, banned from German participation, will be ineligible to play for any other country for two years, the rules calling for that period of residence before National representation can be realized in any country. Unless a "dark horse" develops Australia looks the favorite.

The first 10 in the 1938 United States National ranking in Men's singles and doubles and Women's singles are as follows: Men's Singles, 1—J. Donald Budge, Oakland, Calif. 2—Robert L. Riggs, Chicago. 3—C. Gene Mako, Los Angeles. 4—Sidney B. Wood, Jr., New York City. 5—Joseph R. Hunt, Los Angeles. 6—Bryan M. Grant, Jr., Atlanta, Ga. 7—Elwood T. Cooke, Portland, Ore. 8—F. A. Parker, Beverly Hills, Calif. 9—Gilbert A. Hunt, Jr., Washington. 10—Francis L. Kovacs, Oakland, Calif. Men's Doubles: 1—J. D. Budge and C. Gene Mako. 2—Wilmer L. Allison and J. Van Ryn. 3—J. R. Hunt and S. B. Wood, Jr. 4—R. L. Harman and F. L. Kovacs 2d. 5—R. Bobbitt and F. D. Guernsey, Jr. 6—E. T. Cook and W. R. Sabin. 7—Mort Ballagh and Verne Hughes. 8—G. Mulloy and George Toley. 9—G. A. Hunt, Jr., and E. M. Sutter. 10—Chester and William Murphy.

Women: 1—Miss Alice Marble, Los Angeles. 2—Mrs. Sarah Palfrey Fabyan, Cambridge, Mass. 3—Miss Dorothy May Bundy, Santa Monica, Calif. 4—Miss Barbara Winslow, Hollywood, Calif. 5—Miss Gracyn W. Wheeler, Santa Monica, Calif. 6—Miss Dorothy E. Workman, Los Angeles. 7—Miss M. Osborne, San Francisco. 8—Miss H. Pedersen, Stamford, Conn. 9—Miss Virginia Wolfenden, San Francisco. 10—Miss Katharine Winthrop, Boston.

F. D. Guernsey of Rice Institute won the National Intercollegiate title with J. R. Hunt and L. Wetherell, S. California, taking the doubles crown. The National Indoor Singles went to Donald McNeil, the doubles captured by F. J. Bowden and J. Pitman.

Mrs. Helen Wills Moody staged a come-back at Wimbledon, winning the singles diadem from a hopelessly crippled Helen Jacobs, suffering from an injured ankle, but refusing to default. With Miss Marble and Mrs. S. P. Fabyan winning the doubles, the All-England classic closed with an All-American victory.

In the Wightman Cup competition, the United States Team defeated the British aggregation 5

matches to 2, the Americans losing 1 singles and 1 doubles match.

The season was marked by the death of one of the greatest and most colorful women players ever to have graced a court, Mlle. Susanne Lenglen of France who died in Paris, July 4, 1938, in her 39th year.

Track and Field. The outstanding event in track and field performances during 1938 was undoubtedly the brilliant feat of the redoubtable Kansan, Glenn Cunningham, when, on the chilly night of March 3, on Dartmouth's 6½-lap spring-board track in Hanover, N. H., he ran the fastest mile ever traversed by a human being. Unfortunately, the A.A.U. rules do not recognize indoor records, but this fact does not dim the glory or correctness of Cunningham's performance. Paced by six undergraduates handicapped from 5 to 600 yards, and shortly after the International A.A.F. had formally replaced Glenn's world mile record of 4:06.8 with Sidney Wooderson's 4:06.4, with this new incentive, the mighty runner from the Cornbelt bounded off in quest of a shattering figure, planning to do the mile in 4:5. He ran the first quarter in 58.5 seconds. When he crossed the tape he was clocked at 4:04.4.

A total of 15 world track and field records were smashed in indoor and outdoor games during 1938. In outdoor events eight new records were registered as follows: 500-meters, 1:01.5, Mallot, U.S., old record 1:02; 800-meters, Wooderson, England, 1:48.4, old record 1:49.6; 880-yds., 1:49.2, Wooderson, Eng., old record 1:49.6; 10,000-meters, 30:02, Maki, Finland, old record, 30:06.2; Javelin Throw, 258.2½, Nikkanen, Finland, old record, 253.4½; Hammer Throw, 193.7½, Blask, Germany, old record, 189.6½; ¾-mile run, 3:00.3, W. Rideout, U.S., old record, 3:00.4; 440-yd. Relay, 0:40.5, Un. So. California, old record, 0:40.8. *Indoor:* 60-yds., 0:06.1, Ben Johnson and Perrin Walker, old record, 0:06.2; 65-Meter Hurdles, 0:08.5, Allan Tolmich, old record, 0:08.6; 600-Yds., 1:11.1, James Herbert, old record, 1:11.3; 600-meters, 1:20.3, Herbert, old record, 1:21; 1500-meters, 3:48.4, Glenn Cunningham, old record, 3:49.9; mile run, 4:04.4, Cunningham, old record, 4:08.4; 1½-mile medley, 7:27.5, No. Texas State, old record, 7:29.6.

Cunningham won 13 races in succession before he was defeated in the Casey 600, a secondary effort after his 4:07.4 mile, in which he placed a close third as Herbert, N.Y.U. sophomore created his record of 1:11.1. The Kansan's record in the 1500-meters was better than Bronson's outdoor figures. Outdoors, Cunningham continued to dominate, winning the Princeton mile in 4:07.2, fastest cinder mile of the season in which San Romani stumbled and almost fell as Cunningham drew level 50 yds. from the tape. He also retained his National A.A.U. 1500-meter crown, beating off Fenske's great challenge. Other brilliant performers of 1938 included Columbia's Ben Johnson who won 24 straight heats, semi-finals at 40, 50, and 60 yds., and 60 meters before he finally dropped a decision at the season's close, compiling a matchless record, placing him on the all-time list. He broke or equaled the 60-yd. record 11 times, returning 6 flat and 6:1. Allan Tolmich, Detroit hurdler, also broke or tied records at assorted distances 11 times in heats, semi-finals, and finals, beating Spec Towns, Olympic champion in 3 of 5 meetings before turning professional to train the Georgia team. Mallott, winner of the N.C.A.A. and A.A.U. ¼-mile titles; Woodruff of Pitt, un-

beaten again in the 440 and 880 (did not defend his A.A.U. title) and the two products of 1938, Wolcott of Rice, blond hurdler unknown at the start of the season went through the "highs" and "lows" unbeaten, and Nick Vulmanic, Penn State sophomore, undefeated in the javelin throw.

With Woodruff defaulting his National 800-meter A.A.U. crown, Howie Borck, Manhattan, consistent "runner-up" of previous campaigns, picked it up with a brilliant 1:51.5. Borck had record breaking firsts in the I.C. 4-A indoor 600 and outdoor mile. In the latter, his 4:13.9 in his first championship mile erased John Paul Jones' 25-year-old meet record and one time world record of 4:14%. Springing into stardom or retaining their pristine brilliance, other 1938 performers included Louis Zamperli, U.S.C. sophomore in his N.C.A.A. triumph over Fenske in 4:08.3 for the mile; Mozel Ellerbee, Tuskegee 100-yd. sprinter, N.C.A.A. winner; Clyde Jeffrey, Riverside, Jr., in the 100 and 220; Cornelius Warmerdam, California vaulter, and Mel Walker ex-Ohio State high jumper. Only six 1937 outdoor National titlists repeated—Mallott, Cunningham, Pentti, Jack Patterson (Rice, 400-meter hurdles) Irving Folswartshny, R. I. State (hammer) and Lou Lepis, N.Y.A.C. (56-lb. weight).

New York A.C. won the A.A.U. National Indoor and Outdoor team championships with 23 pts., Michigan won the Western Conference (Big Ten) championships with 61½ pts. The I.C.A.A.A. Indoor Championships went to Columbia at 27 pts., and Princeton won the Ivy League with 59¼ pts.

At the Knights of Columbus Meet in Brooklyn in January, Archie San Romani nipped Don Lash at the tape to set a new American record of 8:27.4 for 3000-meters. Lash's time was 8:27.5.

The touring American athletes in Europe made an excellent showing, winning most of the track events, in which they entered. While few records were broken, they demonstrated the superiority which has characterized U.S. competition in virtually all international events. In London, the picked 13-man team dominated the international track and field meet held in August in White City Stadium, against the combined opposition from 16 other nations. Four British records were broken, one by an American, and the United States, competing in 12 events, winning or placing in all of them and winning 1 of the 14 points. In Berlin, Germany, they competed in a 40-man, 20-event, two-day dual meet, the first of its kind in which our athletes ever competed. The meet was witnessed by 160,000 in Berlin's Olympic Stadium. The U.S. Team, picked on the basis of results in the National A.A.U. championships at Buffalo, had only one 1936 Olympian, Eino Pentti, the 10,000-meter champion, of the Millrose A.A. Germany, Europe's champion, assembled its strongest force, consisting mainly of Olympic veterans. The United States, however, won 122 to 92 points, 15 to 6 in first places, yielding only the 800-meter event. Frank Ryan's (Columbia) defeat of Woelke, Germany's shot-put Olympic champion; Pentti, Gregory Rice, Notre Dame, and Forrest Efaw, Oklahoma, winning the 10,000, 5000 meters, and steeplechase and Ray Mallott's defeat of Rudolph Harbig, considered by Germany invincible, in a 46.9 second "400," contributed the best performances. Another American international success was achieved by the Princeton-Cornell Team defeating Oxford-Cambridge in London, 9 points to 3. Oxford defeated Cambridge in their annual meet,

60-57. At Warsaw, Poland, Miss Stella Walsh, of Poland, made a broad jump of 19 ft. 9⁵/₈ in., eclipsing the record made by Miss Kinuye Hitomi of Japan of 19 ft. 7⁷/₈ in. in 1928. In the National A.A.U. Women's championships, Tuskegee won the Team honors.

In the Annual Senior Metropolitan A.A.U. championships held in Jersey City in March, Joe McCluskey, former Fordham star, ran the fastest 2-mile steeplechase ever negotiated indoors, in 9:43.3, smashing his own indoor mark by more than 3 seconds.

Trapshooting. Over 1000 contestants were on the lists for the Grand American Trapshooting tournament at Vandalia, Ohio. Joseph Heistand, Ohio farmer, made an all-time record run of 966 targets, to carry off the major honors. Fred S. Tomlin, Glassboro, N. J., professional, had made a record early in the season of 702 which eclipsed the mark of 621 that dated back to 1921. At the Grand American he had bettered his score with a 714. Heistand won the championship for the third time in four years but lost to Phil Miller of French Lick, in the Class AA Handicap, on a shoot-off. Other major trophies were won by Mrs. Lela Hall, who won the women's clay-target title for the fourth straight year; Otello W. West, who won the Grand American Handicap Shoot, and Mrs. George Peters who took the corresponding title in the women's division.

The National Amateur championships were decided over the Travers Island traps of the New York A.C. The winner was Roger Fawcett, a Winged-Foot gunner, with a score of 199 x 200. Walter S. Beaver of Conshohocken won the National Amateur Doubles.

Skeet. Three World records were hung up in the National Skeet Shoot, held at South Hills Country Club in Tulsa, Oklahoma. H. B. Joy, Jr., of Michigan, completed his all-gauge program with a perfect score of 250, to break the first one. The Gilmore Red Lions of California, did their share by scoring 1238 out of 1250 to set the second World mark, the previous score being 1217. Finally, Grant Isling of California established a new long-run record of 506 straight targets. The tournament was attended by the largest number of skeet enthusiasts in the history of the sport.

Turf. This was an exceptionally brilliant year throughout racing, with thoroughbreds of unsurpassed class in competition for the events of tradition and atmosphere. Interest, however, centered on three great horses and one outstanding event. El Chico, little son of John P. Grier, unbeaten 2-year entry in 7 races with a winning score of \$84,100 in his first year, was something of a sensation. Ineligible for the rich futurities at Belmont or Pimlico, he went into retirement after the Junior Champion at Aqueduct in which he defeated Volitant, Johnstown and Porter's Mito, the latter winner of the Belmont Futurity.

Stagehand, unable to enter the Derby, won by Lawrin, the Preakness, captured by Dauber, nor the Belmont in which Pasteurized was victor, because he was out of condition with a cough, nevertheless proved to be the champion 3-year-old of the season. Virtually unheard of as a 2-year-old, he won the Santa Anita Derby and then nosed out Seabiscuit to win the \$100,000 Handicap. Seabiscuit, with 11 starts, 6 won and 5 placed and War Admiral with 11 starts, 9 won and 1 placed, developed into rivals for championship honors and after several postponements, this greatest race of the year was finally staged at Pimlico on Novem-

ber 1. Seabiscuit, running the $1\frac{1}{16}$ mile in 1:56 $\frac{3}{4}$, clipping $\frac{1}{8}$ second from the track record, defeated War Admiral by four lengths.

The Grand National Steeplechase was won by the first American horse to conquer this difficult English classic, Battleship, a son of Man-o'-War and owned by Mrs. Marion DuPont Scott.

The English Derby victor was Bois Roussel P., owned by R. L. Beatty and the Grand Prix De Paris went to Nearco, owned by Tesio Frederico.

Harness Racing. 1938 was made unique in trotting and pacing history since, for the first time in almost a half century, the record in both classes was broken. Greyhound, already the fastest trotter ever seen, lowered his 1937 record of 1.56 to 1.55 $\frac{1}{4}$. Billy Direct, 4-year-old free-legged pacer, holding the 3-year-old record of 1.58, lowered the 4-year-old mark to 1.55, lowering all past records for any age. Dean Hanover, the all-time champion of 3-year-olds won the 4-year-old championship for 1938, missing Greyhound's record mark for this age by a little more than a second. McLin, fastest 3-year-old trotter of the season, won the \$37,000 Hambletonian Stake and the Kentucky Futurity.

Yachting. While the 1938 season was one of great activity in the yachting firmament, racing interest was confined to the three major events of the year. First in order was the Bermuda race in which a newcomer proved victorious. The yawl *Baruna*, owned by Henry C. Taylor, who attained the sports' highest honors in his first sea-going venture, won four of the major trophies in this race, including the Bermuda Trophy for the best corrected time in the fleet; the trophy for the best time of any boat in Class A; the trophy for the first yacht of the fleet to finish, and the prize for the winning sloop or yawl. Richard J. Reynolds' sloop *Blitzen*, another new ocean racer took Class B honors and was second to *Baruna* on corrected time of the whole fleet. Other prize winners were the sloop, *Highland Light* (Dudley Wolfe); schooner, *Santana* (W. L. Stewart); yawl, *Avanti* (Walter N. Rothschild), and Nat Rubinkam's sloop, *Rubaiyat*.

In the Fishermen's Series, probably the last to be held, the old veteran *Bluenose*, Capt. Angus Walters' Canadian champion, with 1000 square feet more sail, proved one too many for Capt. Ben Pine's *Gertrude L. Thebaud*, of Gloucester. The latter put up a fine battle especially in heavy weather, but *Bluenose* was too much for her in the lighter going and successfully defended the championship of the banks which she has held for 17 years.

The Six-Meter International event off Oyster Bay, most outstanding yachting event in nearby waters, ended in two victories for American yachts and one for Scotland. In the first series for the Scandinavian Gold Cup, the American Sloop *Goose*, ably handled by George Nichols, defeated a whole fleet of British and Scandinavian challengers decisively. The Americans again won comfortably in the next series of team races, four British and four American yachts. The American entries were *Goose*, Paul V. Shields' *Rebel*, Henry S. Morgan's *Djinn*, and Briggs S. Cunningham's *Lulu*. The Americans, however, suffered a rude shock in the final series when *Goose*, best of the American boats, was matched against J. H. Thom's *Circe* for the Seawanhaka Cup. Aided by two days of strong winds and heavy seas and some of the finest match-racing work by Mr. Thom and his crew, the Scottish sloop won three straight races to capture the Cup.

The world's championship series of the Star Class was held on the west coast and was won by the German entry, *Pimm*, sailed by Walther von Hutschler and J. Weiss. Harry G. Nye's *Gale* was runner-up.

In the larger group, sailing around the waters of New England and New York, Walter H. Wheeler's Class Q sloop, *Cotton Blossom*, won the Astor Cup.

STANFORD UNIVERSITY. A privately endowed institution of higher education, nonsectarian and coeducational, founded in Santa Clara County, California (near Palo Alto), in 1885 and opened in 1891, in memory of Leland Stanford, Jr. The total enrollment in 1937-38 was 5103. The 1938 summer quarter had an enrollment of 1063. In the autumn quarter of 1938 the enrollment was 4163 and the faculty numbered 712, including 146 teaching assistants. The endowment funds amounted to \$30,207,500, and the budget income for the year was \$3,276,700, plus gifts of \$329,451. In September, 1938, the School of Education Building, the gift of Dean and Mrs. Ellwood P. Cubberley, was completed. The library contained 710,000 volumes. President, Ray Lyman Wilbur, M.D., LL.D., Sc.D.

STARS. See ASTRONOMY.

STATISTICAL ASSOCIATION, AMERICAN. A scientific organization founded in Boston in 1839 to foster an interest in statistics and to promote scientific methods of collecting and interpreting statistical data. The official publications are the *Journal* of the American Statistical Association and the American Statistical Association *Bulletin*. The Association has 16 chapters in important American cities. It has a number of committees in various statistical fields, some of which conduct special conferences at various times during the year.

The Association's one-hundredth annual meeting was held in Detroit, Mich., Dec. 27 to 30, 1938. Several joint meetings were held with the American Economic Association, the American Sociological Society, the American Marketing Association, the American Farm Economic Association, the American Association for Labor Legislation, the Econometric Society, and the Institute of Mathematical Statistics, which were meeting in Detroit at the same time. A special meeting of the Association was held in Ottawa, Canada, June 28 and 29, 1938, in connection with the summer meeting of the American Association for the Advancement of Science.

The following officers were elected for 1939: President, Raymond Pearl, The Johns Hopkins University, Baltimore, Maryland; Vice-Presidents, O. C. Stine, Alfred J. Lotka, Ewan Clague, Joseph Berkson, J. Frederic Dewhurst, Robert W. Burgess, William J. Carson, Vergil D. Reed. Secretary-Treasurer, Frederick F. Stephan, 1626 K St., N.W., Washington, D. C.

STATISTICS. Consumer Incomes in the United States. One of the most significant statistical analyses released during the year was that called "Consumer Incomes in the United States," the work of the National Resources Board. This study presented for the first time a comprehensive picture of how the national income was distributed among the various consumer groups in the country. The survey was based on the study of consumer purchases conducted by the Bureau of Home Economics of the Department of Agriculture, and the Bureau of Labor Statistics of the Department of Labor, in co-operation with the WPA. Accord-

ing to this inquiry, during the year 1935-36, it was estimated that nearly \$47,680,000,000 was distributed among 29,400,000 families of two or more members, comprising in all 116,000,000 persons. In addition, approximately 10,058,000 single persons received \$11,580,000,000 and 2,000,000 persons, in institutions, hospitals, the CCC, and the country's military and naval forces, received \$724,300,000. The total income distributed to all consumers in question was nearly \$60,000,000,000. If the total family income of \$47,680,000,000 had been divided equally among the 29,400,000 families (including those on relief), each family would have received an annual income of \$1622. The actual distribution was obviously far different. The top tenth of the 29,400,000 families received a total income of \$17,164,000,000, or an average annual income of \$5838 per family. The same number of families in the lowest tenth received a combined income of \$906,000,000 or \$308 per family per year. A large number of the families in the lowest tenth received less than an average of \$308 per year, while many families in the top tenth received a much larger income than the average of \$5838 per year. Nearly 9,460,000, or 47.9 per cent of the 24,910,000 non-relief families, were families of wage earners. Out of every 1000 of these families 105 received an income of less than \$500, 282 from \$500 to \$1000, 289 from \$1000 to \$1500, 172 from \$1500 to \$2000, 80 from \$2000 to \$2500, and 72 an income of over \$2500. In other words, more than one-third of the non-relief wage-earning families received an income of less than \$1000 and more than two-thirds of the families received less than \$1500. About one out of every seven non-relief wage-earning families received an income of \$2000 or more.

STEAM BOILERS. See **BOILERS, STEAM.**

STEAM TURBINES. A most important step affecting the future design and application of steam turbines was the establishment, in the fall of 1938, of a set of preferred standards for capacities, initial steam pressures, steam temperatures, vacuums, back pressures, speed and voltage of turbine-generators of over 10,000 kilowatts output. These standards were drawn up by a subcommittee of the National Defense Power Committee consisting of representatives of the Federal Power Commission, the electric utilities, and the turbine manufacturers, the object being to expedite production and delivery of such electric generating equipment and, incidentally, reduce its cost. Nine sizes of condensing turbines, ranging from 10,000 to 100,000 kw, were provided and eight sizes of superposed units, ranging from 10,000 to 60,000 kw. For the smaller sizes of condensing turbines within this range, steam conditions of 650 lb. per square inch and 825 degrees F. were set up; for the intermediate sizes 850 lb. and 900 deg.; and for the larger sizes 1250 lb. and 900 deg. Machines up to 50,000 kw are to run at 3600 r.p.m. and those of greater capacity at 1800 r.p.m. For superposed turbines, ranging in capacity from 10,000 to 60,000 kw, steam conditions at the throttle of 1250 lb. per sq. in. and 925 deg. F. temperature were prescribed, as well as a rotative speed of 3600 r.p.m.

These preferred standards are expected to apply, for the present, principally to new plants in the central station field and among large industrials, although the committee contemplates extending the standards to turbines of smaller capacities which will then affect a greater number of industrial power applications.

At the present time the largest turbine-generator in the world is rated at 208,000 kw. This is of the

cross-compound type consisting of a high-pressure and two low-pressure elements. The largest tandem-compound unit, consisting of a high-pressure and a low-pressure cylinder mounted on the same shaft with a single generator, is rated at 160,000 kw. The largest single-casing machine, operating at 29 inches vacuum, is of 80,000 kw capacity. These all run at 1800 r.p.m. Of machines running at 3600 r.p.m. the largest is rated at 50,000 kw.

The capacity at a given speed is determined largely by the discharge area of the last stage and by the vacuum which determines the density of the steam at exit. For a given capacity the greater the rotative speed, the shorter the last stage buckets; hence a machine running at 3600 r.p.m. has a much smaller low-pressure cylinder diameter than one running at 1800. The present limit in the tenon speed of such buckets is about 820 m.p.h.

Developments in metallurgy have played an important part in the design and construction of modern turbines and permitted taking advantage not only of higher steam pressures, but also, more recently, the thermal economy of high steam temperatures. Before a metal can safely be used in a modern high-speed turbine its creep characteristics under the severe working conditions must be known, for at 900 deg. F. the steam is so hot that the metal within the turbine actually glows a dull red. The necessity for guarding against creep applies to casings, bolts, and other parts, as well as the blades which are subjected to the combined action of high temperature, centrifugal force, and steam impact. All such material is tested under conditions simulating operating conditions.

Many turbines are operating in central stations and in a few large industrial plants at 1250 to 1300 lb. per sq. in. and 900 to 925 deg. F. total steam temperature. Some of these are condensing units while others are superimposed units exhausting at around 200 lb. to low-pressure equipment. Most of the superimposed turbines operate at 3600 r.p.m. and their generators are hydrogen cooled. In other newer stations steam conditions of 800 to 900 lb. and 900 deg. F. will be found, while units in the older stations operate at lower pressures and temperatures. One turbine is now building for an extension to a central station in the Middle West which will take steam at 2300 lb. pressure.

Among industrial plants a greater variety of conditions are met owing to process steam requirements at different pressures, which influence the attainment of a favorable heat balance. Thus, one finds turbines of several types including condensing, back-pressure, extraction, and mixed-pressure types. The following tabulation taken from a recent paper by C. W. E. Clarke before the American Society of Mechanical Engineers lists industrial plant turbines installed in 1936 and 1937, according to types:

Throttle pressure, lb. per sq. in.	Total number of turbines	Types of Turbines				
		Con- dens- ing	Condens- ing ex- traction	Back pres- sure	Back pressure ex- traction	Mixed pres- sure
1200	5	0	1	3	0	0
700-900	15	0	5	7	3	0
500-700	13	0	4	7	2	0
400-500	58	3	26	16	11	2
200-300	27	2	9	11	5	0
Total	118	5	45	44	21	2

The trend among industrial plant installations is toward larger capacities and higher steam pressures, 400 to 500 lb. initial pressure being the most popular, 500 to 900 lb. common for the larger plants, and 1200 to 1400 lb. in a few outstanding

plants such as that of the Ford Motor Co., the Dow Chemical Co., and the Firestone Tire & Rubber Co.

STEEL. See IRON AND STEEL.

STEVENS INSTITUTE OF TECHNOLOGY. A college of engineering at Hoboken, N. J., founded in 1870. The enrollment for the autumn of 1938 was 559 undergraduate and 259 graduate students. In the summer school 119 were enrolled. There were 69 members on the teaching staff. The income for 1937-38 was \$326,168. There were over 29,000 volumes in the library. President, Harvey Nathaniel Davis, Ph.D., D.Eng.

STOCK EXCHANGE REGULATION. See FINANCIAL REVIEW.

STOTESBURY, EDWARD TOWNSEND. An American capitalist, died in Philadelphia, Pa., May 16, 1938, where he was born, Feb. 26, 1849. Educated in the public schools of his native city and at the Friends' Central School, he first worked for a wholesale grocery firm, and in 1866 entered the employ of Drexel & Co., bankers, as a clerk. In 1882 he was admitted to partnership and subsequently became chief resident partner of the Company in Philadelphia. His rise in the firm brought him membership in the firm of J. P. Morgan & Co., New York, and in 1913 upon the death of the elder Morgan, he became senior partner. For 50 years, few important enterprises were begun without his aid and financial guidance, and his activities, although centered in banking, touched steel, coal, railroads, electric power, and street railway systems. Among corporations with which he was associated were the Reading Co., the Beaver Coal Corporation, the Lehigh & Hudson River Ry. Co., Highland Coal Co., etc. Mr. Stotesbury gave valued assistance in financing the great International Chinese Loan in 1909.

Actively interested in the artistic and civic affairs of his native city, he was president of the Fairmount Park Commissioners; a member of the Art Jury; a director of the Pennsylvania Academy of Fine Arts, a trustee of the University of Pennsylvania and the Pennsylvania Museum of Art; and treasurer of the Opera Co. In 1932 he loaned his valuable art collection to the Pennsylvania Museum of Art. Also, Mr. Stotesbury was a director of the Benjamin Franklin Memorial; treasurer of the Philadelphia Council of Boy Scouts; and a trustee of the Grant Monument Association.

For a time interested in the rearing of thoroughbred horses, he was honorary president of the Riders and Drivers Association and honorary vice-president of the Bryn Mawr Horse Show, and at one time was president of the National Horse Show of America, Ltd. In 1908 he was American representative of the International Horse Show at the Olympic meet in London. Politically, Mr. Stotesbury was a Republican, and he was treasurer of the Republican National Committee during the Roosevelt campaign of 1904 and the Taft campaign in 1908.

In 1917 he gave \$100,000 to the War Work Council of the Young Women's Christian Association; \$75,000 for the rehabilitation of wounded French soldiers; and in 1931, \$250,000 to the United Fund for hospitals and charities in Philadelphia, and \$100,000 for the Philadelphia Relief Fund.

STRAITS SETTLEMENTS. A British crown colony comprising the four settlements of Singapore (with Christmas and Cocos-Keeling islands), Penang (with Province Wellesley), Malacca, and Labuan. Total area, 1356 square miles; population (Jan. 1, 1938, estimate), 1,310,969, com-

pared with 1,114,015 (1931 census). During 1937 there were registered 52,483 births, the rate (per 1000) being 42.13; the crude death rate (per 1000) was 22.15. Chief towns (with 1936 populations): Singapore, the capital, 490,155 inhabitants (1936); George Town (Penang), 149,408; Malacca, 38,042; and Victoria, 2022. In 1937 the 759 schools for primary and secondary education had 137,392 students enrolled. In addition there are various vocational and industrial schools, a college of medicine, and a college of arts and science.

Production and Trade. Rubber, rice, coconuts, pineapples, coffee, fish, tin, phosphate of lime (162,568 tons exported from Christmas Island during 1937), and tobacco, were the chief products. In 1936 the colony had 19,662 cattle, 18,833 buffaloes, 35,893 sheep and goats, and 200,389 swine. The fishing industry employed 12,084 men and 4576 boats of all kinds. Tin smelting is an important industry, the production (chiefly from imported ore) for 1937 amounting to 94,721 tons. The trade of Singapore and Penang consists mainly of the collection and distribution of commodities for the whole of Malaysia, especially the Netherlands Indies. Singapore is a natural distribution point for oil and shipments are made to Australia and Africa. In the direct foreign trade of the Straits Settlements for 1937 imports totaled S\$628,000,000; exports, S\$703,000,000 (Straits \$ averaged \$0.5797 for 1937).

Communications. Merchant shipping that entered and cleared the ports during 1937 aggregated 47,709,291 tons. There were 1169 miles of roads. The railways in the colony are owned by the government of the Federated Malay States. In 1937 there was a daily air service between Singapore and Penang, a biweekly air service to England and Australia, and a weekly air service to Hong Kong which connected with the Hong Kong to San Francisco air service across the Pacific. Singapore and Penang are ports of call on the thrice-weekly Amsterdam to Batavia (Netherlands Indies) air service. There is a connecting service between Penang and Medan (Sumatra) three times a week, and also a weekly service between Singapore and Batavia by way of Palembang (Sumatra). During the year the west wharf extension, 3316 ft. long with a minimum depth of 33 ft. alongside, was completed. This gives the port of Singapore a total of 2½ miles of continuous berths for ships.

Government. For the year 1937 revenue amounted to S\$37,348,383; expenditure, S\$42,038,482; public debt (3 per cent Straits Settlements local loan), S\$30,000,000. Budget: (1938) revenue, S\$37,782,900; expenditure, S\$39,604,900; (1939) revenue, S\$39,484,280; expenditure, S\$43,630,867. The government is under a governor who is aided by an executive council of 11 members (8 ex officio and 3 unofficial) and a legislative council of 26 members (13 ex officio and official, 11 nominated unofficial, and 2 unofficial members elected by the Singapore and Penang Chambers of Commerce). Governor and Commander-in-Chief, Sir Shenton Thomas.

History. The naval base at Singapore was virtually completed when Sir Shenton Thomas, the governor, opened the new graving dock on Feb. 14, 1938, in the presence of many distinguished people including the First Lord of the Admiralty of Great Britain, representatives of the Dominions, and the Malay rulers. A cruiser squadron of the U.S. Navy attended the opening. Early in 1938 serious anti-Japanese demonstrations by Chinese and Indians occurred during the celebrations of India's China

Day. Special police protection was offered to the Japanese in Singapore. During 1938 barracks and sites for batteries were being constructed in Penang. The government imposed a quota on Chinese women refugees, as from May, 1938, who had been entering Singapore at the rate of approximately 8000 a month. It was announced on Dec. 3, 1938, that the Straits Settlements government had authorized a grant of S\$10,000,000 for Imperial defense; payments were to be spread over a period of five years.

STRAUSS, JOSEPH BAERMANN. An American engineer, died at Los Angeles, May 16, 1938. Born in Cincinnati, Ohio, Jan. 9, 1870, he was educated at the University of Cincinnati (C.E., 1892; Sc.D., 1930). Upon graduation he entered the employ of the New Jersey Steel & Iron Co., as a draftsman, but in 1894 he became an instructor in the college of engineering at the University of Cincinnati. After a year he left to enter the employ of the Lassig Bridge & Iron Co., Chicago, as a detailer, inspector, estimator, and designer. Thereafter, he was a designer and squad boss in the Sanitary District of Chicago (1897-99); principal assistant engineer in charge of the office of Ralph Modjeski (1899-1902); in private practice as a consulting

STRECKER CASE. See IMMIGRATION.

STRIKES AND LOCKOUTS. Strikes in the United States. Largely as the result of the business recession which set in in the late summer of 1937 and which continued into 1938, although in a measure as well due to the success of the initial C.I.O. drive for the organization of the great mass-production industries of steel and automobiles, industrial disputes during 1938 definitely tapered off. Whereas in January, 1937, total man-days lost as a result of strikes and lockouts came to 2,720,281, in January, 1938, the total was only 470,138. And, whereas in June, 1937, the total of man-days lost was 4,998,408, in June, 1938, the total was 824,627. During 1938 the country saw no such serious labor disputes as had occurred in 1937, particularly among the maritime workers and the steel workers. Such industrial conflicts as took place during the year were, for the most part, on a local basis and included strikes among truckers, department-store workers, and stoppage at individual industrial plants. As was the case in 1937, stoppages were largely due to refusal on the part of employers to accord trade-union recognition to workers. The following table presents the trend of strikes month by month during 1938.

STRIKES IN 1938

1938 Month	Number of strikes				Workers involved in strikes			
	Continued from preced- ing month	Begin- ning in month	In progress during in month	Ended in month	In effect at end of month	Beginning in month	In progress during month	Man-days idle during month
Jan.	120	151	271	155	116	34,865	55,386	470,138
Feb.	116	176	292	167	125	52,314	76,426	504,001
Mar.	125	245	370	214	156	53,484	102,145	748,355
Apr.	156	243	399	235	164	78,428	108,927	810,261
May	164	261	425	264	161	80,950	121,964	1,144,011
June	161	193	354	215	139	51,085	92,409	824,627
July	139	177	316	179	137	48,096	81,194	737,481
Aug.	137	212	349	220	129	45,243	76,801	804,744
Sept.	129	176	305	190	115	90,547	125,551	948,016
Oct.	115	196	311	183	128	50,167	108,475	821,969
Nov.	128	175	303	183	120	40,000	70,000	600,000
Dec.	120	155	275	165	110	35,000	60,000	550,000

engineer (1902-04), and after 1904 president and chief engineer of the Strauss Engineering Corporation, consulting engineers.

One of the foremost of his profession, Strauss built nearly 500 bridges in the United States, Canada, and abroad. He held some 20 patents on the trunnion-bascule bridge and several on "lift" bridges. The first of the former type was built for the Wheeling & Lake Erie R.R. at Cleveland in 1905; the latest and largest was one spanning the mouth of the Chicago River in the Outer Drive Viaduct opened in 1937. Perhaps the most noteworthy work with which he was connected was the Golden Gate Bridge at San Francisco, of which he was appointed chief engineer in 1929. However, he had long been an advocate of this bridge and his original design was first presented in 1919. It may well be called his monument, for without his promotional work it might never have been built. Other outstanding works with which he was associated as designer and engineer were: The Montreal-South Shore Bridge for the Montreal Harbour Commission; the Columbia River Bridge at Longview, Wash.; the Arlington Memorial Bridge at Washington, and the George Washington Bridge, New York.

A member of the leading engineering societies, he was a founder of the fraternity *Sigma Alpha Epsilon*, of the Citizen-Training Corps, and of the American Citizenship Foundation, which he served as president.

Curbs on Labor in the West. In California, Oregon, and Washington, voters were confronted by initiative measures whose purpose was the placing of definite limitations upon the right to strike. Undoubtedly arising out of the existence of rivalry between labor factions on the West coast with resulting turbulent industrial relations, but as much due to close and careful organization on the part of employer groups, measures were proposed for the imposition of definite limitations upon trade unions in the conduct of industrial disputes. In *California*, where the initiative measure was notably comprehensive, definitions were laid down for lawful and unlawful picketing, boycotting, and the display of banners. The initiative measure in this State prohibited seizure of private property, coercion, intimidation, obstruction, or interference with the use of highways and wharfs, use of abusive or misleading statements or threats of violence. While the proposed law recognized the right of workers to bargain collectively, it set up a system of civil damages and criminal punishments as well as injunctions.

In *Washington* the initiative measure provided for a secret ballot of employees to determine whether or not they wished to go on strike. Also, strikes could not be called until the lapse of 30 days after the refusal on the part of the employer of all offers of negotiation, mediation, or conciliation.

These two initiative measures were defeated by the electorates of California and Washington. On the other hand, the initiative statute in *Oregon* was

adopted by a vote of 197,771 to 148,460. The new Oregon law, which is the first of its kind to have been placed on the statute books of American jurisdictions, was therefore being closely scrutinized by labor and employer groups throughout the country. This law prohibited strikes and picketing except by a majority of a company's employees in a direct dispute over wages, hours, and working conditions. It limited the collection of money to the actual needs of the union and required a strict accounting of union funds. It forbade union intimidation and coercion of non-union workers and prevented union interference with any lawful commercial, manufacturing, or farming operations. According to spokesmen for organized labor, the act was calculated to "prevent collective bargaining and placed workers at the mercy of unscrupulous employers." It was also being contended that the act was vague and indefinite, making it impossible for labor unions to know when their conduct was legal or illegal. And finally, that it was arbitrarily discriminatory since it subjected labor unions to regulations not applied to employers' organizations.

Organized labor, in this case, by a joining of hands of the representatives of the A. F. of L. and the C.I.O., indicated its preparedness to fight the act on two fronts. In the first place, an appeal to the Oregon courts was to be taken on the grounds that the statute was in violation of the State and Federal constitutions and also conflicted with the Wagner National Labor Relations Act and the Norris-LaGuardia Anti-Injunction statute. In the second place, an action was begun against the law before the Social Security Board on the ground that the new act so affected the operation of the Oregon Unemployment Compensation Act as to deprive the State of the right to a tax credit under the Federal Social Security Act. Arguing that the limitations imposed upon organized labor in the State of Oregon militated against the free exercise of their constitutional rights, representatives of the A. F. of L. and the C.I.O., appearing before the Social Security Board in December, called for the refusal of the credit of 90 per cent of the State against the 3 per cent Federal tax on payrolls. By the close of the year no decision had yet been handed down by the Social Security Board. It would be interesting to ascertain, however, whether the Social Security Board would accept the argument of organized labor's spokesmen who sought to persuade a Federal administrative body to bring pressure to bear, through the withholding of tax remissions, for the purpose of causing the repeal of State legislation. Success of this plea would write into the body of American constitutional law a new kind of review, that by administrative boards.

French General Strike. On November 30, French workers, under the leadership of the C.G.T., engaged in a one-day general strike as a reply to the decree laws of the Daladier government whose purpose it was to revoke many of the social security benefits which workers had been granted under the Blum regime in June, 1936. The most significant of these decree laws was that which called for the scrapping of the 40-hour week. The Daladier government moved energetically for the purpose of preventing the success of the general stoppage, and impartial observers were agreed that, as a result of these governmental measures, the strike was in considerable measure a failure. A decree was promulgated requisitioning workers in the public services and placing persons engaged in them under virtual military law. This had the effect of preventing most of the railroad workers and

those engaged on municipal transportation and in the public utilities from going out. In the second place, troops were employed in many areas to prevent the downing of tools. The upshot was that only about 2½ million of the 5 million registered members of the C.G.T. obeyed the general strike order. The measures of the Daladier government were followed by sharp reprisals launched by French employers. Early reports indicated that close to a million workers had been dismissed from their jobs and from the government services, and many hundreds of leaders were placed under arrest and charged with "inciting to violence" and "rebellion." Scattered protest strikes broke out in many parts of the country in reply to these punitive measures. An effort of the maritime union to call a general walkout was met by the requisitioning of all steamships by the government. Nevertheless, Le Havre and other ports were tied up for several days. Within two weeks, however, peace in industrial relations once more had been re-established, due to the urging on the part of Premier Daladier that an end to lockouts and dismissals take place. Concessions also were made to the working populations in the promise of certain minor reforms in the decree laws.

See CALIFORNIA, IOWA, KENTUCKY, MICHIGAN, and OHIO.

STYRIA. See AUSTRIA.

SUBMARINE CANYONS. See GEOLOGY.

SUBWAYS. See RAPID TRANSIT.

SUCCESSION STATES. See **LITTLE ENTENTE.**

SUDAN. See **ANGLO-EGYPTIAN SUDAN;** **FRENCH WEST AFRICA.**

SUDETENLAND. See **CZECHO-SLOVAKIA** and **GERMANY** under *History*.

SUEZ CANAL. Statistics made available by the Suez Canal Co. showed that traffic through the Canal and receipts for the first six months of 1938 were considerably below the almost record levels during the corresponding period of 1937. Comparing the first six months of 1937 with 1938, vessels using the Canal (1937) numbered 3407 and (1938), 3094; net tonnage of vessels 18,546,462 and 17,170,422; merchandise passing through Canal (tons) 16,420,000 and 14,390,000; receipts from cargo, passengers, and miscellaneous sources, £5,705,400 and £4,834,700. With the exception of vessels under the Netherlands and French flags, decreases were recorded with the heaviest proportionate loss, 25.3 per cent, falling on Norwegian ships. British and Italian interests also sent fewer ships through the Canal, and tonnage under these two flags was considerably less than during the corresponding six months of 1937. The Board of the Suez Canal Co. decided on Sept. 5, 1938, that the transit tariff to be applied on and after December 15 shall be reduced to the following rates: Loaded ships 5s. 9d. sterling per Suez Canal net ton of 100 cu. ft.; ships in ballast 2s. 10½d. sterling per Suez Canal net ton of 100 cu. ft.; passengers 5s. 9d. sterling.

SUGAR. Estimates issued by Willett and Gray on Nov. 10, 1938, placed the world's cane-sugar production for the season of 1937-38 at 18,938,367 tons and the yields in short tons of the leading countries as follows: India 3,689,136 tons of gur, a low-grade product, and 1,104,000 tons of white sugar, Cuba 3,017,718 tons, Java 1,369,239 tons, Formosa and Japan 1,206,544 tons, Brazil 961,965 tons, Puerto Rico 961,720 tons, Philippine Islands 940,350 tons, Hawaii 900,000 tons, and Australia 800,000 tons. Unlike the beet-sugar season in temperate climates the cane-sugar season of the differ-

ent tropical and subtropical countries varies to such extent in length and in time of year that production is in progress somewhere in each of the 12 months.

The output of raw beet sugar for the season of 1938-39 as reported by 25 countries to the International Institute of Agriculture was approximately 12,133,026 short tons. The leading countries and their estimated yields in short tons were reported as follows: The Soviet Republics 3,000,000 tons, Germany 2,302,526 tons, France 1,000,000 tons, Czecho-Slovakia 720,000 tons, and Poland 630,700 tons. A preliminary estimate by the Department of Agriculture placed the 1938 beet-sugar outturn of the United States at 1,719,000 tons, compared with 1,363,300 tons in 1937.

The 1938 sugar-beet crop of the United States was placed at 11,292,000 short tons, exceeding by 262,000 tons the record crop of 1933. The area harvested in 1938 was 921,000 acres and the average yield per acre 12.1 tons. The yields of the leading States were reported as follows: California 1,993,000 tons, Colorado 1,984,000 tons, Nebraska 1,081,000 tons, Michigan 1,028,000 tons, and Idaho 1,019,000 tons. The 1938 sugar-cane crop of Louisiana and Florida, including cane for seed, was estimated at 6,237,000 tons and 839,000 tons, and was equivalent to 484,000 and 73,000 tons of sugar respectively. The molasses production from cane ground for sugar in these States was 40,386,000 gal. The 1938 sugar-cane sirup production reported by 8 states was 22,221,000 gal. and the sorgo sirup production reported by 16 states 11,467,000 gal. The yield of maple products reported by 10 states comprised 1,084,000 lb. of maple sugar and 2,777,000 gal. of maple sirup.

During the fiscal year ended June 30, 1938, the United States exported 58,000 short tons of refined sugar, 7,304,000 gal. of molasses, and 425,000 gal. of sirup, including maple sirup, and imported 2000 short tons of beet sugar, 1,071,000 short tons of cane sugar from the Philippines, 1,625,000 from Cuba, and 117,000 tons from other countries. Other imports included 2000 lb. of dextrose, lactose, and levulose, 71,000 lb. of maple sirup, 5,531,000 lb. of maple sugar, 10,390,000 gal. of edible molasses, and 217,307,000 gal. of molasses for other than human consumption.

SULFANILAMIDE. See MEDICINE AND SURGERY; TENNESSEE; VETERINARY MEDICINE.

SULFAPYRIDINE. See MEDICINE AND SURGERY.

SULPHUR. According to the U.S. Bureau of Mines, the production of sulphur in the United States in 1938 decreased to 2,393,408 long tons, or 13 per cent compared with the record output of 1937 of 2,741,970 tons. Shipments declined 34 per cent and amounted to 1,628,847 long tons, valued at about \$27,300,000 compared with 2,466,512 tons valued at about \$44,300,000 in 1937.

Production in Texas decreased from 2,392,680 long tons in 1937 to 2,060,845 tons in 1938, and shipments dropped from 2,030,315 tons in 1937 to 1,331,014 tons in 1938. In Louisiana, production declined from 342,230 long tons in 1937 to 328,405 tons in 1938, and shipments dropped from 429,602 tons in 1937 to 294,235 tons in 1938. The output of sulphur in California and Utah in 1938 was 4158 long tons compared with 7060 tons in 1937.

Imports of 51 long tons of sulphur ore, valued at \$562, were recorded by the U.S. Bureau of Foreign and Domestic Commerce in 1938. In 1937, 398 long tons, valued at \$4724 were imported. Chile supplied all sulphur ore received in the United States in 1938 and in 1937. Exports of

crude sulphur in 1938 totaled 575,957 long tons compared with 675,297 tons in 1937, a decrease of 15 per cent.

SUMATRA. See NETHERLANDS INDIES.

SUNDAY-SCHOOL UNION, AMERICAN. A nonsectarian society, organized in Philadelphia in 1817 to establish and maintain Sunday schools in the rural and mountain sections of the United States and to publish and circulate Christian literature. Its board of managers and missionary force are composed of men representing many of the Protestant denominations. For the year ending Feb. 28, 1938, the society maintained 3569 Union Sunday schools, with 156,384 teachers and scholars, and conducted 951 daily vacation Bible schools, with 25,741 in attendance. During the same period it established 195 young people's societies, conducted 42 young people's Bible Conferences, opened 74 preaching stations, organized 11 churches which were turned over to the various denominations chosen by their constituencies, and erected 8 church buildings. The officers were: President, E. Clarence Miller, LL.D.; vice-presidents, Robert L. Latimer and James F. Shrader; national secretary of missions, Elliott D. Parkhill, D.D.; editor of publications, Arthur M. Baker, Ph.D.; and treasurer, John H. Talley. The national office is at 1816 Chestnut Street, Philadelphia, Pa.

SUPERNOVAE. See ASTRONOMY.

SUPREME COURT. See UNITED STATES.

SURGEONS, AMERICAN COLLEGE OF. A college or guild (not a teaching institution) organized in 1913 by some 500 surgeons of North America to elevate the standard of surgery. Fellowships in the organization are granted on the basis of merit only, with reference to professional ability and moral and ethical fitness. In 1938 these numbered approximately 12,600.

The college's twenty-eighth annual congress was held in New York, Oct. 17-21, 1938, with an attendance of 3000 surgeons. The organization's official journal is *Surgery, Gynecology, and Obstetrics*.

The officers for 1938-39 were: President, Howard C. Naffziger, San Francisco; first vice-president, Vernon C. David, Chicago; second vice-president, Fraser B. Gurd, Montreal; treasurer, Dallas B. Phenister, Chicago; secretary, Frederic A. Besley, Waukegan, Ill.; Officers-elect; President, George P. Muller, Philadelphia; first vice-president, Henry W. Cave, New York; second vice-president, David E. Robertson, Toronto. The Board of Regents consisted of George Crile, Cleveland, chairman; Irvin Abell, Louisville, vice-chairman; G. A. B. Addy, Rotheray, N. B.; Arthur W. Allen, Boston; Donald C. Balfour, Rochester; Frederick A. Collier, Ann Arbor; William Darach, New York; John R. Fraser, Montreal; Harry S. Gradle, Chicago; John E. Jennings, Brooklyn; James Monroe Mason, Birmingham; George P. Muller, Philadelphia; Alexander R. Munroe, Edmonton; Howard C. Naffziger, San Francisco; Alton Ochsner, New Orleans, and Arthur M. Shipley, Baltimore.

Since the death of Dr. Franklin H. Martin, the directorship is invested in an Executive Committee, consisting of Dr. George Crile, chairman, and Drs. Irvin Abell, John R. Fraser, Harry S. Gradle, Donald C. Balfour, George P. Muller (ex officio), Howard C. Naffziger, Dr. Malcolm T. MacEachern and Dr. Bowman C. Crowell are associate directors and Dr. M. N. Newquist, Dr. Harold Earnheart, and Dr. E. W. Williamson are assistant

directors. Headquarters are at 40 East Erie St., Chicago, Ill.

SURGERY. See MEDICINE AND SURGERY.

SURINAM. *sōō'ri-nām'* (**NETHERLANDS GUIANA**). A colony of the Netherlands, in northern South America. Area, 54,291 square miles; population (Jan. 1, 1937), 169,471 including the Negroes and Indians in the interior. During 1936 there were 4536 births, 1916 deaths, and 386 marriages. The 122 public and private schools had a total of 32,130 pupils in 1936. Paramaribo, the capital, had 52,705 inhabitants.

Production and Trade. The chief products (1937 production figures in metric tons) are sugar (18,300), coffee (4000), rough rice (34,200), maize (1600), and bauxite (392,300). Bananas, cacao, rum, molasses, gold (14,242 oz. troy produced in 1936), and salt are other products. Livestock in the colony (1936): 20,439 cattle, 4204 goats, and 6937 swine. In 1937 (in old U.S. gold \$), imports were valued at \$2,500,000; exports, \$1,900,000. During 1936, 284 vessels aggregating 358,748 register tons cleared the ports.

Government. For 1938 local revenue was estimated at 3,719,000 guilders, the State subvention was 2,786,000 guilders; expenditure, 6,505,000 guilders. A governor heads the colony and he is aided by an advisory council of 5 members (the governor as president, a vice-president, and three others) all nominated by the Queen of the Netherlands. The representative body of the colony is the Colonial States which is made up of 13 members elected for 6 years. Governor, Prof. Dr. J. C. Kielstra (appointed Aug. 16, 1933).

SVALBARD. *sväl'bär*. An archipelago owned by Norway, comprising West Spitsbergen, North East Land, Prince Charles Foreland, Edge Island, Bear Island, and adjacent islands. Total area, 24,294 square miles; population (wintering force in 1936-37), approximately 2500. Capital, Longyearbyen. The mining of coal is the chief industry. In 1936, 784,000 metric tons of coal were produced and 707,117 metric tons were exported. The budget for the fiscal year 1936-37 was balanced at 156,000 kroner (krone averaged \$0.2497 for 1936; \$0.2484 for 1937).

SWARTHMORE COLLEGE. A nonsectarian coeducational institution for higher education in Swarthmore, Pa., founded in 1864 by the Society of Friends. The 1938-39 enrollment was 678. The teaching staff numbered 100. The total endowment was \$7,800,000, and the income for the year was \$746,000. The library contained 108,702 volumes. President, Frank Aydelotte, LL.D.

SWAZILAND. *swä'zê-lând*. A British protectorate in South Africa. Area, 6704 square miles; population (1936 census), 156,715, including 153,270 Bantu (natives), 2740 Europeans, and 705 colored (other than Bantu). Capital, Mbabane.

Production. The chief agricultural crops are maize, tobacco, groundnuts, cotton, and millet. In 1937 there were 403,000 cattle; 149,000 native sheep and goats (1935); and 2205 horses (1935). Large numbers of sheep are brought from the Transvaal each year for winter grazing. During 1937, 154 tons of tin (valued at £37,158) and 2410 fine oz. of gold (£16,783) were exported. Large deposits of coal exist in the low veld. Swaziland is considered as a part of the Union of South Africa for customs purposes, according to an agreement with the government of the Union, dated June 29, 1910, and receives a fixed percentage of the Union total each year. See MOZAMBIQUE under *History*.

Government. For the year ended Mar. 31, 1938,

ordinary revenue totaled £119,288; expenditure, £151,320. The government is administered by a resident commissioner under the British High Commissioner for South Africa. Resident Commissioner, Charles L. Bruton (appointed Nov. 2, 1937). See SOUTH AFRICA, UNION OF, under *History*.

SWEDEN. A constitutional monarchy of Scandinavia. Capital, Stockholm. Sovereign in 1938, Gustaf V, who succeeded to the throne Dec. 8, 1907.

Area and Population. Sweden has an area of 173,341 square miles (land area, 158,394) and a population of 6,284,722 (1937 census) as compared with 6,142,191 at the 1930 census. The urban population in 1937 was 2,237,362. Live births in 1937 numbered 89,942 (14.3 per 1000); deaths, 75,278 (12.0 per 1000); marriages, 54,442 (8.8 per 1000). Populations of the chief cities as of Dec. 31, 1937, were: Stockholm, 556,954; Göteborg, 269,581; Malmö, 147,796; Norrköping, 68,474; Helsingborg, 60,759.

Education and Religion. School attendance is compulsory and there is practically no illiteracy. Of 792,439 children of school age (7 to 14 years) in 1935, 697,410 were attending elementary schools. In the autumn of 1936, there were 36,362 students in government high schools and 12,181 in universities. The Lutheran Protestant Church, to which 6,124,490 persons adhered in 1930, is recognized as the state church. There were also 6653 Jews, 4763 Roman Catholics, 3981 Methodists, 805 Baptists, and 1499 others.

Production. About one-half of the working population is engaged in agriculture and the remainder chiefly in fishing, lumbering, manufacturing, and commerce. In 1936 there were 9,318,000 acres of arable land, 2,696,000 acres of meadows and pastures, and 54,962,000 acres of woods and forests. The value of all crops except sugar beets was estimated at 1,085,000,000 crowns for 1938, compared with 1,121,000,000 crowns in 1937. Yields of the chief cereals in 1938 were (in metric tons): Wheat, 821,100 (700,000 in 1937); barley, 259,000 (206,600); rye, 400,900 (412,800); oats, 1,424,200 (1,265,300). The harvest of other crops in 1937 was: Mixed grain, 554,000 metric tons; potatoes, 69,338,000 bu.; sugar beets, 2,077,000 metric tons; beet sugar (1937-38), 345,000 metric tons; sown hay, 5,491,000 metric tons; forage roots, 2,659,000 metric tons. The European Timber Exporters' Convention allocated Sweden a woodgoods export quota of 820,000 standards for 1937, 690,518 standards for 1938, and 656,000 standards for 1939.

The gross value of industrial production was estimated at 8,024,000,000 crowns in 1937 as compared with 4,331,000,000 in 1932 (low point of the depression), 5,677,000,000 in 1929 (pre-depression high), and 2,164,000,000 in 1913. The major industrial products in 1937 were: Iron ore, 14,953,000 metric tons; pig iron, 648,000 metric tons; steel ingots, 1,106,000 metric tons; coal, 460,465 metric tons; cement, 875,541 metric tons; rough lumber, 4,223,000 cu. meters; planed lumber, 1,937,000 cu. meters; wood pulp, 3,523,452 metric tons; cardboard and paper, 978,355 metric tons; flour-mill products, 651,070 metric tons; malt drinks, 2,709,000 hectoliters (hectoliter equals 26.42 U.S. gal.); tobacco products, 148,885,000 crowns; margarine and coconut butter, 61,751 metric tons; yarn, 53,890 tons; cloth, 43,015 tons; knit goods, 90,310,000 crowns; clothing, 236,359,000 crowns; matches, 20,464 metric tons; artificial fertilizers, 241,297

metric tons; mechanical workshop products, 888,-552,000 crowns.

Foreign Trade. According to preliminary figures, merchandise imports in 1938 were valued at 2,068,074,000 crowns and exports at 1,838,852,000 crowns, as compared with 2,123,356,000 and 2,000,-383,000, respectively, in 1937. The leading 1937 imports were iron and steel, coal, machinery, automobiles, fruits and nuts, coke, gasoline, raw cotton, green coffee, and chemicals. The principal exports in 1937 were wood pulp, other wood products, iron and steel, iron ore, and machinery. Of the 1937 imports, Germany supplied 20.3 per cent by value, United Kingdom 13.2; United States 14, Denmark and Norway 6.5. Of the exports, the United Kingdom took 22.5 per cent, Germany 15.4, United States 11, and Denmark and Norway 11. United States trade figures for 1938 showed general imports from Sweden of \$45,103,656 (\$58,654,567 in 1937) and exports to Sweden of \$64,230,813 (\$64,452,444 in 1937).

Finance. Budget estimates for the fiscal year ended June 30, 1939, placed total operating revenues at 1,294,700,000 crowns and expenditures at 1,294,-669,000 crowns. The surplus of 31,000 crowns was to be placed in the Budget Equalization Fund and loans of 233,625,000 crowns were to be raised for capital investments. The combined regular and supplementary budgets for the fiscal year 1937-38 showed an actual surplus of 93,510,000 crowns. On July 1, 1938, the Budget Equalization Fund, which replaced the cash reserve fund under the new cyclical budget system, stood at 118,735,026 crowns. The national debt was 2,508,000,000 crowns on Dec. 31, 1938, as compared with 2,341,950,000 crowns on Dec. 31, 1937. The foreign debt at the end of 1938 was estimated at about 90,000,000 crowns, or 4 per cent of the total debt. The average exchange value of the Swedish crown (krona) was \$0.2549 for 1937 and \$0.2520 for 1938.

Transportation. With 10,273 miles of line, the state and private railways in 1936 carried 76,338,-000 passengers and 39,134,000 metric tons of freight, gross receipts totaling 338,427,000 crowns. Highways and roads in 1937 extended 89,616 miles; the number of automobiles on Jan. 1, 1938, was 191,947. Civil aviation statistics for 1937 were: Miles flown, 1,545,126; passengers, 56,531; mail, 1,252,812 lb.; baggage and freight, 1,843,101 lb. The merchant marine on June 30, 1938, comprised 1246 vessels (of 100 tons or over) with an aggregate capacity of 1,575,701 gross tons. During 1937, 18,755,000 net registered tons of shipping entered Swedish ports with cargo in the international trade and 4,709,000 tons in ballast. Gross earnings of the Swedish merchant marine were estimated at 357,-360,000 crowns in 1937.

Government. The Constitution, adopted in 1809 and since then much modified, fixes the authority of the hereditary King and of the elected Diet, or Riksdag. The King has supreme executive and judicial authority, but exercises it only as the King in Council; that is to say, he must act through a council of ministers, who rely on the support of the Riksdag. The King shares the legislative power with the Riksdag; its acts require the Crown's assent, save that the imposition of taxes is vested in the Riksdag alone; the Crown may initiate legislation and commonly does so. The Riksdag consists of two chambers. The First Chamber has 150 members, who serve for eight years and are elected at the rate of one-eighth each year, by the vote of municipal and provincial councils, according to a system of districts. The Second

Chamber consists of 230 members, elected quadrennially (latest year, 1936); the elections are held according to constituencies, 28 in number, among which the representation is apportioned on the basis of population; the electors are all the males and females at least 23 years old and not excluded by statutory disability. Disagreement between the two chambers over certain sorts of financial legislation may be settled by the majority of individual votes of a joint session of the two chambers. In practice the Second Chamber has the predominant influence; its membership (1938) comprises 115 Social Democrats, 44 Conservatives, 36 Agrarians, 27 of the People's Party, and 8 who are unqualified Socialists or Communists. The Cabinet in 1938 was headed by Premier Per Albin Hansson, a Social Democrat, and includes both Social Democrats and Agrarians.

History. King Gustaf V reached the age of 80 years on June 16. The day was marked by a great popular celebration in Stockholm. A contribution amounting to \$1,000,000 in U.S. money was raised before the birthday among about a million Swedes and presented to the King as the nation's birthday gift. He turned it over to be used to check infantile paralysis and rheumatism. Later in June, Crown Prince Gustaf Adolf and his son Prince Bertil went to the United States to attend the tercentenary of the settlement of the Swedes in Delaware (see DELAWARE).

The country experienced some of the economic decline felt in many parts of the world in 1938. Efforts to maintain the Swedish position in foreign trade shared with questions of future national security the attention of the government. The convention concluded by Sweden and the other Oslo powers at The Hague in May, 1937, to promote the mutual reduction of trade barriers, expired June 30, 1938, after vain effort, in the face of adverse economics, to effect its extension (see DENMARK under *History*). The Co-operative Federation of Stockholm, through a subsidiary, obtained in November a contract to construct buildings for a university in Tehran and docks on the Shat-el-Arab in Iran, for which the Swedish firm was to receive Iranian products to the value of about 6,000,000 crowns according to the plan of barter that had become frequent in large international dealings.

Foreign Minister Sandler declared to the Riksdag in January that the sanctions decreed by the League of Nations had become inoperative; this declaration carried notice that one of the reliances of Swedish international relations had been lost. In particular, the failure of the League's restraining influence virtually stripped from the Åland Islands, between Sweden and Finland, at the mouth of the Gulf of Bothnia, the security that they had obtained as a neutralized area in 1921. Accordingly Sweden began in September a series of conferences with Finland, looking to an agreement of the two governments for the defense of these islands (see FINLAND under *History*).

In April Sweden took part at Oslo in a conference, with representatives of the Norwegian, Danish, and Finnish governments, to plan the four nations' co-operation in the event of a war in Europe; Foreign Minister Sandler advocated strengthening national defense as means for supporting the policy of neutrality, but he counseled against a military alliance as unavailing and even capable of bringing risks. In September, Sandler, in a speech at Gothenburg, condemned pressure brought on Swedish firms doing business in Ger-

many to cast out non-Aryan employees. To meet impudence with submission, he declared, was not the right method. Swedish firms adopted the practice of answering German questions on the racial status of their employees with the simple statement that these were Swedish.

Political and social action during 1938 included the enactment of a law requiring employers to give year-round workers a yearly vacation of 12 days (Sundays not counted) and proportionate vacations to those employed less than a year but at least six months; the law went into effect on June 2. The government submitted a special budget of expenditures to be made for the relief of the destitute in case, only, of increasing economic adversity in the fiscal year 1938-39. Local elections of members of councils were held in September; as these officials voted yearly to elect one-eighth of the membership of the Swedish First Chamber, the September vote had a national bearing; its partisan shift was toward greater liberalism. The number of Social Democrats in the councils rose by 150, to 866; that of Communists by 11, to 26; that of the People's Party by 9, to 163; the number of Agrarians diminished by 37, to 175; that of the Conservatives, by 105, to 287.

SWEDISH LITERATURE. See SCANDINAVIAN LITERATURE.

SWEDISH TRICENTENARY IN THE UNITED STATES. See DELAWARE; LUTHERAN CHURCH.

SWIMMING. See SPORTS.

SWITZERLAND. A federated republic of central Europe. Capital, Bern (Berne).

Area and Population. Switzerland has an area of 15,944 square miles and a population estimated on Jan. 1, 1938, at 4,183,000 (4,066,400 at the 1930 census). The urban population in 1937 was estimated at 1,760,000. Living births in 1937 numbered 62,480 (15 per 1000); deaths, 47,274 (11.3 per 1000); marriages, 30,394 (7.3 per 1000). Estimated populations of the chief cities at the end of 1937 were: Zurich, 321,000; Basel, 161,000; Geneva, 123,000; Bern, 121,000; Lausanne, 87,000; St. Gallen, 64,000; Winterthur, 57,000; Lucerne, 53,000. The 1930 census showed 2,924,313 German-speaking Swiss, 831,097 French-speaking, 242,034 Italian-speaking, and 44,158 Romansch-speaking.

Education and Religion. There is no illiteracy among persons over 10 years of age. Enrollment in the schools in 1935-36 was: Primary, 476,088; secondary and preparatory, 89,662; manual arts instruction, 29,208; university (1936-37), 10,523. According to the 1930 census, 57 per cent of the Swiss people were Protestants, 41 per cent Roman Catholics, and 0.4 per cent (17,973) Jews.

Production. About 45 per cent of the working population is engaged in industry, 21 per cent in agriculture, and 15 per cent in commerce. About 12 per cent of the total area is arable and there are some 4,161,000 acres of meadow and 2,372,000 acres of forests. The value of agricultural production in 1936 was 1,164,500,000 Swiss francs, derived as follows (in million francs): Cereal grains, 51.7; potatoes, 37.8; vineyards, 42.2; fruit culture, 67.4; vegetable culture, 64; cattle for slaughter, 209.4; horses, 20.8; swine, 158.2; poultry, 57.9; milk and milk products, 414.6; other agricultural products, 40.5. The 1938 cereal crop was as follows (in metric tons): Wheat, 165,900 (168,300 in 1937); barley, 8700 (8400); rye, 32,500 (32,900); oats, 24,600 (24,000). Livestock statistics for 1937 showed 1,638,000 cattle and 936,000 swine; in 1935 there were 139,000 horses, 175,000 sheep, 218,000 goats,

and 5,581,000 poultry. Dairy production in 1936 was: Fresh milk, 6,031,448,000 lb. (6,097,655,000 in 1937); butter, 59,524,000 lb.; cheese, 107,805,000 lb.; powdered and condensed milk, 13,228,000 lb.

The output of hydro-electric energy in 1936-37 was 6,855,000,000 kilowatt-hours. Other industrial production for the same year was: Beer, 56,270,000 gal.; watch cases, 654,000; conditioned silk, 783,000 lb.; manufactured gas, 256,700,000 cu. meters; salt, 80,950 metric tons. There were in 1937 about 21,000 textile looms and 1,098,000 cotton spindles. The hotel industry in 1937 had 3,508,000 patrons (3,019,000 in 1936).

Foreign Trade. Total imports in 1938 were valued at 1,606,900,000 Swiss francs and exports at 1,316,600,000 francs. In 1937 imports for consumption were 1,797,134,000 francs; exports of Swiss products, 1,283,826,000 francs. The chief 1937 import items were gold bullion (\$98,296,000, U.S. currency); iron and steel, textile piece goods; coal, coke, and briquets; wheat, chemicals and explosives, raw cotton, and fruits and nuts. Leading 1937 exports were (U.S. currency): Machinery, \$45,277,000; watches, \$32,970,000; cotton piece goods, \$22,516,000; coal-tar dyes, \$19,504,000; watch movements, \$14,058,000; aluminum and manufactures, \$13,203,000; medicines and perfumery, \$13,633,000. Of the 1937 imports, Germany supplied 22.3 per cent; France, 13.5; United States, 7.0; Italy, 6.5; United Kingdom, 6.1. Of the 1937 exports, Germany took 15.6 per cent, United Kingdom 11.2, France 10.8, United States 8.8, and Italy 7.9 per cent. United States imports from Switzerland in 1938 were \$23,035,698 (\$26,897,248 in 1937); exports to Switzerland, \$10,584,766 (\$9,622,389).

Finance. Budget estimates for 1939 balanced at 524,800,000 Swiss francs. Revised estimates for 1938 placed receipts at 522,300,000 francs and expenditures at 579,800,000, leaving a deficit of 57,500,000 francs. Actual general receipts for 1937 were 522,068,000 francs; expenditures, 537,008,000 francs (including 8,000,000 francs for railway rehabilitation and 32,499,400 francs contributed to the "railway fund"). The public debt on Dec. 31, 1937, amounted to 5,799,950,000 Swiss francs (general, 2,592,870,000; railway, 3,207,079,000). The average exchange value of the Swiss franc was \$0.2294 in 1937 and \$0.2287 in 1938.

Transportation. Excluding funiculars and cog-wheel railways, the Swiss railways in 1936 had 3251 miles of line and carried 145,456,000 passengers and 19,097,000 metric tons of freight, with gross receipts of 345,033,000 francs. The mileage of roads and highways in 1937 was 10,263; number of automobiles, Jan. 1, 1938, 73,200. Civil aviation statistics for 1938 (summer season, Mar. 27-Oct. 1) covering international and local services operating in Switzerland were: Route mileage, 6693; miles of flight, 1,603,403; revenue passengers, 53,987; mail, 991,551 lb.; excess baggage, 492,921 lb.; passenger-miles, 10,689,391.

Government. The Constitution, on which the Federal Government is founded, provides for a Federal Assembly, dealing with legislation; a Federal Council and, allied with it, a President, who form the executive branch; a Federal Court, the chief judicial body; and a direct popular vote, which extends to the use of the initiative and referendum. The Federal Assembly consists of two chambers; the one, known as the Council of States, has 44 members, of which each canton chooses two, elected for such a term as the canton may choose;

the other, called the National Council, has 187 members, elected quadrennially by popular vote of males and females not under 20 years of age (latest election, 1935). The Federal Assembly in joint session quadrennially elects the seven members of the Federal Council and annually chooses among this body's members a President and a Vice-President. Each of the seven members is the head of a ministerial department. Dr. Johannes Baumann was President in 1938; Philipp Etter, who was Vice-President in 1938, was elected President for 1939.

History. Switzerland, highly dependent on exportation to enable it to procure goods outside the range of its own natural resources, maintained until the middle of 1938 about the same level of business as for 1937, but there followed a period of moderate economic recession. Plans were made in December, by which the National Bank was to grant, out of its profits from the devaluation of the Swiss franc in 1936, a credit of 75,000,000 francs to the Federal Government and a like credit to the cantons, for meeting the cost of providing work for destitute persons.

Having at close range the current spectacle of German territorial expansion and being keenly aware of the activities of another contiguous nation, Italy, the Swiss authorities found it needful to give close attention both to maintaining the country's means of defense and to observing a punctilious neutrality, such as would not give neighboring powers the occasion for hostility to Switzerland. Former President Motta, now Minister of Foreign Affairs, sought, in the interest of more complete neutrality, to effect an alteration of the position of Switzerland in the League of Nations. He informed the League in May of this purpose but indicated that the government had no wish to constrain the League to take quarters elsewhere. The League adopted (May 14) a resolution exempting the Swiss Government from participation in any of the League's economic or other non-military sanctions. As Switzerland had entered the League exempt from the military sanctions, it now became completely exempt from measures that the League might take against any nation. German and Italian official notes welcomed the release that Switzerland had thus obtained and gave assurance that Swiss neutrality would be respected.

In spite of such assurance the Swiss Government continued to meet with trouble in maintaining its neutral position. Early in October it suspended for three months the publication of the *Journal des Nations*, a periodical appearing in Geneva and covering news about the League of Nations, this journal having published comment on the Munich conference containing terms deemed offensive to the German Nazi regime. On the other hand, repressive measures were taken on several occasions against organizations in Switzerland agitating for Fascist or Nazi ideas. Early in August the police had an encounter at Zurich with people engaged in an unlawful demonstration on behalf of a group known as the Fascist National Front; at the outset of November, President Baumann conferred with local chiefs of police on measures to be taken against groups then engaged in spreading Nazi ideas; and late in December the Federal Attorney-General was instructed to bring prosecutions in connection with two such groups, the Bund Treuer Eidgenossen and the Volksbund. In Germany the *Voelkischer Beobachter* published attacks, in the course of December, upon alleged undue latitude allowed in Switzerland to anti-German propaganda.

The year's alarms in neighboring countries caused the Swiss to strive to strengthen their defenses in many ways. Laws were passed providing 350,000,000 francs for additional forts and armaments, lowering to 18 years the age at which young men became liable to military service, and authorizing the Federal Council to accumulate stocks of goods needful in case of war or blockade, order increased agricultural production, and subsidize the development of natural resources and the output of manufactures; the Federal Council received powers to requisition the goods of individuals and to prevent profiteering. In July the importation and exportation of materials of war was limited to cases for which permits might be granted. Concrete bases were built during the summer, in the beds of roads from the frontiers, in which barriers of steel rails could be set. Bridges and tunnels near the frontiers were mined in September.

Jews escaping from Germany and Austria entered the country in great numbers; they were put under restrictions in order that they should not become permanent residents relying on public support or displacing Swiss workers. The Federal authorities sought the aid of the Intergovernmental Committee in order that the refugees might promptly be removed to other countries.

On July 3, Switzerland adopted by popular referendum a uniform Federal penal code replacing and doing away with the separate and diverse criminal laws of the individual cantons. Though the majority of the cantons, 12½, voted against the uniform code, only 9½ favoring it, the total of individual votes for the code, 357,784, exceeded the 310,108 cast against it; thus the more populous and urban cantons prevailed over the more numerous and economically less advanced members of the Federation. The penalty of death had been maintained in a few cantons; the vote of July 3 had the effect of abolishing it. Some of the cantons, principally Geneva, had lately adopted criminal laws against Communist and other non-democratic organizations; the adoption of the Federal code put these laws also out of existence.

SYRACUSE UNIVERSITY. A nonsectarian institution of higher learning for men and women in Syracuse, N. Y., founded in 1870. The 1938 autumn enrollment was 6601. The summer session had an attendance of 2473. The faculty numbered 673. The productive funds amounted to \$4,650,865, while the income for the year was \$3,740,171. The library contained 299,724 volumes. Chancellor, William Pratt Graham, Ph.D.

SYRIA AND LEBANON. A mandated territory of France situated between Turkey and Palestine on the east coast of the Mediterranean. Beyrouth (Beirut) is the administrative seat of the French High Commissioner.

Area and Population. The area and population of the Syrian Republic, its subdivisions, and the Republic of Lebanon are shown in the table on page 716, based on data in the *Statistical Year-Book of the League of Nations, 1937-38*. The mandated territory is subdivided politically in accordance with the agreements of 1936 and 1938 (see *Government and History*).

About 35,000 square miles of the total area is desert. The population is predominantly Arab and Arabic is the language most widely used, but there are considerable numbers of Turks, Kurds, Turkomans, Circassians, Armenians, Iranians, and Jews as well as a few Europeans. The 1935 populations of the chief cities were: Damascus, 193,912; Aleppo, 177,313; Beyrouth, 134,655; Homs, 52,792;

SYRIA AND LEBANON: AREA AND POPULATION

<i>Political Unit (Capital)</i>	<i>Area, sq. mi. ^a</i>	<i>Population ^b</i>
Republic of Syria (Damascus)	74,490	2,596,000
<i>Syria Proper (Damascus)</i>	67,550	1,940,000
<i>Latakia (Latakia)</i>	2,310	360,000
<i>Hatay Republic or Alexandretta (Antioch)</i>	1,930	228,000
<i>Djebel Druse (El Suweideh)</i>	2,700	68,200 ^c
Republic of Lebanon (Beyrouth) ..	3,470	862,600
Total	77,960	3,458,800

^a Approximate. ^b Estimates of December, 1937, for the Republic of Syria and its subdivisions; census of 1935 for Republic of Lebanon. ^c Excluding about 15,000 nomads who spend part of their time in Djebel Druse.

Hama, 39,960; Tripoli, 37,260; Antioch, 28,000; Latakia, 21,404; Zahlah, 20,985; Alexandretta, 13,997.

Education and Religion. Statistics for the entire mandated territory for 1936 showed 704 public schools, with 79,011 pupils, 1214 private schools with 104,092 pupils, and 589 foreign schools with 61,541 pupils. Of the 244,644 pupils in all schools, 134,407 were Christians, 89,623 Moslems, 10,376 Druses, 4612 Melkites, and 4535 Jews. The Syrian University at Damascus had 287 students in 1936, the French University at Beyrouth 559, and the American University at Beyrouth 444.

The religious distribution of the population was: Moslems, 1,514,755; Christians, 505,419; Alawites, 227,930; Druses, 86,125; Jews, 16,526; Ismailians, 14,772. The Lebanese Republic in 1935 had 342,388 Christians and 292,247 Moslems.

Production. Agriculture and livestock raising are the chief occupations. The area under cultivation in 1936 was 2,332,000 acres. Yields of the chief crops in 1937-38 were (in metric tons): Wheat, 468,400; barley, 246,600; corn, 26,700; rice, 3700; potatoes, 45,700; tobacco, 3400; cotton-seed, 12,100; sesamum, 4400; olive oil, 19,300; cotton, 5700; hemp (Syria only), 4800. The 1937 wool clip was 6800 metric tons; raw silk output, in 1936, 80 metric tons. The wine production in 1937-38 was 80,000 hectoliters (1 hectoliter equals 26.42 U.S. gals.). Grapes, figs, apricots, and citrus fruits are grown. The livestock statistics for Jan. 1, 1937, showed 2,195,175 sheep, 172,755 camels, 449,114 oxen, 1,722,893 goats, and 106,077 asses. Some iron and lignite are mined. The extent of other mineral resources is unknown. One section of the pipeline from the Kirkuk, Iraq, oil fields terminates at the port of Tripoli in Lebanon. There is little manufacturing; flour, refined petroleum, soap, and silk thread are the chief products.

Foreign Trade. Merchandise imports into Syria and Lebanon in 1937 were valued at 53,844,000 Syrian pounds (28,836,000 in 1936) and merchandise exports at 25,716,000 Syrian pounds (16,476,000 in 1936). (The Syrian pound equals 100 piastres or 20 French francs; average exchange value in 1936, \$1.32; 1937, \$0.81.) Textiles and animal and vegetable products are leading articles of trade. The chief sources of imports, in order of value in 1936, were France, Japan, Great Britain, Turkey, and the United States. Exports went mainly to Palestine, France, Iraq, and the United States, in the order named.

Finance. The State budget for 1937 showed receipts of 11,734,694 Syrian pounds (11,216,900 in 1936) and expenditures of 10,889,947 (11,189,607), while the common interest budget, to which customs receipts represent the major contribution, showed receipts of 10,638,700 Syrian pounds for 1937

(8,721,212 in 1936) and expenditures of 8,459,100 (7,486,001).

Transportation. The mandated territory in 1937 had 890 miles of railway lines; 6362 miles of highways, with 11,230 automobiles; three bus routes across the desert from Beyrouth to Baghdad; and an airline connecting Tripoli and Marseille. Direct railway connections between Aleppo and Baghdad via Mosul, Iraq, were opened in 1938. Beyrouth is the chief port, handling 2,294,298 of the 4,351,196 tons of shipping entering all ports in 1936. Extensions to the harbor works at Beyrouth costing about 45,000,000 francs were completed and officially inaugurated by the French High Commissioner on June 13, 1938. A new civil airport near Beyrouth also was opened in 1938.

Government. By the Constitution of May 14, 1930, the Syrian Republic achieved a virtually independent status, except that control of defense, foreign relations, and certain other functions was retained by France as the mandatory power. The Constitution provided for a legislature of 69 members elected for four years and a president elected by the legislature for five years. President in 1938, Mohammed Ali Abed. The Constitution of the Lebanese Republic, dated 1926, was similar to that of the Syrian Republic. It was suspended in May, 1932, but was restored Jan. 4, 1937. President in 1938, Emile Eddé, elected Jan. 20, 1936. Latakia and Djebel Druse, which are semi-autonomous districts of the Syrian Republic, were administered by French governors, assisted by partly nominated and partly elected councils. A French and colonial army of about 10,500 men was in occupation of the country.

Treaties of alliance signed by France with the Syrian Republic on Sept. 9, 1936, and with the Lebanese Republic on Nov. 13, 1936, provided for the establishment of Syria and Lebanon as independent, federated states under French protection after a three-year transition period, the termination of the League mandate, and the admission of both states as members of the League of Nations (see 1936 YEAR BOOK, pp. 721-722 for details). By the Franco-Turkish agreement of Jan. 26, 1937, which went into effect Nov. 29, 1937, the Sanjak of Alexandretta was to be demilitarized and given complete internal autonomy within the Syrian Republic, which was to control its customs and foreign relations. All internal governmental functions were to be exercised by a democratically elected assembly of 40 representatives of the various ethnical and religious groups, i.e., Turks, Arabs, Armenians, Greek Orthodox, Kurds, etc. Special safeguards were granted the Turkish minority through a High Commissioner to be named by the League Council. Turkish was made an official language of the sanjak and Turkey was authorized to lease part of the port area of Alexandretta (see 1937 YEAR BOOK, p. 712).

HISTORY

The Hatay Republic. As a result of Turkey's diplomatic intervention, backed by the threat of armed force, the Sanjak of Alexandretta in 1938 became a virtually independent state known as the Hatay Republic. It remained under the nominal jurisdiction of the Syrian Republic but was controlled by the Turkish minority and seemed destined for eventual incorporation in Turkey.

At the beginning of the year a commission appointed by the League of Nations to put the Franco-Turkish agreement of Jan. 26, 1937, into effect

was at work in the sanjak on preparations for the assembly elections, scheduled to be held not later than April 15. The French had apparently promised that the Turks in Alexandretta should have a majority of the 40 members of the assembly. The Turks, however, comprised less than half of the 228,000 inhabitants of the sanjak. It became evident that a bloc of Arabs, Alawites (heretical Moslems), Armenians, Kurds, and other groups would, under the arrangements made by the electoral commission, outvote the Turks and control the assembly, thus insuring Alexandretta's permanent connection with the Syrian Republic.

To prevent this, the Turkish Government in January secured the appointment of a committee of the League Council, containing a Turkish representative, to supervise the work of the electoral commission in Alexandretta. Nevertheless, the situation in the sanjak went from bad to worse as the electoral campaign developed. Turks and Arabs accused the League Commission of discrimination in preparing the election lists. They charged each other with importing voters and seeking by fraud and violence to secure control of the assembly. Mounting disorders led the electoral commission to postpone the election until July 15.

Early in June the Turkish Government demanded that France maintain order in the sanjak and fulfill its promise to permit Turkish control of the assembly. This demand, backed by some 30,000 Turkish troops concentrated on the Alexandretta-Turkish frontier, led France to proclaim martial law in Alexandretta on June 3. Meanwhile, Franco-Turkish negotiations for an understanding covering all their mutual problems had been under way at Paris and Ankara, in which the Turks pressed their demand for effective control of Alexandretta. These negotiations were supplemented by conferences between French and Turkish military authorities in Antioch beginning the middle of June. On June 22 Turkey notified the League of Nations that it no longer recognized the League's commission in Alexandretta. Receiving no support from France, the League commission was forced to withdraw from the sanjak on July 1.

Two days later (July 3) France and Turkey signed (1) a treaty of friendship and non-aggression, considered tantamount to a military alliance, (2) a declaration making the Sanjak of Alexandretta an autonomous state within the Syrian Republic under joint Franco-Turkish administration, and (3) a military agreement authorizing 2500 Turkish troops to enter the sanjak to assist an equal number of French troops and 1000 local troops to maintain order until the new autonomous regime was functioning normally. Ultimately both French and Turkish troops were to be withdrawn, leaving the 1000 local troops as the only armed force.

The Turkish troops marched into the sanjak on July 5 and simultaneously martial law was ended. The Turkish forces occupied all of the region north of a line touching Alexandretta, Antioch, and Rihanieh, while French troops remained in occupation of the territory south of the line. In accordance with Turkey's demand, the French formally agreed that the Turks in the sanjak were to dominate the autonomous government and the ensuing elections were so controlled as to return a Turkish majority to the assembly. The Turkish Government, on the other hand, declared that it had no territorial claim to the sanjak. However, the equivocal language of the Franco-Turkish agreements led observers to conclude that France had agreed to permit Turkish

annexation of the district at a later date when it could be done with less flagrant violation of France's obligations as mandatory of the League of Nations.

The Turkish-controlled assembly met at Alexandretta early in September. On September 3 it passed a resolution changing the name of the sanjak to the Hatay Republic. The statutes of the new republic, approved by the assembly September 8, made Antioch the capital and declared Hatay "a distinct republican state upheld by the Turkish majority and enjoying absolute independence in its internal affairs." Legislative power was vested in the National Assembly of 40 members elected for four years. The National Assembly elected the President of the republic for five years and the latter appointed an executive council responsible to the Assembly. Tayfour Seukmen, a Turk, was elected the first President. He immediately addressed a message to the Turkish National Assembly at Ankara describing "Kemalism" as the guiding principal of his government.

The Franco-Turkish agreements envisaged a complementary treaty between Turkey and the Syrian Republic covering such questions as boundary limits and customs. Negotiations were opened between Syrian and Turkish representatives in Ankara but broke down in the middle of July. The Syrians, deeply dissatisfied with the Franco-Turkish settlement in Alexandretta, attempted to secure a revision of that agreement. The proposals, including one for partition of the sanjak between Turkey and the Syrian Republic, were rejected by the Turks.

Other Developments. Meanwhile the governments of the Lebanese and Syrian Republics were having troubles of their own. The sporadic fighting between Moslems and Christians in the Jezireh district of northeastern Syria that broke out in 1937 continued in 1938. The Arab Christians demanded that Moslem officials appointed by Premier Djemil Mardam of the Syrian Republic be replaced by French officials. The Druses and Alawites also complained that their rights were being disregarded by the Moslem majority and the Alawite representatives withdrew from the Syrian Parliament. An abortive attempt to assassinate Premier Mardam on June 13 was attributed to Syrian Nationalists dissatisfied with the government's acquiescence in the Franco-Turkish bargain in Alexandretta. The same sentiment was believed to have inspired the resignation of the Syrian Cabinet on July 26, but President Mohammed Ali Abed requested Premier Mardam to form a new ministry.

A widespread conspiracy to overthrow the Lebanese Government and establish a dictatorship was reported frustrated by the Beyrouth police through the arrest of 20 ringleaders on May 15. Nor could the Syrian and Lebanese Governments come to terms regarding their projected customs union, designed to permit the continuance of their economic relations upon termination of the French mandate. The Arab-Jewish conflict in Palestine (q.v.) continued to disturb the Arabs in Syria, while economic conditions were adversely affected by the further devaluation of the French franc, to which Syrian currency was pegged.

Dissensions in the Lebanon Republic caused the formation of a new Cabinet under the Moslem Deputy Abdullah Yafi on November 1. Meanwhile the Foreign Affairs Committee of the French Senate had decided almost unanimously to oppose ratification of the 1936 treaties with the Syrian and Lebanese Republics. This led the Syrian Na-

tionalists late in 1938 to demand complete independence. The French Government at the year end was preparing to send a mission to Syria to negotiate another agreement that would leave Syrian defense and foreign affairs in French hands.

See FRANCE and TURKEY under *History*.

TACOMA, WASH. See BRIDGES.

TAHITI. See OCEANIA, FRENCH ESTABLISHMENTS IN.

TAIWAN. See FORMOSA.

TAJK SOVIET SOCIALIST REPUBLIC. One of the 11 constituent republics of the U.S.S.R., according to the constitution adopted Dec. 5, 1936. It includes the Gorno-Badakhshan Autonomous Province. Area, 55,040 square miles; population (1936), 1,500,000. Stalinabad, the capital, had 60,000 inhabitants in 1935.

Production, etc. The chief occupations are cattle-breeding, horticulture, and farming. In 1938 there were 895,622 acres of spring sowing, by collectives, of chief grain crops. Mineral products are zinc, lead, brown coal, sulphur, potassium salts, lapis lazuli, emery, corundum, mica, and asbestos. See UNION OF SOVIET SOCIALIST REPUBLICS.

TANGANYIKA (tāng'ān-yē'ka), **TERRITORY**. The former German East African area now administered by Great Britain under a mandate approved by the League of Nations. Area, 363,600 square miles; population (1937 estimate), 5,149,496 of whom 9128 were Europeans, as compared with (1931 census) 5,063,544 including 8217 Europeans. Chief seaports: Dar-es-Salaam, the capital (33,147 inhabitants), Tanga, Lindi, Mikindani, and Kilwa. Mwanza and Bukoba are ports on Lake Victoria, and Ujiji and Kigoma are ports on Lake Tanganyika.

Production and Trade. In 1938 the principal crops (with outputs in metric tons) were sisal (93,000), coffee (15,715), cotton lint (8350), groundnuts (10,500), copra (6460), sesame (4100), and beeswax (608). Other products are hides and skins, simsim, ghee, diamonds, gold, and timber (pencil cedar, yellow wood, mvule, ebony). Livestock in the territory (1937): 5,035,033 cattle, 1,645,633 sheep, and 5,814,506 goats. In 1937 (exclusive of bullion and specie) imports were valued at £3,924,095 (the chief items being machinery, cotton piece goods, foodstuffs, and motor vehicles); exports, £5,311,464 of which sisal accounted for £2,079,204; cotton, £603,594; gold, £526,277; coffee, £429,501; groundnuts, £257,807. During 1937, 567 ships aggregating 2,592,395 tons cleared the ports.

Government. For 1937 revenue totaled £2,345,004; expenditure, £2,173,922. The revenue for 1938 was estimated at £2,213,000. In the budget for 1939, revenue was estimated at £2,161,000 and expenditure at £2,275,000. Under an Order in Council of July 22, 1920, Tanganyika is administered by a governor who is aided by an executive council of 6 nominated members, and a legislative council of 23 members (13 official and 10 non-official nominated). Governor and Commander-in-Chief, Sir Mark A. Young (appointed, 1937).

TANGIER. An internationally administered seaport and surrounding territory in northwestern Africa adjoining Spanish Morocco near the Strait of Gibraltar. Area, about 225 square miles; population, about 60,000, including 36,500 native Moslems, 16,500 Europeans, and 7000 native Jews. The city of Tangier proper has about 45,000 inhabitants. Commerce, agriculture, fishing, and the manufacture of cigarettes are the principal occupations. Wheat, barley, and chickpeas are leading crops. Imports in 1937 were 80,084,240 French francs; ex-

ports, 8,247,103 francs. A railway links Tangier with Fez in French Morocco. Highways extend 65 miles. An air service connected Tangier with Toulouse, France, and with Casablanca and Rabat in Morocco. A total of 1980 ships of 3,470,947 tons' capacity entered the port of Tangier in 1935.

Tangier was permanently neutralized and demilitarized by the Convention of Dec. 18, 1923, as modified by the protocol of July 25, 1928. For local government there is an international assembly of 27 members, whose acts are subject to the veto of a Committee of Control composed of the French, British, Spanish, and Italian consuls in the city. The assembly delegates administrative responsibility to an administrator, with three assistants in charge of finances, health, justice, etc. Government revenues for 1937 were estimated at 19,927,500 francs (excluding subsidies); expenditures, 25,082,822 francs. Native affairs are in the hands of a Mendoub, representing the Sultan of Morocco. Administrator in 1938, M. Le Fur; Mendoub, Si Mehemed Et-Tazi.

TANNU TUVA, tān'nōō tōō-vā'. An independent republic, organized under Russian auspices and enjoying the protection of the Soviet Union. Situated in Central Asia, it lies between Siberia to the north and Outer Mongolia (of which it formerly was the northwestern corner) to the south. Its boundaries approximately touch the 90th eastern meridian on the west, the 100th on the east, and the 50th parallel on the south. Its area, about 64,000 square miles, is inhabited by possibly 70,000 natives and 12,000 Russians. The capital, called Kizilkhoto in the native tongue and Krasny in Russian, has 10,000 inhabitants, more or less. From this city down to Minussinsk in central Siberia the upper course of the Yenisei River is navigable by steamboat, and a Russian vessel serves the route. The indigenous population are pastoral; inhabitants from outside are interested in prospecting for minerals, mining for gold and asbestos, and trading. The constitution of 1924 is the basis of the government: the Great Huruldan, a body whose members are elected by general suffrage, meets once a year. It chooses a body of 30 members, the Little Huruldan, which in turn names the President and cabinet.

TARIFFS. See AUSTRALIA, CANADA, ECUADOR, GREAT BRITAIN, IRELAND, MEXICO, NEW ZEALAND under *History*.

TASMANIA. An island State of Australia. Area, 26,215 square miles; population, exclusive of full-blood aboriginals, 235,540 (Mar. 31, 1938, estimate), compared with 227,599 (1933 census). During 1937 there were 4841 births, 2225 deaths, and 2042 marriages. The principal cities are Hobart (capital) with 62,450 inhabitants, including suburbs, on Dec. 31, 1937; Launceston and suburbs, 32,820 (1937); Devonport, 5151 (1933).

Production. The chief agricultural products are wheat (551,000 bu. estimated in 1937-38), oats, peas, fruits, potatoes, hops, and hay. Livestock in the State (Dec. 31, 1936): 261,597 cattle, 30,971 horses, 40,021 pigs, and 2,233,655 sheep. The principal dairy products for 1936-37 were butter, 10,918,278 lb.; cheese, 2,994,227 lb.; bacon and ham, 2,132,464 lb. Wool (greasy) produced during 1937-38 was estimated to total 14,000,000 lb.

The estimated value of mineral production for 1937 was 1,955,551 Australian pounds, of which copper accounted for £A759,332; tin, £A260,673; coal, £A66,883; gold, £A176,130; silver and lead, £A308,262. In 1936-37, from the 946 factories, with 12,431 employees (including working proprietors),

the estimated net value of production was £A4,815,604 (Australian £ averaged \$3.9594 for 1936; \$3.9394 for 1937).

Government. For the year ended June 30, 1938, revenue totaled £A3,640,000; expenditure, £A3,633,000; public debt, £A25,841,000. The executive authority is vested in a governor, assisted by an executive council of responsible ministers who are also members of parliament. Parliament consists of a legislative council of 18 members elected for 6 years, and a house of assembly of 30 members elected by proportional representation for 3 years. Governor, Sir Ernest Clark (term: Aug. 5, 1933, to Aug. 5, 1938; extended to Aug. 5, 1940); Premier, A. G. Ogilvie. See AUSTRALIA.

TATAR AUTONOMOUS SOVIET SOCIALIST REPUBLIC. See RUSSIAN SOVIET FEDERATED SOCIALIST REPUBLIC.

TAXATION. The outstanding development of 1938 in the field of taxation was the virtual elimination of the Federal undistributed profits tax and a marked liberalization of the capital gains tax in the Revenue Act of 1938. As in the preceding year, no material increase occurred in the aggregate burden of Federal and State taxation. Agitation for a revision of certain taxes because they tended to discourage industrial expansion and new investment by individuals in private enterprise bore fruit, however, in the shape of the changes in Federal taxation mentioned, despite vigorous opposition from the Administration.

Federal Taxation. The Treasury Department made extensive studies of tax legislation during 1937, but when the new revenue measure was introduced a revolt developed and the changes made both in the House and the Senate departed in several basic particulars from the Administration's wishes. The President did not sign the bill as finally passed, so that it became law without his signature on May 26, 1938. In a public statement on the bill, the President specifically criticized the changes made in undistributed profits and capital gains taxation. He charged that the radical reductions in the undistributed profits tax encouraged tax evasion, while the changes in capital gains taxation were a step away from the progressive principle.

The Revenue Act of 1938 substituted, for the graduated corporate undistributed profits tax of 7 to 27 per cent imposed by the Revenue Act of 1936, a flat tax of 2½ per cent of retained net income. At the same time, the corporate normal tax was increased from 15 to 16½ per cent for corporations earning more than \$25,000. Those earning less than \$25,000 were to pay 12½ per cent on the first \$5000 of their net income, 14 per cent on the next \$15,000, and 16 per cent on the next \$5000, and were not made subject to undistributed profits taxation. An effort by the Administration to impose an additional 20 per cent tax on the income of closely held corporations, which were to constitute the so-called "third basket," was defeated in Congress. Even the 2½ per cent undistributed profits tax was imposed for the calendar years 1938 and 1939 only, so that unless Congress takes action on the subject again this tax will lapse.

The new system of taxation on capital gains and losses imposed by the Revenue Act of 1938 divided such gains and losses into two classes. Short-term gains and losses were those arising out of the sale of assets held 18 months or less, and short-term losses could be applied only against short-term gains. Such gains were to be included in income at 100 per cent, and no deduction was allowed for net short-term losses, although there was provision for

carrying over such short-term losses for one year. The gains or losses on assets held from 18 months to two years were included in income at 66½ per cent, and, if held more than two years, at 50 per cent. Net long-term losses might be deducted from other income up to the amount of these percentages. The tax payer was given the option of paying the flat rate of 30 per cent on net long-term capital gains, where the combined normal and surtax rates would be higher.

The new tax law also extended the time for payment of estate taxes from 8 to 10 years, permitted corporations to change their capital stock value for the purpose of the capital stock tax as of June 30, 1938, and each third year thereafter, and repealed a number of "nuisance" excise taxes, including those on tooth and mouth washes, dentifrices, tooth pastes, toilet soaps, furs, phonograph records, sporting goods, cameras, lenses, chewing gum, matches in books, brewers' wort and malt syrup, and crude petroleum. The tax on distilled spirits, except brandy, was increased from \$2 to \$2.25 per gallon.

The yield from Federal income taxes for the fiscal years ended June 30, 1937, and 1938, compared as follows:

INCOME TAXES IN FISCAL YEARS 1937 AND 1938

[In millions of dollars]

	1937	1938	Change
Current corporation	894.3	1,145.6	+251.3
Current individual	996.0	1,189.0	+193.0
Back taxes	258.3	251.6	- 6.7
Excess-profits tax	25.1	36.6	+ 11.5
Total income taxes	2,173.7	2,622.8	+449.1

State Taxation. Only minor changes were made in taxation by State legislatures during the year. Minnesota and Mississippi made small increases in their income-tax rates, and in New York net capital gains were made subject to half the rates imposed on other income. A few States made changes in their sales taxes, but no new imposts of this kind were imposed by State governments. In Louisiana a 1 per cent general sales and use tax was substituted for the former 2 per cent so-called luxury tax. The Supreme Court held the Indiana Gross Income Tax Act of 1933 unconstitutional because it included revenue from interstate as well as intrastate commerce, reversing the Indiana court on this issue. Similarly, the New York Court of Appeals limited the application of the New York City sales tax by holding that merchandise delivered in New York City from outside the State was exempt from this impost.

The chief change in municipal taxation was the imposition of a 2 per cent sales tax in Philadelphia on Feb. 24, 1938, over the veto of the mayor. This tax was subsequently upheld by the courts. In Seattle, the mayor vetoed a measure imposing a gross income tax upon all business enterprises in the city.

No new chain taxes were levied during the year by State governments, but changes were made in existing measures. Minnesota repealed the 1933 chain-store tax following an adverse court decision, and imposed instead a graduated tax on persons conducting chain stores and mail-order establishments. Wisconsin reduced rates in her chain-store tax law, and in Georgia the State Revenue Commission ruled that voluntary groups of grocery stores were, for tax purposes, to be considered as chain-stores.

Several States imposed additional liquor taxation during the year, Louisiana raising the rate on

intoxicating liquors, fortified and sparkling wines from 60¢ to \$1 a gal., while New York City increased the tax on the sale of alcoholic beverages from 2 to 3 per cent. New York City also imposed a specific tax of 1¢ a package on cigarettes in lieu of the tax on their sale. A number of Middle Western States imposed discriminatory legislation against imports of alcoholic beverages from other States, in some instances for reprisal purposes, and the Supreme Court upheld such restrictions on interstate commerce on the ground that the twenty-first amendment places sales of alcoholic beverages in each State absolutely under the jurisdiction of the State government, even though these beverages cross State lines and so enter interstate commerce.

See UNITED STATES under *Congress* and the various States.

TAXES. See AGRICULTURE; AUTOMOBILES.

TAXONOMY. See BOTANY.

TEACHER EDUCATION. See UNIVERSITIES AND COLLEGES.

TEGART'S WALL. See PALESTINE under *History*.

TELEGRAPHY. Although most commercial telegraph trunk circuits have been operated by printing telegraph methods for some years, Morse code operation has been adhered to generally on way-wires. (Way-wires are lines serving several small or intermediate stations too small to have private wires.) Arrangements for operating way-wires by printing telegraph were developed and reported in 1938 before the A.I.E.E. These included a polar simplex system, a neutral way-wire system, a code-calling bell arrangement, and a multistation customers' printing circuit that provides secrecy by preventing the connection of more than one customer's printer to the line at one time. The wide use of telephones for train dispatching and the increasing use of printers on commercial telegraph circuits have reduced the available supply of Morse code operators, making it desirable in many instances to substitute printer operations for code on way-wires. The conversion to printer operation on way-wire circuits has been retarded previously by lack of simple and reliable equipment suitable for operating such circuits, for calling individual way-stations, and for preventing one station from recording messages intended for another. See RADIO.

TELEPHONY. In the telephone field Pres. W. S. Gifford of the American Telephone and Telegraph Co. was elected president of the Telephone Pioneers of America for the year 1939. Dr. Frank B. Jewett, vice-president of the A.T.&T. and president of the Bell Telephone Laboratories, was awarded at the close of 1938 the John Fritz Gold Medal for 1939 for his "vision and leadership in science and for notable achievement in the furtherance of industrial research and development in communication." This award was made by a board composed of representatives of the American Society of Civil Engineers, the American Society of Mining and Metallurgical Engineers, the American Society of Mechanical Engineers, and the American Institute of Electrical Engineers.

Developments in telephone transmission lines and equipment continued through 1938. The year-end finds us able to hold 12 telephone conversations on a single pair of telephone cable wires, 16 telephone conversations on a single pair of open-line wires, and literally hundreds of separate telephone conversations on the new coaxial conductors previously announced. Refinements in what is known as the carrier-current system have brought this about.

The year of 1938 saw the operation of a fourth transcontinental (U.S.) communication line. It was completed late in 1937; the original was placed in service in 1915. For weather and other reasons the new route west of St. Louis lies through Oklahoma City, Albuquerque, and Flagstaff to Los Angeles. The initial 4 pairs of wires on this line add 16 telephone circuits to the transcontinental facilities and the line is so designed that 48 additional circuits may be obtained through the addition of equipment but without stringing additional wire. A large portion of this new route lies through sparsely settled areas and several of the "repeater stations" are unattended. At such stations windmill generating sets were installed to charge the storage batteries which supply current to the electronic amplifiers or repeaters. If the wind fails a gasoline-engine-driven generator will start automatically when the batteries reach a certain stage of depletion; should this equipment fail, another device automatically will sound an alarm at the nearest attended repeater station.

Telephone statistics published late in 1938 covering the year 1937 show some interesting points. Of the 37,098,084 telephones in service on Jan. 1, 1937, 49.69 per cent were in the United States alone, 53.78 per cent in North America; 2.06 per cent in South America; 36.43 per cent in Europe, 20.78 in Great Britain, Germany, and France alone; 4.56 per cent in Asia, 3.23 in Japan alone; 0.90 per cent in Africa; 1.52 per cent in Australia; 0.75 per cent in other island territories. About 93 per cent of the world's telephones can be reached from the average telephone in the United States. In number of telephones installed per 100 population, the United States leads with 14.39, then come Canada with 11.48, New Zealand with 11.25, Sweden with 10.97, Denmark with 10.89, and the four leading cities of the world are Washington 37.43, San Francisco 37, Stockholm 34.78, and Denver 30.96.

Extensions have been made in facilities providing radio telephone communication between ship and shore. By the close of 1938, 600 or more boats in harbor and coastal waters of the United States and several trans-Atlantic ships could be reached directly from any shore telephone, through one of the 12 ship-to-shore stations.

A new and direct radio telephone circuit to Australia was established from San Francisco during 1938, replacing the original route from New York via London. The new circuit is several thousand miles shorter and a consequent reduction has resulted in the charge for a call to or from Australia. Also, during the year, arrangements were made for direct communication circuits to Switzerland, Italy, and Germany, and, when necessary equipment has been installed, calls now handled from the United States through London to these countries may be handled directly. Further progress was made with the single-side-band radio telephone system introduced during 1937, enabling an additional telephone circuit to be obtained from each of two existing short-wave radio channels to London which previously provided but one circuit apiece.

A new single-channel carrier telephone system known as the "Type H" was announced early in 1938. Improved, and lower in cost, this new equipment enables the economical addition of one circuit at a time as required on open-wire telephone lines over shorter distances than heretofore were economical. A remote-control electric accounting system described before the American Institute of Electrical Engineers early in 1938 utilizes com-

munication circuits and certain other equipment in, for example, a department store to permit expeditious centralized accounting control. Sales, charge authorizations, inventory controls, etc., are served by the system, which in the experimental installation used 250 transmitters, 20 recorders, and 15 credit authorizing units to handle routine operations of a first-class department store at a peak rate of some 9000 transactions per hour, about half of which were charge transactions.

Repair of Storm and Flood Damage. The September hurricane which visited the northeastern states caused the greatest damage to telephone plant which the country has ever experienced and put out of service more than 500,000 telephones. The benefits of standardized equipments and methods were never realized on a greater scale in an emergency than in the restoration of service and rebuilding of the plant in the affected areas.

To assist the local forces, nearly 2500 telephone plant men and over 600 motor trucks and 200 trailers were sent by highway and rail into the stricken areas from states as far away as Nebraska and Virginia. To take care of the greatly increased number of calls, operators were sent from adjoining territories, in some cases by airplane. Telephone material employed for the restoration work included 22,000 poles, 27,000 crossarms, 3,500,000 feet of cable, 54,000,000 feet of drop wire, 275 kinds of hardware totaling 1000 tons, 1200 tons of copper and steel line wire.

TELEVISION. Again the question, "what about television?" So far as the general radio public is concerned, 1938 left television still "around the corner." Technical improvements, of course, have been many, and contributed by many different investigators. Test programs have been broadcast frequently in New York and elsewhere and so far as the technicians are concerned have helped to reveal what methods and equipment are relatively most satisfactory. Although working on different principles, new studio cameras developed both by Farnsworth and the RCA-NBC engineers facilitate studio pickup and have greater fidelity and sensitivity than earlier models. Several of the research groups have come to a mutual agreement on tentative standards of transmission which have been submitted to the FCC for approval. From a technical point of view the tentative transmission standards have established a definite objective toward which the development of innumerable details may be directed. Several new amplifier tubes of improved operating characteristics have been made available during the year. Fluorescent screens have been improved in brightness and in color contrast. The development of the coaxial cable by telephone engineers answered some television problems and brought up others now under investigation. Efforts to improve and reduce the cost of cathode-ray tubes are being pursued. For experimental purposes, expensive and elaborate portable studios and transmitting facilities have been installed in special trucks and buses to enable various outdoor scenes to be picked up and transmitted up to 25 miles to the parent station for rebroadcasting. In so far as the reproduced television picture is concerned, the present tentative standard of a 441-line picture is better than that produced by the average home movie projector. Demonstration receivers indicate that station selection may be simplified down to the push buttons that now characterize the modern broadcast receiver. Not the least of the problems to be answered before television becomes commercially common are the mat-

ters of organization and production cost of the necessary programs which, unlike routine broadcast, cannot be picked up from a phonograph record. The motion picture industry has indicated its interest in the matter of television programs.

Reduced to question form, six of the major problems confronting the budding television industry as discussed in November, 1938, at a joint meeting of the Institute of Radio Engineers and the Radio Manufacturer's Association at Rochester, N. Y., are:

1. What standard name shall be given to the picture tube in a television set, now variously known as picture tube, television tube, cathode-ray tube, kinescope?
2. What standard sizes shall be established for picture tubes to insure interchangeability? Both 5- and 9-in. tubes now are common and others may be introduced.
3. What shall be the standard size of the reproduced picture? For instance, a 9-in. tube might be expected to produce a 5- by 7-in. picture without the corners being cut off on the curved screen.
4. What can be done to secure the maximum simplicity in the operation of television sets? This involves a host of questions ranging from the psychology of the user to the matter of manufacture and subsequent technical servicing.
5. How or by whom shall the set be installed? Surveys must be conducted to determine in what areas the user of any television receiver may expect to pick up an acceptable reproduction. Technical servicing of high caliber would appear to be of even greater importance than with a good radio receiver.
6. What is a television receiver? Is it a set that will give also complete radio broadcast pickup or shall it be limited to the pickup of visual images—and what identifying terminology shall be adopted?

It seems certain that 1939 will see the beginning of television pickup in the American home, at least to a limited extent.

TEMPLE UNIVERSITY. A coeducational institution of higher learning in Philadelphia, Pa., founded in 1884. The 1938 autumn enrollment was 6420 in the three colleges of liberal arts, education, and commerce and 1985 in the eight professional schools of chiropody, dentistry, law, medicine, oral hygiene, pharmacy, theology, and nursing. The 1938 summer session had an attendance of 1420. There were 758 faculty members. The income for the year ending June 30, 1938, totaled \$2,152,116. The libraries of the University contained 150,000 volumes. President, Charles E. Beury, LL.D.

TENNESSEE. Area and Population. Area, 42,022 square miles; included (1930) water, 335 square miles. Population: Apr. 1, 1930 (census), 2,616,556; July 1, 1937 (Federal estimate), 2,893,000; 1920 (census), 2,337,885. Memphis (1930) had 253,143 inhabitants; Nashville, the capital, 153,866.

Agriculture. Acreage, production, and value of the chief crops of Tennessee, for 1938 and 1937, appear in the accompanying table.

Crop	Year	Acreage	Prod. Bu.	Value
Corn	1938	2,689,000	68,570,000	\$38,399,000
	1937	2,772,000	66,528,000	39,917,000
Cotton	1938	791,000	487,000	21,672,000
	1937	989,000	661,000	26,741,000
Hay (tame)	1938	1,660,000	1,850,000	14,800,000
	1937	1,603,000	1,597,000	17,407,000
Tobacco	1938	126,500	111,855,000	17,153,000
	1937	137,500	122,757,000	19,272,000
Wheat	1938	491,000	5,401,000	3,997,000
	1937	540,000	6,750,000	7,222,000
Sweet potatoes	1938	53,000	5,459,000	3,275,000
	1937	55,000	5,610,000	3,815,000
Potatoes	1938	39,000	3,120,000	2,184,000
	1937	39,000	3,081,000	2,311,000

• Bales. † Tons. ° Pounds.

Mineral Production. The value of the annual production of Tennessee's native minerals attained \$32,305,745 for 1936. Coal mining, the leading contributor to this total, yielded 5,292,000 net tons in

1937, as against 5,108,195 tons (value, \$9,460,000) for 1936. Producers' shipments of Portland cement, 3,013,817 bbl. for 1937, about equaled the total of 3,035,406 bbl. for 1936; in value they attained \$4,683,717 (1937) and \$4,741,701 (1936). The value of clay products for 1936 was \$3,047,299. The output of zinc (including that of Virginia) rose to 55,255 tons (value, \$7,183,150) of recoverable metal in ore, for 1937, from 44,916 tons for 1936. The production of phosphate rock, continuing its recent yearly increase, rose to 825,099 long tons for 1937, from 643,822 tons for 1936; by value, to \$3,343,108, from \$2,598,279. The expanding activity of the TVA in mining phosphate rock for the manufacture of fertilizers at Muscle Shoals brought about much of the rise. The yield of stone included (1937) marble for building, to the value of \$1,365,601. Of the 292,681 lb. of primary aluminum (value, \$55,609,000) produced in the Union in 1937, 31 per cent was made at Alcoa, Tenn. As this was simply a treatment of ores from elsewhere, the resulting value did not enter into the aggregate value of production of the minerals of the State.

Finance. Tennessee's State expenditures in the year ended June 30, 1937, as reported by the U.S. Bureau of the Census, were: For maintaining and operating governmental departments, \$33,799,376 (of which \$16,226,189 was for roads and \$4,745,335 was for local education); for interest on debt, \$4,729,759; for capital outlay, \$7,675,729. Revenues were \$49,085,375. Of these, property taxes furnished \$1,218,852; sales taxes, \$21,145,577; departmental earnings, \$4,050,697; sale of licenses, \$9,229,978; unemployment compensation, \$3,900,571; Federal or other grants-in-aid, \$6,812,787. Funded debt outstanding on June 30, 1937, totaled \$104,041,500. Net of sinking-fund assets, the debt was \$91,007,270. In these totals did not appear \$27,416,362 of county-reimbursement road bonds, served by apportionment to counties from the gasoline tax. On an assessed valuation of \$1,474,957,956 the State levied in the year ended June 30, 1938, ad-valorem taxes of \$1,179,966.

Education. Enrollments of pupils in Tennessee's public schools for the academic year 1937-38 numbered 637,920, which comprised 522,138 in the elementary group and 115,782 in high schools. There were 9682 enrollments in the State colleges. The year's current expenditure for public-school education totaled \$21,534,946. Public schools employed 20,093 teachers. Their monthly salaries, by groups, averaged: In elementary positions, \$76.69 in county and \$104.34 in city schools; in high-school positions, \$113.89 in county and \$141.18 in city schools.

An enactment of 1938 increased by about \$3,000,000 the State's aid toward paying the salaries of public-school teachers in Tennessee, supplying rural schools' libraries, furnishing transportation for pupils, and other matters. Regulations of the State Board of Education set definite standards to which rural elementary schools were required to conform.

Political and Other Events. Rulings of the U.S. Supreme Court early in the year (see UNITED STATES: *Judiciary*), defeating efforts of privately owned public utilities to check the PWA and the TVA, favored the plans of public electrification in Tennessee. The Federal Administration, however, to quiet Senate opposition to appropriations, declared that it would try to avoid competition with private purveyors of electric current by buying them out at fair prices. There followed in Tennessee a series of negotiations and accompanying moves

in which the Federal Government, the State administration, and municipalities took part. Previous action had been taken by Chattanooga to put the local service of the Tennessee Electric Light and Power Company out of business by revoking its franchise. The State Supreme Court halted this move by a decision (January 15) upholding the company's right to continue to use its easements in the streets. Governor Browning was reported to favor the joint purchase, by the TVA and the State, of companies that were to be bought out; Senator McKellar wanted the purchasing done by Federal money alone. Knoxville and the TVA signed (June 14) a contract to buy the Tennessee Public Service Company's property at Knoxville.

The State's system of deciding the nomination of certain officers by majority vote according to county units (the vote by counties, weighted to adjust difference in voting power) was overthrown by the State Supreme Court. Its decision, rendered early in the year, held the method unconstitutional because based in part on counties' population. While the invalidated law allowed a county a number of "county-unit" votes determined by its total vote in the last previous election, it limited such total votes to a number equal to a percentage of the population. This was said to work prejudice to Shelby County (including Memphis); this county, which had cast about 60,000 votes in the last general election, would have had the weight, under the law, only of a county casting 38,400 votes. The county-unit act had been passed at a special session of the Legislature in October, 1937. E. H. Crump, long-established leader of the local Democratic organization in Memphis, was generally accounted the prime mover of the relatively high vote of Memphis, and Browning was politically at odds with Crump.

The State established flying schools, under a State Director of Aviation, at five chief airports; the schools were open to all physically qualified citizens of the State over 16 years of age. A drug reported to be an elixir of sulfanilamide, marketed in a number of Southern States in 1937, was blamed for having contributed to about 70 deaths; Samuel E. Massengill, a manufacturer, was prosecuted in a Federal court at Greenville, Tenn., on charges of violation of the Pure Food and Drug Act with regard to this product, and was sentenced (October 3) to heavy fines.

Legislation. Governor Browning, soon after the invalidation of the county-unit voting law, related above, summoned a special legislative session. It enacted a measure, augmenting the State Registration Board's powers, which as was expected might destroy the Crump organization's control of elections in Memphis. A crime commission was created for inquiring into commercialized law-breaking in municipalities; it later obtained alleged evidence of bootlegging in Memphis.

Elections. At the general election (November 8) the normal Democratic majority elected Prentice Cooper for Governor, A. Tom Stewart for U.S. Senator, and seven of the State's nine U.S. Representatives, the other two being Republicans.

The State primary election (August 4) gave the Democratic nominations to the faction headed by E. H. Crump of Memphis, after a bitter pre-primary contest between this group and the followers of Governor Browning. Prentice Cooper won the nomination for Governor from Browning himself, and A. Tom Stewart, gaining the nomination for U.S. Senator, amplified the Crump faction's success, defeating George L. Berry, appointee Sen-

ator, who sought election, supported by Browning. While Memphis heaped up margins around 48,000 for the Crump candidates, the rest of the State's vote also ran somewhat against the chief figures of the Browning ticket. The campaign previous to the primary was marked by charges on either side that voters were being intimidated and votes purchased. The Senate's special committee for investigating the conduct of Senatorial campaigns heard such charges and issued a warning that the election ran risk of being questioned, whichever side won. Governor Browning prepared at the end of July to move troops of the National Guard into Memphis just before primary day, but a Federal injunction was obtained (August 1) to prevent his doing so.

Officers. Tennessee's chief officers, serving in 1938, were: Governor, Gordon Browning (Dem.); Treasurer, Grover Keaton; Comptroller, John Britton; Secretary of State, A. B. Broadbent; Attorney-General, Roy H. Beeler; Commissioner of Education, W. A. Bass.

Judiciary. Supreme Court: Chief Justice, Grafton Green; Associate Justices, A. W. Chambliss, Colin P. McKinney, William L. Cook, W. H. Swiggart.

TENNESSEE, UNIVERSITY OF. A State institution of higher education, nonsectarian, and co-educational, in Knoxville. The enrollment for 1938-39 was 4167. The total enrollment for the 1938 summer session was 2377. The faculty numbered 297. The endowment for the year was \$468,127 and the income amounted to \$2,348,000. The library contained 180,884 volumes. President, James D. Hoskins, LL.D.

TENNESSEE VALLEY AUTHORITY (TVA). See UNITED STATES under *Administration and Congress*; DAMS; ELECTRIC LIGHT AND POWER; MUNICIPAL OWNERSHIP; TENNESSEE; WATER POWER.

TENNIS. See SPORTS.

TERRORISM. See BULGARIA, CHINA, GERMANY, IRELAND, NORTHERN; PALESTINE, POLAND, RUMANIA, and UNION OF SOVIET SOCIALIST REPUBLICS under *History*.

TESCHEN. See CZECHO-SLOVAKIA and POLAND under *History*.

TEXAS. Area and Population. Area (1930, with later revision to include 45 square miles gained from Oklahoma in revision of boundary), 265,941 square miles; included (1930) water, 3498 square miles. Population: Apr. 1, 1930 (census), 5,824,715; July 1, 1937 (Federal estimate), 6,172,000; 1920 (census), 4,663,228. Houston had (1930) 292,352 inhabitants; Dallas, 260,475; San Antonio, 231,542; Fort Worth, 163,447; Austin, the capital, 53,120.

Agriculture. Acreage, production, and value of the chief crops of Texas, for 1938 and 1937, appear in the table in next column.

Mineral Production. As reported in the *Minerals Year Book* for 1938, the aggregate value of the annual production of native minerals in Texas, for 1936, was \$638,732,530; this was the highest total for any State of the Union for that year. Petroleum contributed over 70 per cent to the State's aggregate and natural gas most of the remainder. The yield of petroleum subsequently mounted to 510,732,000 bbl. for 1937, from 427,411,000 (value, \$449,400,000) for 1936. Discoveries of additional petroliferous areas continued in 1937. They occurred in many parts of the State; 13 new fields were added to the Gulf-coast district's list of more than 50 fields. The discovery of the foremost potential worth was thought by some to be

Crop	Year	Acreage	Prod. Bu.	Value
Cotton	1938	9,153,000	3,125,000 *	\$129,688,000
	1937	12,539,000	5,154,000 *	217,490,000
Corn	1938	4,728,000	75,648,000	33,285,000
	1937	4,503,000	72,048,000	46,831,000
Grain sorghums	1938	3,238,000	46,951,000	19,719,000
	1937	3,271,000	52,336,000	23,551,000
Wheat	1938	3,894,000	55,046,000	20,327,000
	1937	3,933,000	41,690,000	40,022,000
Oats	1938	1,420,000	36,920,000	9,230,000
	1937	1,268,000	30,432,000	12,173,000
Rice	1938	255,000	13,005,000	8,193,000
	1937	250,000	13,000,000	9,230,000
Hay (tame)	1938	1,036,000	1,012,000 ^b	7,185,000
	1937	885,000	831,000 ^b	7,230,000
Sweet potatoes	1938	58,000	4,350,000	3,262,000
	1937	52,000	3,744,000	3,519,000
Potatoes	1938	50,000	2,950,000	2,390,000
	1937	54,000	3,456,000	5,046,000
Peanuts	1938	297,000	133,650,000 ^c	3,876,000
	1937	229,000	100,760,000 ^c	3,023,000
Grapefruit ...	1938	.....	15,000,000 ^d	3,750,000
	1937	.....	11,800,000 ^d	4,602,000

* Bales. ^b Tons. ^c Pounds. ^d Boxes.

the presence of petroleum at depth in an area beneath the shallow petroleum of the old KMA field in North Texas. The East Texas district, foremost in production, increased its output by active development in 1937 but did not report conspicuous discoveries. The marketed production of natural gas rose to 860 billion cu. ft. for 1937, from 734,561 millions (value, \$113,929,000) for 1936. The figure for either year exceeded one-third of the yearly total for the whole Union. Pipe lines (1937) distributed 402 billion cu. ft. for fuel and light; 300 billion more went into the production of carbon black. Gasoline extracted from natural gas increased to 611,800,000 gal. for 1937, from 520,547,000 gal. (value, \$19,670,000) for 1936. Despite the abundance of natural gas and petroleum, coal was mined at a yearly rate exceeding 800,000 tons; it brought the mines somewhat less than \$1 a ton.

The production of sulphur, the leading non-fuel mineral, rose to 2,339,525 long tons (1937), from 1,630,719 tons (value, \$29,352,944) for 1936. The tonnage of Texas constituted (1937) all but about 400,000 tons of the production of sulphur in the United States. Producers' shipments of Portland cement attained, for 1937, 6,687,719 bbl. (value, \$11,488,866).

Finance. State expenditures in the year ended Aug. 31, 1937, as reported for Texas by the U.S. Bureau of the Census, were: For maintaining and operating governmental departments, \$110,675,438 (of which \$18,188,946 was for highways and \$36,246,450 was for local education); for interest on funded debt, \$1,106,101; for capital outlay, \$41,997,591. Revenues were \$177,220,355. Of these, property taxes furnished \$21,191,754; sales taxes, \$52,832,036 (chiefly tax on gasoline, \$40,551,797); departmental earnings, \$6,310,140; sale of licenses, \$17,798,311; unemployment compensation, \$14,258,506; Federal or other grants-in-aid, \$33,876,594. Funded debt outstanding on June 30, 1937, totaled \$29,390,700. Net of sinking-fund assets, the debt was \$26,648,564. On an assessed valuation of \$3,247,532,305 the State levied in the year ad valorem taxes of \$20,134,700.

Education. Texas kept up, through 1938, the increased apportionment of \$22 per capita of the school population adopted in 1937 for the public schools' support. A new curriculum for the public schools was issued in several volumes. The expenditures of the academic year 1937-38 for public-school education exceeded \$69,000,000, exclusive of some \$13,100,000 for capital outlay and service of

debt. They covered 5715 common-school districts and 1020 independent school districts. About \$41,000,000 of the money for the public schools' expenditure in the year came from the government of the State.

While the apportionment of \$22 per capita made by Texas toward the support of public schools greatly aided their operation, the *Journal* of the National Education Association reported that the grant had not made it possible to give as much as nine months of instruction in all cases.

Charities and Corrections. The State's administrative organization as it stood in 1938 provided support, care, and custody for persons through the Board of Control, the Texas Prison Commission, and the Unemployment Compensation Commission. These were independent units of government, but not of equal scope: The Unemployment Compensation Commission dealt only with the temporary aid for persons who had been thrown out of work; the Prison Commission governed the State's penal institutions and had the care of probation and parole; while the Board of Control, through divisions of its organization, carried on the State's work in poor-relief, administered the support granted to elderly indigents, needy children, and the dependent blind under the system of Social Security, and governed 22 State institutions in which there were, December 1, 20,480 inmates. More than three-fifths of this number were mental patients in the seven State hospitals at Abilene, Austin, Galveston, Rusk, San Antonio, Terrell, and Wichita Falls. An eighth member of the group, at Big Spring, was under construction. The Austin State School cared for 1547. Other institutions under the Board were State School Farm Colony, Austin; Colored Orphans' Home, Gilmer; Confederate Home (39 inmates), Austin; Confederate Women's Home (83), Austin; Deaf, Dumb, and Blind Institute for Colored Youths, Austin; Girls' Training School, Gainesville; Home for Dependent and Neglected Children, Waco; Juvenile Training School, Gatesville; Kerrville State Sanatorium; State Orphans' Home, Corsicana; State Tuberculosis Sanatorium, at Sanatorium; Texas School for the Blind, Austin; Texas School for the Deaf, Austin.

Political and Other Events. Matters of chief concern to Texas during 1938 included the leasing system, control of production, and organization of labor in the petroleum industry; issues with the Federal Government and with neighboring States over the control and distribution of the water of rivers; the prospects offered to the cotton-growers by the new Federal system for regulating agriculture; and the election of State officers and legislators. Governor Allred received (July 11) an appointment as Federal District Judge in the Southern Texas District. The State Supreme Court upheld the constitutionality of the law subjecting the chain stores to a special tax, which had been in litigation since January, 1936.

Land Commissioner McDonald's methods in the leasing of mineral rights in certain public lands to producers of petroleum were investigated early in the year by a committee of the State Senate. Governor Allred called on Attorney-General McCraw to start suits to cancel 10 of the leases of such lands that McDonald had made. The proceedings as to the McDonald leases brought into prominence a belief that the law giving a single officer wide discretionary power in the disposal of so much potential wealth should be changed. The land involved was chiefly submerged territory of the State along

the coast of the Gulf of Mexico, much of it rich in petroleum; this land, set aside by statute for the benefit of the permanent public-school fund, was under the sole administration of the Land Commissioner. The organization of employees in the petroleum industry made progress; the rig-builders in the Houston area were reported in May to have virtually all joined an organization. The dominant unions were connected with the C.I.O.; demands for agreements with employers were in prospect. Diminished demand necessitated a reduction of the output of petroleum in the State early in the year, in accordance with the State's policy of conservation; the Railroad Commission effected the reduction by ordering shutdowns on Sundays (January 22) and later, on Saturdays as well (May 14), which were maintained until July 1.

A flood of the (Texan) Colorado River late in July, following abnormally heavy rain, did severe damage to farms and crops along the river's lower course. The Buchanan Dam, a Federally built structure farther up the river, received the blame for the damage, the sufferers declaring that the release of water at the dam, from the lake above, had been wrongly timed so that it failed to lessen and even out the flood. Criticism fell partly on the Colorado River Authority, charged with having failed to attend properly to the management of the dam, and partly on the PWA, alleged to have subordinated flood-prevention to the generation of power in its choice of the site. Damage in the five flooded counties was about \$5,000,000. See DAMS. Fort Worth bargained for electric current from the Colorado River Authority, to light the streets and supply the city's institutions. It planned also a municipal system for distributing current from the same source to private consumers. A Federal appropriation for a dam on the Red River at Denison brought prospect of early Federal construction there.

The payment of unemployment compensation (temporary support to persons losing employment) began in January, out of a fund of about \$20,000,000 accumulated in accordance with the Federal Social Security Act. The necessary initial payments were relatively small, about \$60,000. The rate of unemployment in the State at the time was less than the average rate for the nation. In connection with the payments the State maintained an Employment Service. See CHILD LABOR.

The construction of the San Jacinto Monument was completed. This monument, 9 feet taller than the Washington Monument and similar in form, was built on the battlefield of San Jacinto to mark the centennial of Texan independence from Mexico; it cost somewhat over \$1,000,000, supplied in part by the State and in part by the Federal Government.

Elections. W. Lee O'Daniel (Dem.) was elected Governor at the general election (November 8); a Republican candidate, Alexander Boynton, also ran, and obtained about one seventh of the vote cast. The 21 Democratic nominees for U.S. Representatives, all incumbents save 3, were elected; only 7 had Republican opposition.

The decisive vote, as usual, was cast not in the general election but in the Democratic primary (July 23). O'Daniel easily won the nomination, against Ernest O. Thompson, Railroad Commissioner, and William McCraw, Attorney-General. Governor Allred, having been appointed to the Federal bench, was not a candidate. Labor's Non-Partisan League, the political arm of the C.I.O., manifested itself in the primary campaign by en-

dorsing Representative Maury Maverick for renomination and urging votes against Representatives Summers, Mansfield, Lanham, Dies, and West. Although the C.I.O. had gained a considerable membership among the employees in the petroleum industry, its efforts failed either to renominate Maverick, who was defeated, or to defeat the proscribed five, all of whom were renominated.

O'Daniel, without political experience, won his nomination for Governor at the primary by conducting a picturesque campaign on singular lines. Previously a flour salesman, personally known to people among whom he had traveled, he toured the State accompanied by a band that he had long employed to perform over the radio in connection with advertising for the goods that he sold. This band rendered "hillbilly" tunes, or "mountain music," at his stops, and O'Daniel made addresses of a moral and semi-religious sort, shunning definite political discussion. His political inexperience was manifested at the Democratic State convention, held at Beaumont, which ratified his nomination. Attempting to explain the significance of a plank on old-age pensions that he wanted in the party platform, he was virtually howled down by unimpressed political veterans whose hostility he did not know how to control.

Officers. The chief officers of the State of Texas, serving in 1938, were: Governor, James V. Allred; Lieutenant-Governor, Walter F. Woodul; Secretary of State, Edward Clark; Treasurer, Charley Lockhart; Comptroller, George H. Shepard; Attorney-General, William McCraw; Superintendent of Public Instruction, L. A. Woods.

Judiciary. Supreme Court: Chief Justice, C. M. Cureton; Associate Justices, Richard Critz, John H. Sharp.

TEXAS, UNIVERSITY OF. A State institution of higher education for men and women, founded in Austin in 1883. For the autumn of 1938 the enrollment at the main university totaled 10,103; that at the medical branch in Galveston was 493. There were 548 members on the faculty. The 1938 summer session had an attendance of 6077. The endowment resources (in part for the Agricultural and Mechanical College of Texas) amounted to more than \$36,000,000. The libraries contained 550,000 volumes. Acting President, John W. Calhoun.

TEXAS STATE COLLEGE FOR WOMEN. A college of liberal and technical arts in Denton, Tex., established in 1901 for the higher education of women by the Legislature of the State of Texas. The enrollment for the fall semester of 1938 includes 2695 students in the day session. There is no evening session. The enrollment for the summer session of 1938 was 1176. The faculty numbers 165. The library contains 73,000 volumes. Seven new buildings, erected at a cost of \$1,300,000, were completed during 1936-37. President, Louis Herman Hubbard, Ph.D., LL.D.

TEXAS TECHNOLOGICAL COLLEGE. A State coeducational institution at Lubbock, Tex., opened in 1925. The enrollment in the fall semester of 1938-39 was 3507 (agriculture, 473; engineering, 821; home economics, 422; arts and sciences, 1791). The 1938-39 enrollment, including both fall and spring semesters, was estimated at 3830. During the summer session of 1938 there were 1839 students enrolled. The teaching staff for 1938-39 numbered 173. The State appropriation for salaries and maintenance amounted to \$496,353 plus \$34,000 for the summer school. The income from student tuition was estimated at \$220,000, including summer school. The library contained 61,404 cata-

logued volumes and public documents. President, Clifford B. Jones.

TEXTILES. Textile mill activity in the United States reflected a sharp increase in operations in the latter part of 1938 as contrasted to the equally sharp decrease in the last months of 1937, according to a review by *Textile World*. For 1938, activity was 18 per cent below 1937.

Textile fiber consumption in the United States, according to the Textile Economics Bureau, Inc., New York, in 1938 for cotton was 2,904,400,000 lb., silk 54,500,000 lb., rayon 274,100,000 lb., and wool 284,400,000 lb. Monthly deliveries of raw silk to United States mills in 1938 averaged 34,300 bales, total for year 411,794, against 35,450 per month, total 425,299 for previous year. Silk consumption in 1938, 391,399 bales, and in 1937, 405,289. Total wool consumption (apparel and carpet) for 1938 was 284,400,000 lb., as against the total, for 1937, of 353,300,000 lb., which averaged a monthly 29,400,000. United States monthly cotton lint consumption 1938, averaged 491,948 bales, total for year 5,903,381; that in 1937, 618,166 and 7,417,991.

Exports of cotton and other textile fibers and manufactures thereof from the United States during 1938, as reported by the U.S. Bureau of Foreign and Domestic Commerce, were valued at \$322,965,000, a decline of about 31 per cent compared with the value of such exports in 1937 (\$437,292,000). Unmanufactured cotton represented 71 per cent of the value of exports of this group in 1938, against 79 per cent in 1937. Exports of raw cotton and linters declined in quantity from 6,023,695 bales in 1937 to 4,561,662 in 1938 and in value from \$368,660,000 to \$228,669,000. Shipments of other textile products, mainly manufactures, were valued at \$98,633,000 in 1937 and \$94,296,000 in 1938.

The United States imported (for consumption) textile fibers and manufactures thereof to the value of \$280,774,000 a drop of 41 per cent compared with the value of similar imports in 1937 (\$476,928,000). Textile raw materials (including waste and rags) accounted for a value of only \$153,942,000 in the 1938 total, against \$287,539,000 in 1937, or 55 per cent of the total value of the imports of the textile group in 1938, against 60 per cent in 1937.

The Wages and Hours Law, which became operative Oct. 24, 1938, may, in 1939, have an important effect on the textile industry. Late in 1938 were appointed committees as the Textile and Apparel Industry to consider wages and hours of workers. See CHEMISTRY, INDUSTRIAL.

THEATER. See DRAMA; FRENCH LITERATURE; GERMAN LITERATURE; LITERATURE, ENGLISH AND AMERICAN, ETC.

THEOSOPHICAL MOVEMENT, THE. The Theosophical Movement, aiming at the changing of the mind and the heart of the race, through the arousing of man's spiritual intuitions and the spread of the realization and the practice of universal brotherhood, promulgates Mme. H. P. Blavatsky's restatement of the once universal but long almost forgotten ancient Wisdom Religion. Its basic tenets are (1) the existence of a boundless omnipresent Divine Principle, incognizable by the finite mind; (2) the universality of the law of action and reaction under which manifestation periodically succeeds non-manifestation, as day follows night and rebirth follows death; and (3) the progress of every soul toward self-redemption by its own efforts, checked by the just results of every action, feeling, and thought.

During 1938 several prominent for years in the Theosophical Movement passed away, including

Judge N. D. Khandalewalla, one of the earliest of the Parsi group which gathered round Madame Blavatsky after her return to India in 1879, and Mrs. Alice Leighton Cleather, who was one of the inner circle of Madame Blavatsky's students in London until the latter's death in 1891 and who had since devoted years to the clearing of the misconceptions of her teachings which had been spread under the name of Theosophy. She was the author of several works in defense of her teacher, including *A Great Betrayal*; *H. P. Blavatsky: Her Life and Work for Humanity*; and *H. P. Blavatsky as I Knew Her*. Another widely known and devoted worker for genuine Theosophy for many years was the late Mr. T. L. Crombie, formerly connected with the Theosophical Society having its headquarters at Adyar, who was one of the original promoters of the United Lodge of Theosophists in London and in Bombay, where he died in November, 1938.

During the year appeared in Bombay two more pamphlets in the U.L.T. series of reprints, mostly from the largely inaccessible writings of the early days of the Movement, i.e. *Theosophy and Education* by H. P. Blavatsky and *Musings on the True Theosophist's Path* by W. Q. Judge.

During 1938 also the Theosophical Publishing House at Adyar brought out a volume entitled *Where Theosophy and Science Meet*, edited by Prof. D. D. Kanga. The philosophy presented, however, is more Neo-Theosophy than the Theosophy taught by Madame Blavatsky. Mrs. Beatrice Hastings, from her home in Worthing, Sussex, after bringing out her *Defence of Madame Blavatsky* in two volumes, has published five pamphlets devoted to the same subject, the title of the series being "New Universe—Try."

THEOSOPHICAL SOCIETY IN AMERICA. The American section of the Theosophical Society, a world-wide organization founded in New York in 1875 by Mme. Helena P. Blavatsky and Col. Henry S. Olcott. World Headquarters were later established by them at Adyar, India, near Madras. In 1937 branches existed in 49 nations, on 6 continents. The Theosophical Society in America had, in 1938, 153 local lodges. The president of the society was Sidney A. Cook. Headquarters are in Wheaton, Ill.

THIAMIN. See BIOLOGICAL CHEMISTRY.

THIRD INTERNATIONAL. See COMMUNISM.

THIRTY DOLLARS (\$30) EVERY THURSDAY. See CALIFORNIA; OLD-AGE PENSIONS.

THOMAS, NORMAN. See NEW JERSEY.

THROMBOCYTOPEN. See MEDICINE AND SURGERY.

THURINGIA. See GERMANY.

TIBET, tî-bět'; tîb'ět. A central Asian territory, nominally under the suzerainty of China. Area, 463,200 square miles; population, 2,000,000. Lhasa (capital) had about 50,000 inhabitants. Lamaism, a form of Buddhism, is the prevailing religion. Agriculture is the main industry. Gold, borax, and salt are the chief minerals produced. Tibet's first factory, built at Tapchi and operated by electricity produced by water power, makes copper coins, paper money, and army uniforms and equipment.

History. The unprecedented situation created by the death of the Dalai Lama in 1933 and of the Tashi or Panchen Lama in November, 1937, thus leaving the country without either of its traditional spiritual rulers, was further complicated in 1938 by the death of the Regent, who had ex-

cuted the Dalai Lama's policies previous to the latter's death and subsequently exercised the supreme power. The elimination of the last of the country's three key political and spiritual leaders precipitated a struggle among the landed gentry, the Young Tibetan party, the army, and the head lamas of three large monasteries near Lhasa for control of the government. An attempted revolt in the army was reported to have been crushed, but the political struggle apparently continued.

Meanwhile, bickering between supporters of the old Dalai Lama and the Tashi Lama continued (see 1937 YEAR BOOK, p. 722). A huge retinue of nearly 1000 lamas, retainers, and troops escorting the body of the Tashi Lama from Jyekundo in Western China, where he died in exile, to the traditional burying place at Tashi Lumpo in Tibet, was held up at Kantse on the Chinese-Tibetan border for many months after it arrived there in March, 1938. The partisans of the former Dalai Lama, who had remained in control after his death, were reported to have refused to permit Chinese troops escorting the Tashi Lama's body to enter Tibet.

The sympathy of the Tibetans for China in her struggle against Japan was expressed through the contribution to the Chinese army of 10,000 sheepskins, valued at 500,000 Chinese dollars, donated by monks, officials, and peasants of Tibet. A large Tibetan delegation arrived at Chungking, China, on November 27 to deliver the sheepskins to Gen. Chiang Kai-shek.

TICK FEVER AND CATTLE TICK ERADICATION. See VETERINARY MEDICINE.

TILNEY, FREDERICK. An American neurologist, died at Oyster Bay, L. I., N. Y., Aug. 7, 1938. Born in Brooklyn, N. Y., June 4, 1875, he was educated at Yale (A.B., 1897), and for a year worked as a reporter on the New York Sun. Deciding upon medicine as a career he entered the Long Island College Hospital (M.D., 1903), and during 1903-04 studied at the University of Berlin. Upon his return he lectured in embryology at the Long Island College Hospital, and in 1905 entered private practice.

In about 1908, Dr. Tilney became interested in the nervous system and in its diseases, and in the following year he became an instructor in anatomy at the College of Physicians and Surgeons at Columbia University, and also in this year reorganized the neurological department of Vanderbilt Clinic. After taking the degree of Ph.D. at Columbia in 1912, he was promoted to the post of professor of neurology and neuroanatomy at the College, which he held at his death.

In 1916 he became director of the Neurological Post-Graduate Medical School, and in 1919 senior attending neurologist at the Neurological Institute. Although Dr. Tilney suffered a severe stroke in 1925, he recovered and did some of his best work thereafter. In July, 1935, he was elected medical director of the Institute, and established a new department in conjunction with the College of Physicians and Surgeons which concerned itself with the psychology of the nervous system, both in the experimental and clinical fields, and merged the Institute with the Columbia-Presbyterian Medical Center. He became interested in the neurology of children in 1934 and became associate director in charge of the Institute's division of child neurology. In conjunction with this, he made a special study of juvenile delinquents using as the basis for this study the N. Y. State Training

School for Boys, of which he was head of the medical board.

A leader in research work for many years, he was head of the Matheson Survey of the Neurological Institute to study the cases of the socially maladjusted and of criminals; during 1929-30 he undertook a series of experiments in the hope of eliminating certain forms of insanity; and he made a series of experiments and brain measurements to establish the theory of evolution from the earliest known traces of mankind. Other studies were made of infantile paralysis, epilepsy, sleeping sickness, and the behavior of identical twins.

A research associate of the American Museum of Natural History and a member of the American Association for the Advancement of Science, Dr. Tilney's investigations and experiments in cerebral forms and activities were summed up in two scientific works: *The Brain from Ape to Man* (2 vols., 1928) and *The Master of Destiny* (1930), the second a popular rendering of the earlier work. Other of his publications were *A Study of the Hypophysis Cerebri* (1911), written as his doctorate thesis; *Morphology and Evolutionary Significance of the Pituitary Body*, with L. F. Warren (1919); *Epidemic Encephalitis*, with H. S. Howe (1920), and *The Form and Functions of the Central Nervous System*, with H. A. Riley (1920; 1923).

TIMOR, tē-mōr', PORTUGUESE. A Portuguese possession in the Malay Archipelago, comprising the eastern part of the island of Timor together with the territory of Ambeno and islands of Pulo Cambing and Pulo Jako. Total area, 7330 square miles; population (1936 estimate), 460,000. Capital, Dilli (or Dili). The chief exports are copra, coffee, sandalwood, sandal-root, and wax. There are 496 miles of roads. For 18 months ended Dec. 31, 1936, revenue totaled 2,240,560 patacas (pataca equals about \$0.48); expenditure, 1,930,082 patacas; public debt (Dec. 31, 1937), 25,983,127 escudos (escudo averaged \$0.0448 for 1937).

TIN. Consumers of tin in the United States are dependent largely upon the supply from Malaya, Netherlands Indies, Bolivia, and Siam. From the widespread sources of production violent price ranges were common in the United States and other countries, and to prevent this a buffer pool was established by an International Tin Committee, on June 20, 1938. Since the establishment of the pool, with a statistical office at The Hague, The Netherlands, prices have been under better control.

The following table shows tin production on ore basis, expressed in terms of recoverable metal, based on figures supplied by the American Bureau of Metal Statistics.

WORLD PRODUCTION OF TIN IN ORE

[Long tons of 2240 lb.]

Country	1938	Country	1938
Bolivia	25,371	Australia	3,150
Netherlands Indies ..	21,001	British India	4,760
Malaya	43,247	China	10,600
Indo-China	1,575	Japan	2,390
Nigeria	7,305	South Africa	593
Siam	13,616	Great Britain	1,930
Belgian Congo	7,316	Elsewhere *	5,110
Total			147,964

* Including Mexico, Argentina, Portugal, and others.

The total visible stocks averaged 28,500 tons during 1938, and were the highest since 1933. The total visible stocks at the end of 1938 was 29,494 tons, representing a consumption of approximately 11 weeks.

The largest use of tin is for tinplate, the world production of which in 1938 was estimated at over 2,900,000 tons against 4,259,000 tons in 1937. In the United States there was a decline to 1,380,000 tons from 2,420,000 of 1937, or a drop of 43 per cent. In the United Kingdom the decrease was 35 per cent to approximately 620,000 tons against 958,000 in 1937. In Germany tinplate production decreased by only 20,000 tons, whereas in France there was a slight increase.

Exports of tinplate and taggers' tin from the United States for 1938 totaled 352,087,248 lb. valued at \$18,588,841. United States tin imports in 1938 were 49,692 tons.

TIROL. See AUSTRIA.

TOBACCO. The tobacco crop in the United States in 1938 was estimated at 1,455,970,000 lb., 6 per cent below the 1937 crop of 1,552,601,000 lb., but still exceeding the 10-year (1927-36) average production of 1,325,243,000 lb. The harvested acreage totaled 1,626,700 acres compared with 1,735,000 in 1937, while the 1938 average acre yield was 895 lb., the same as in 1937. The cash income was estimated at \$294,063,000 for the 1938 crop versus \$318,305,000 for 1937. The price per pound received by farmers averaged 18.1¢ on Dec. 15, 1938, versus 20.6¢ a year before. Production by types was estimated for flue-cured, 788,060,000 lb.; fire-cured, 99,763,000; air-cured, light; Burley, 387,663,000, and Southern Maryland, 29,250,000; air-cured, dark, 37,863,000; and cigar types, 113,371,000, comprising filler, 46,912,000; binder, 57,429,000; and wrapper, 9,030,000 lb. The total production of cigar types includes the estimated 6,514,000 lb. lost in the September hurricane in the Connecticut River Valley. The decline in the production in 1938 compared with 1937 was contributed to by all classes of tobacco except Maryland and cigar types, being largely accounted for in a decrease of about 8 per cent in production of flue-cured, 13 per cent in fire-cured and 4 per cent in Burley tobacco. North Carolina led the producing States with 519,230,000 lb., and was followed by Kentucky with 339,550,000; Tennessee 111,855,000; Virginia 105,459,000; South Carolina 98,430,000; Georgia 91,820,000; Wisconsin 36,759,000; Pennsylvania 32,690,000; Maryland 29,250,000; Ohio 24,617,000; Florida 19,392,000; and Connecticut 16,726,000 lb.

The 1938 crops of tobacco in other important producing countries, according to official estimates, totaled for Turkey 134,908,000 lb.; Japan 144,602,000; Italy 90,961,000; Greece 84,943,000; Bulgaria 37,817,000; Poland 33,000,000; Germany 73,855,000; Hungary 43,854,000; Czecho-Slovakia 5,060,000; Chosen 57,869,000; Algeria 35,274,000; Canada 85,142,000 lb. including Ontario 74,000,000 lb. (mostly flue-cured); and flue-cured in northern Asia including China 81,000,000 lb.; Japan 66,832,000; Chosen 12,360,000; Manchuria 12,500,000; and Taiwan 3,527,000 lb. In 1937-38 Argentina produced 17,224,000 lb., Union of South Africa 23,500,000, Nyassaland 11,330,000, and Queensland 2,317,000 lb.

Collections from internal revenue taxes on tobacco in the United States for the fiscal year 1938 amounted to \$568,181,968, an increase of \$15,927,822 or 22.9 per cent over 1937, a record annual collection from this source. Receipts from taxes on small cigarettes amounted to \$493,432,960, which was 86.8 per cent of the total taxes collected on tobacco, and \$17,405,753 over 1937. Taxes collected on smoking and chewing tobacco fell to \$53,982,098 in 1938, from \$55,037,541 in 1937, decreased on large cigars to \$12,750,915, a loss of \$496,044; and

on snuff rose to \$6,678,854, a gain of \$19,345 compared with 1937. Most of the total tobacco receipts were collected in North Carolina, Virginia, Kentucky, New Jersey, Pennsylvania, California, and Ohio in the same order as in the previous year. The Commissioner of Internal Revenue reported that during 1937 there were manufactured 169,969,319,880 cigarettes weighing less than 3 lb. per 1000 compared with 158,893,958,304 in 1936. Exports of unmanufactured tobacco in the fiscal year 1937-38 totaled 459,545,000 lb. versus 416,884,000 in 1936-37 and totaled 434,796,331 lb., valued at \$134,521,209 in the calendar year 1937 and 489,074,065 lb., valued at \$155,670,580 in 1938.

Consult also *Tobacco Markets and Conditions Abroad* (weekly, ed. by A. H. Carroll, U.S. Department of Commerce); *The Farm Outlook for 1939*, *The Tobacco Situation*, and *Annual Report on Tobacco Statistics, 1937*, and processed publications entitled *Tobacco Production and Consumption in China*, *World Acreage and Production of Tobacco by Countries*, and *Income from Tobacco, 1909-1937* (all U.S. Dept. of Agriculture, 1938).

TOBAGO. See TRINIDAD AND TOBAGO.

TOGO, FRENCH. The part of the former German West African protectorate mandated to France by the League of Nations. Area, 21,893 square miles; population (1936), 737,056, including 450 Europeans. Lomé, the capital, had 14,389 inhabitants, including 283 Europeans, in 1936. The chief crops, with production in metric tons, included: Cacao, 10,198 (1936-37); cotton seed, 3500 (1935-36); groundnuts, 6000 (1936); coffee, 163,744 (1936). Exports of other leading crops, in metric tons, were: Copra, 3000 (1937 estimate); palm oil, 1700 (1937 estimate); palm kernels, 9700 (1936). Exports of ginned cotton totaled 1500 metric tons in 1935. In 1937 the estimated value of merchandise imports (in old U.S. gold dollars) was \$2,100,000 (1936, \$1,700,000); exports, \$2,000,000 (1936, \$1,600,000). There were about 65,000 cattle in 1936. In 1937 there were 3105 miles of roads suitable for automobile transportation, and 242 miles of railway line. In 1936, 378 vessels cleared the ports of Lomé and Aneho. The local budget for 1936 was balanced at 28,753,000 francs (franc averaged \$0.0611 for 1936). There was a railway budget of 6,235,000 francs. Government is administered by a commissioner aided by an economic and financial council.

TOGOLAND. The part of the former German protectorate of Togo, confirmed as a British mandate by the League of Nations, and attached to the British Gold Coast Colony for administrative purposes. Area, 13,041 square miles; population (1936 estimate), 349,179 including 54 non-Africans. Cacao, palm kernels, and coffee are the chief products. In 1937-38 it was estimated that 20,000 metric tons of cacao were produced. In 1936 imports were valued at £10,135; exports, £191,523. Cacao exports totaled 1142 tons, and coffee exports, 33 tons, for 1936. Revenue for 1937 totaled £28,935; expenditure, £90,438.

TOLEDO, UNIVERSITY OF THE CITY OF. A municipal, coeducational institution of higher learning in Toledo, O., founded in 1872. The enrollment for the autumn of 1938 totaled 2942, of whom 2028 were day-session students and 856 evening-session students. The faculty had 99 full-time and 34 part-time members. The 1938 summer session enrollment was 567. The value of grounds, buildings, and equipment was \$3,600,000 and the income for 1937-38 was \$388,744. The library contained 62,000 volumes. A men's dormitory, to house 76 students,

was being built and was to be ready for occupancy before September, 1939. President, Philip Curtis Nash, M.C.E., D.Eng.

TONGA (FRIENDLY) ISLANDS. A kingdom under British protection in the South Pacific, consisting of three main groups of islands called respectively Tongatabu, Haapai, and Vavau, together with the outlying islands of Niuafoou, Niuatobutabu, and Tafahi. Total area, 385 square miles; population (census of April, 1937), 32,861 including 1108 non-Tongans. In 1937 there were 1173 births, 479 deaths, and 295 marriages in the Tongan population. Capital, Nukualofa. The chief products are copra, bananas, citrus fruits, and native vegetables. Livestock in 1937 included 4866 horses, 2478 cattle, 3583 goats, 18,060 pigs, and 48,302 poultry. In 1937 imports were valued at £137,365; exports, £164,621 of which copra (12,288 tons) accounted for £158,133. For the fiscal year ended June 30, 1937, revenue totaled £73,471; expenditure, £55,938; public debt—nil; surplus funds, £168,008. Queen, Salote Tubou (succeeded Apr. 12, 1918).

TONKIN (TONGKING). See FRENCH INDO-CHINA.

TORNADO. See METEOROLOGY; SOUTH CAROLINA.

TORONTO, UNIVERSITY OF. An institution of higher education in Toronto, Ont., Canada, founded in 1827 and supported by the provincial government. The 1938 autumn enrollment was 7408. The faculty numbered 1029 members. The total expenditure for the year 1937-38 for salaries and maintenance was \$2,895,209. The library contained 352,155 volumes and 135,395 pamphlets. President, Henry John Cody, M.A., D.D., LL.D.

TRACK AND FIELD. See SPORTS.

TRADE AGREEMENTS, RECIPROCAL. See UNITED STATES under *Administration*; CANADA, CUBA, CZECHOSLOVAKIA, ECUADOR, and GREAT BRITAIN under *History*; PAN AMERICAN CONFERENCE.

TRAIL SMELTER CASE. See ARBITRATION, INTERNATIONAL.

TRANSATLANTIC AIRPLANE AND AIRSHIP SERVICE. See AERONAUTICS.

TRANSCAUCASIAN SOVIET FEDERATED SOCIALIST REPUBLIC. A former constituent republic of the U.S.S.R. In the new constitution of the U.S.S.R., adopted on Dec. 5, 1936, the T.S.F.S.R. was abolished and its three constituent republics became constituent republics of the U.S.S.R. See ARMENIAN SOVIET SOCIALIST REPUBLIC; AZERBAIJAN SOVIET SOCIALIST REPUBLIC; GEORGIAN SOVIET SOCIALIST REPUBLIC; UNION OF SOVIET SOCIALIST REPUBLICS.

TRANS-JORDAN. An Arab territory in Asia Minor, under mandate to Great Britain. Area, 34,740 square miles; population, estimated at 300,000 of whom 130,000 are settled, 120,000 are partly nomad, and 50,000 are nomads. Capital, Amman. In the 186 schools there were 11,094 pupils enrolled in 1935.

Production and Trade. A part of the country in the west is fertile and is suitable for agricultural pursuits and for livestock raising. The rest of the country consists of desert lands. Tobacco has been successfully grown and the production is larger than the requirements of the local factories. Phosphate deposits have been developed, and potash is found in the Dead Sea. Statistics of the complete external trade are not available. In 1936 commercial imports cleared for home consumption were valued at £P794,956; exports, £P227,996 of which

£P198,215 went to Palestine (£P equaled the £ sterling).

Government. For 1936-37 estimated revenue totaled £P420,340 and included grants-in-aid of £P142,790 from the Imperial government; estimated expenditure, £P465,462. The territory is part of the British Palestine Mandate, but certain clauses relating to the establishment of a national home for the Jews are excluded from operation within Trans-Jordan. There is a local Arab government under the Emir Abdullah Ibn Hussein, aided by an executive council, and a legislative council of 6 official and 16 elected members. The British High Commissioner for Palestine (Sir H. A. MacMichael) is High Commissioner for Trans-Jordan where he is represented by the British Resident (in 1938, Lt.-Col. Sir Henry Cox).

TRANSMUTATION. See PHYSICS.

TRANSVAAL. See SOUTH AFRICA, UNION OF.

TRAPSHOOTING. See SPORTS.

TREASURY, U.S. See UNITED STATES under Administration.

TREATIES. See BOLIVIA, BULGARIA, CANADA, MANCHOUKUO, CUBA, EGYPT, FRANCE, GERMANY, GREAT BRITAIN, IRELAND, ITALY, JAPAN, LITHUANIA, PANAMA, POLAND, PORTUGAL, RUMANIA, UNION OF SOVIET SOCIALIST REPUBLICS, and URUGUAY under *History*; UNITED STATES under Administration; INTERNATIONAL LAW.

TRENGGANU. See UNFEDERATED MALAY STATES.

TRINIDAD AND TOBAGO. A British colony near the north coast of South America, comprising the islands of Trinidad (1862 sq. mi.) and Tobago (116 sq. mi.), and adjacent islands. Total area, 1980 square miles; total population (Jan. 1, 1938, estimate), 456,043, compared with 412,783 (1931 census). During 1936 there were registered 14,625 births, 7230 deaths, and 2097 marriages. Chief towns: Port of Spain (Trinidad), the capital, 77,711 inhabitants; San Fernando, 15,858; Princetown, 5580; Arima, 5613; Scarborough (Tobago), 1371; Roxborough (Tobago), 1515. On Dec. 31, 1937, there were 293 elementary and intermediate schools, and 7 colleges for higher education.

Production and Trade. The principal products are petroleum, asphalt, cacao, citrus fruits, sugar, coconuts, coffee, timber, and fruits. There is a lake of asphalt near La Brea from which 90,872 long tons of asphalt were exported in 1937. The sugar crop for 1938 totaled 133,627 long tons (154,285 long tons in 1937). For 1938-39 the export sugar quota was set at 132,200 long tons. Grapefruit exports for the 1937-38 season totaled 73,000 boxes. Coal, iron, graphite, gypsum, and gold are found in small quantities. In 1937 imports were valued at \$35,815,514, the chief items being foodstuffs, machinery and metal manufactures, cotton goods, carriages and wagons, and wearing apparel; exports, \$31,530,673 including petroleum (\$18,896,422), cacao (\$3,086,995), sugar (\$6,115,294), and asphalt (\$1,194,914). The Trinidad dollar was valued at 4s. 2d.

Communications. In 1937 there were 118 miles of railway open to traffic, 2367 miles of roads, 117 miles of telegraph line, and 22,040 miles of telephone line. The new deep-water harbor at Port of Spain which has been under construction since 1935 was expected to be opened during June of 1939. During 1936 vessels totaling 2844 and aggregating 4,752,140 tons cleared the ports. Three wireless stations are maintained by the government.

Government. For 1937 revenue amounted to \$12,252,785 (\$12,560,314 in 1936); expenditure, \$10,365,848 (\$9,170,685 in 1936); public debt, \$20,013,312 (\$20,274,816 in 1936). Revised estimates for 1938 indicated revenue of \$13,166,369 and expenditure of \$12,635,887. Total revenue for 1939 was estimated at \$12,882,274 and total expenditure at \$12,492,118 including extraordinary expenditure of \$2,383,330. The government of the united colony is administered by a governor assisted by an executive council of which the governor is president. There is a legislative council consisting of the governor as president, 12 official, and 13 unofficial members (of the latter 7 are elected and 6 are nominated). Governor, Maj. Sir H. W. Young (appointed February, 1938).

History. The report of the Royal Commission on the Trinidad riots of 1937, made public during February, 1938, found that the riots were mainly due to delay in adjusting earnings to the rising cost of living, to agitation by an unruly element, and to a hesitant government policy. Among the large number of recommendations were those for the reorganization of the medical services, better control of housing by the government, improvement of general, agricultural, and industrial education, the furtherance of land settlement, establishment of a labor department, an industrial court to be set up, and the workmen's compensation ordinance to be amended.

During 1938 collective bargaining was introduced among various workers in the colony. The government proposed to introduce statutes for fixing wages in industries in which collective bargaining was not practicable. On Nov. 26, 1938, Governor Young's five-year plan, which contemplates the building of an airport, roads, workers' homes, and hospitals, was approved by the legislature of Trinidad and Tobago. See JAMAICA under *History*.

TRINITY COLLEGE. An institution for the higher education of men in Hartford, Conn., founded in 1823 as Washington College and changed to Trinity College in 1845. For the autumn term of 1938 the enrollment was 537. For the 1938 summer session the enrollment was 152. There were 60 members on the faculty. The endowment fund of the college was \$3,492,265 and the income totaled \$348,402. The library contained 130,000 volumes. President, Remsen B. Ogilby, Litt.D., LL.D.

TRIPOLITANIA. See LIBYA.

TRISTAN DA CUNHA, trīs-tān' dā kōon'yā. The chief of a group of islands in the South Atlantic (37° 6' S. and 12° 2' W.), owned by Great Britain. By Letters Patent, as from Jan. 12, 1938, the islands of Tristan da Cunha, Gough, Nightingale, and Inaccessible, in the South Atlantic, were made dependencies of the island of St. Helena. Area, 45 square miles; population (1937), 185. The original inhabitants were shipwrecked sailors, and soldiers who stayed behind when the garrison from St. Helena was withdrawn in 1817. Potatoes are the staple food. Fish are plentiful. Cattle, sheep, and geese are reared by the people. Resident Chaplain, in Tristan da Cunha, Rev. Harold Wilde.

TROTSKY, LEON. See COMMUNISM; UNION OF SOVIET SOCIALIST REPUBLICS under *History*.

TRUCIAL OMAN. See ARABIA.

TUAMOTU ISLANDS. See OCEANIA, FRENCH ESTABLISHMENTS IN.

TUBUAI ISLANDS. See OCEANIA, FRENCH ESTABLISHMENTS IN.

TUFTS COLLEGE. A nonsectarian institution for the higher education of men and women in Medford, Mass., founded in 1852. The registra-

tion for the autumn term of 1938 was 2147. There were 408 faculty members. The productive funds of the college amounted to \$7,634,771, and the income for the year was \$1,242,719. The library contained 183,000 volumes. President, Leonard Carmichael, Ph.D., Sc.D., LL.D., inducted Nov. 4, 1938.

TULANE UNIVERSITY OF LOUISIANA. An institution of higher education in New Orleans, founded in 1834. The total enrollment for the autumn of 1938 was 3890, of whom 671 were in the H. Sophie Newcomb College for Women. There were 872 students enrolled in the 1938 summer session. The faculty numbered 485. The productive funds for the fiscal year ending Aug. 31, 1938, amounted to \$10,664,447; the income for the year was \$1,223,748. Gifts and bequests to the value of \$395,520 were received. In the libraries there were 215,191 volumes. President, Rufus Carrollton Harris, A.B., LL.B., Juris.D., LL.D.

TUNISIA. A French protectorate in North Africa. Capital, Tunis. With an area of 48,332 square miles, Tunisia had a population of 2,608,313 at the 1936 census, including 2,335,623 Arabs and Bedouins, 59,485 native Jews, 108,068 French citizens, 94,289 Italians, and 7279 Maltese. The 1936 census populations of the chief towns were: Tunis, 219,578; Sfax, 43,333; Sousse, 28,465; Bizerte, 25,872; Kairouan, 22,991. Moslems comprise 89.5 per cent of the total population. The school attendance on Dec. 31, 1936, was 94,198.

Production. Agriculture, stock raising, fishing, and mining are the principal occupations. The cultivated area of about 7,249,914 acres produced the following crops in 1937: Wheat, 17,637,000 bu.; barley, 9,186,000 bu.; oats, 1,963,000 bu.; wine, 38,385,000 gal.; olive oil, 13,209,000 gal. The wool production in 1937 was about 9,921,000 lb. Livestock in 1936 included 539,000 cattle, 3,532,000 sheep, 1,910,000 goats, 119,000 horses, 245,000 mules and asses, and 166,000 camels. The 1937 mineral output was (in metric tons): Phosphate rock, 1,776,300; lead ore, 21,620; iron ore, 947,000; fluor-spar, 2000. The chief native industries are wool spinning and weaving, leather working, carpet and pottery making, etc.

Foreign Trade. General imports in 1937 were valued at \$52,972,000 (\$60,411,000 in 1936) and general exports at \$45,635,000 (\$51,378,000 in 1936). Cotton fabrics, machinery, metal manufactures, peanut oil, and refined sugar were the chief imports in order of value in 1937, and phosphate rock, wine, wheat, olive oil, pig lead, and iron ore were the principal exports. France in 1937 supplied 59.9 per cent of the general imports and purchased 57.3 per cent of the exports. Italy furnished 3.1 per cent of the imports and took 9.3 per cent of the exports.

Finance, etc. The budget for 1938 estimated receipts at 704,151,400 francs (611,319,700 in 1937) and expenditures at 704,061,680 (611,191,651). In 1936 there were 1316 miles of railway lines, which carried 10,447,378 passengers and 3,797,835 metric tons of slow freight. Roads extended 7492 miles in 1937; number of automobiles, 17,411. French and Italian air lines connect Tunis with Ajaccio (Corsica), Marseille, Cagliari, Palermo, Naples, and Rome. In 1936 a total of 7430 ships of 4,868,286 net tons entered Tunisian ports with 927,485 tons of cargo and 71,425 passengers.

Government. Tunisia is a regency under the control of the French Foreign Office, which acts through a Resident-General who is also Minister of Foreign Affairs for Tunisia. There is a ministry of 11 departments (8 French and 3 Tunisian). The

nominal ruler in 1938 was Sidi Ahmed Bey, who succeeded to the throne July 10, 1929. Eirik Labonne succeeded Armand Guillon as French Resident-General on Oct. 22, 1938.

History. The foremost occurrences of 1938 in Tunis had to do with efforts to undermine the power of the French protectorate. These efforts took two forms; some were in the guise of agitation among the Tunisian people on behalf of a Nationalist program similar to the nationalism proposed with much uniformity by agitators in other Moslem subject-lands; other efforts took the shape of pressure from Italy, upon French opinion, for the cession of rights in Tunisia to Italy.

On January 8, shortly after the arrest of a Nationalist agitator named Hassan Nouri, supposed Nationalist sympathizers started a violent popular outbreak in Bizerte. A fight with the authorities led to the death of six persons. This and other disorders, particularly a fatal riot (April 10) in Tunis, led to a decree of the Tunisian ministry, suppressing the Nationalist association on April 14, and to the application of martial law for a period terminating on August 12. To counteract what seemed like a carefully organized spreading of anti-French propaganda by radio, the French Government provided money in March for opening a broadcasting station in Tunisia. Over a hundred persons were arrested for Nationalist agitation or for rioting during the period of martial law, and the bureaus or meeting places of Nationalist locals were closed in several towns. The group that had caused the disorders did not resume activity during the year.

Moves on the part of the Italian government, more or less direct, were made in the effort to displace French influence. In connection with Franco-Italian negotiations in May on the subject of Spain, Italy brought up, as reported in Paris, a proposal that Italians settled in Tunis should have their own courts and schools. An outcry was raised (November 30) in the Italian parliament, for the annexation of Tunisia, Nice, and Corsica; it caused a widespread adverse reaction among Tunisians, which tended to overthrow any advantage that Italy could have derived from the Nationalist agitation. The Nationalist sentiment depended, naturally, on a desire among the native population for self-government, rather than on a wish to be governed by some other European nation. Thousands of persons paraded in Tunis (December 10) bearing derisive placards, such as "Italy for the Negus"; the Italian consulate was guarded from insult, but the white walls of an Italian school were pelted with bottles of red and of blue ink, and some Italian places of business were entered by mobs. Groups of Arabs in the Tunisian parliament made declarations that their people would help defend Tunisia against any Italian attack. See also FRANCE.

The concession, granted to a French company in 1894, for the operation of the three ports of Tunis (La Goulette, Sousse, and Sfax) was bought back in 1938 by the Tunisian government.

TUNNELS. With the holing through of the San Jacinto tunnel of the Colorado River Aqueduct (see AQUEDUCTS), the most remarkable tunneling project of the ages passes into history. The San Jacinto bore was the last and most difficult piece of tunnel work on this great project. Yet, after earlier difficulties with water and bad rock, new records for hard-rock tunneling were achieved in two successive months of the work. In four headings, an average of better than 72-ft.-per-day progress was made and 2237 ft. of main heading was

completed during May. This exceeded by 168 ft. the remarkable record which had been made in April.

Contracts have been let for the tunnel sections of the new Delaware Aqueduct for New York (see also **AQUEDUCTS**) which will be entirely a deep-pressure tunnel project. At the present time, therefore, this is the greatest tunnel project under construction. Its 83 miles of continuous tunnel will make it the longest continuous tunnel in the world, although it is exceeded by the total length of tunnels on the Colorado Aqueduct.

Another interesting land tunnel operation is that now being undertaken by the Pennsylvania Turnpike Commission. This Commission is building the 161-mile South Pennsylvania Toll Road through the mountains from Harrisburg to Pittsburgh—a \$60,000,000 project. They are using for the line the incomplete and abandoned work of a railroad which was started back in the great days of railroad strategy and warfare. A half century ago, the Vanderbilt interests went into the heart of Pennsylvania R.R. territory and spent \$4,500,000 in building a line to compete with the Pennsylvania and thus force it to withdraw its support from the West Shore which was competing with the New York Central. The old roadbed is to be widened to permit four 12-ft. highway lanes with a 10-ft. parting strip, though the road will, for the present, be confined to two lanes in the tunnel sections. The new highway will have the advantage of short length and low grade.

In the field of subaqueous tunneling, interest centers in the new Queens-Midtown tubes, joining 38th St. Manhattan with Long Island City, under the East River. These twin tubes are not only of great size (31 ft. diam.) but are being driven under probably the worst river conditions to be encountered in the New York area. The tunnels are in rock at both ends and the headings will meet in rock (the southern end of the rock ridge forming Blackwell's Island) at the center of the river. In between, however, the depth of cover is very small (requiring an exceptionally heavy clay blanket), the material encountered is normally porous with a high leakage of air, and, in addition, fills of stone and other difficult debris have to be penetrated.

On the Manhattan end the two shields were erected at the bottom of the ventilating shaft in February and March and were moved forward into the tunnel headings which had been excavated in solid rock. In April and May, respectively, the headings were bulkheaded and put under air pressure. A fire in the north heading in June required flooding and delayed progress for over a month, but the heading was recovered in August and, as the year closed, the north shield had been advanced 768 ft. and the south 875 ft. from the ventilating shaft. Air pressures up to 38-lb. per sq. in. have been used and the ground has been very difficult to handle because of broken rock fill, etc.

At the Queens end both shields had been erected by June and work was going forward using concrete saddles placed in a bottom heading in the rock extending over 1000 ft. west of the shaft, as guides. In this section the lower portion of the tunnel is in rock while the upper is in soft river material. A temporary air-tight deck in the shaft permitted shield driving under moderate pressure until the work had advanced far enough to allow the usual tunnel bulkheads to be erected. At the close of the year the north shield was 848 ft. west of the construction shaft and the south 856 ft. The

distance remaining to be tunneled between the two sets of shields was about 2249 ft., and the under-river contract was estimated to be about half completed. Excellent progress has also been made in the work of excavating the extremely long approaches to this tunnel.

The one tube of the Lincoln Tunnel under the Hudson at 38th St., New York to Weehawken, N. J., opened Dec. 22, 1937, showed an operating deficit of about a million dollars for the year. In the opinion of many engineers this project has not been economically justified and will show an operating deficit for many years to come. Fortunately the Holland Tunnel and the George Washington Bridge kept the total operations of the Port of New York Authority on the safe side of the ledger.

A PWA grant was made in December for a 3300-ft. highway tunnel between Mobile and Blakeley Island, Ala. It is proposed to construct this work by floating into position and sinking tunnel sections of about 250 ft. each in length—a plan which was successfully employed in such earlier notable works as the Oakland Estuary Tube.

TURBINES, STEAM. See **STEAM TURBINES**.

TURF. See **SPORTS**.

TURKEY. A republic comprising parts of Asia Minor and the Balkan Peninsula as well as Imbros, Tenedos, and the Rabbit Islands in the Aegean Sea. Capital, Ankara (Angora).

Area and Population. The area, excluding 452 square miles of marshes and 3256 square miles of lakes, is 294,492 square miles (13,012 in Europe and 281,480 in Asia). The population at the census of October, 1935, was 16,200,694 (13,648,270 at the 1927 census). In 1935, 2,686,581 persons (16.5 per cent of the total) resided in communities of 10,000 or more. Populations of the chief cities at the 1935 census were: Istanbul (Constantinople), 740,805 in the municipality and 245,982 in the city proper; Izmir (Smyrna), 170,546; Ankara (Angora), 123,699; Adana, 76,306; Bursa (Brusa), 72,270; Konya, 52,486; Gazi Antep (Aintab), 50,891; Eskisehir, 47,080; Kayseri (Kaisaria), 46,491; Edirne (Adrianople), 36,000; Sivas, 35,207; Diyarbakir, 34,874; Samsun, 33,839; Erzurum, 33,127; Urfa, 31,255; Manisa, 30,746.

Education and Religion. About 45 per cent of the adult population was reported (1934) to be able to read and write. Elementary education is obligatory for children from 7 to 16 years of age. The school enrollment in 1936-37 was: Primary, 814,407; secondary, 59,000; trade and commerce, 5000; colleges, 8950. In 1938 it was decided to add a fully equipped faculty of medicine, costing £T8,500,000, to the University of Ankara. According to the 1935 census there were in Turkey 15,838,673 Moslems, 125,046 Orthodox Church members, 78,730 Jews, 44,526 Gregorians, 32,155 Roman Catholics, 11,229 Armenians, 8486 Protestants, and 12,965 adherents of other religions. Mohammedanism ceased to be the state religion in 1928.

Production. Four-fifths of the population is supported by agriculture. There were in 1936, 19,504,000 acres of arable land and 21,785,000 acres of woods and forests. Yields of the chief cereals in 1938 were (in metric tons): Wheat, 4,366,100 (3,619,300 in 1937); barley, 2,584,700 (2,276,700); rye, 540,200 (337,200); oats, 337,500 (224,000); corn, 714,500 (541,100). Output of the other chief crops in 1937 was: Tobacco, 153,442,000 lb.; olive oil (1937-38), 7,925,000 gal.; raisins, 99,207,000 lb.; figs, 72,752,000 lb.; ginned cotton (1937-38), 121,253,000 lb.; wool, 22,046,000 lb.; mohair, 15,-

432,000 lb.; opium, 692,000 lb. The 1937 livestock census showed 6,551,000 cattle, 16,447,000 sheep, 12,465,000 goats (3,669,000 mohair goats), 651,000 buffaloes, 106,000 camels, and 2,018,000 horses, mules, and asses.

Production of the chief minerals in 1937 was (in metric tons): Coal, 2,306,859; lignite, 116,397; emery, 12,115; chrome ore, 198,460; boracite, 4664; antimony ore, 1254; mercury, about 55,000 lb. A five-year Industrialization Plan was launched in 1933 by the Turkish government. This provided for the construction of 19 plants to cost £T45,580,000; 10 of these plants were in operation at the end of 1937, and five others were under construction. A second five-year plan was started in 1938. It involved estimated expenditures of £T90,000,000 for development of mining, chemical, and food preservation industries, the erection of two large power plants, the expansion of the merchant marine, the construction of three new ports, improvement of the port of Istanbul, and other public works. Industries in operation in 1938 included flour mills, sugar refineries, cement plants, olive-oil presses and refineries, textile factories, paper and celluloid mills, canning factories, leather tanneries, etc.

Foreign Trade. The value of general imports in 1937 was £T114,379,000 (£T92,531,000 in 1936) and exports totaled £T137,984,000 (£117,733,000 in 1936). The leading imports in order of importance in 1937 were: Cotton piece goods, iron and steel, machinery, cotton and wool yarn, chemicals and medicines, hides and skins. The value of the chief exports was (in U.S. currency): Leaf tobacco, \$35,173,000; filberts, \$8,569,000; wheat, \$6,318,000; wool, \$5,249,000; raisins, \$4,761,000; oriental rugs, \$4,587,000. Germany supplied 42.1 per cent of the imports for consumption in 1937; United States, 15.1; United Kingdom, 6.2; Italy, 5.3. Of the 1937 exports, Germany took 36.5 per cent (51.0 in 1936); United States, 13.9; United Kingdom, 6.2; Italy, 5.3.

Finance. Estimated budget revenues for the fiscal year ending May 31, 1939, were £T250,049,000 (£T231,020,000 in 1937-38); estimated expenditures, £T249,954,000 (£T231,018,000 in 1937-38). Actual revenues in 1937-38 were £T262,780,000. The public debt as of May 31, 1938, was reported at £T533,613,687, an increase of £T24,989,771 for the year preceding. Devaluation of the French franc during that period caused a reduction of £T20,171,947 in the consolidated external debt. The total consolidated debt on May 31, 1938, was £T323,693,454; floating debt, £T209,920,233. The average exchange value of the Turkish pound was \$0.8036 in 1936, \$0.8013 in 1937.

Transportation. At the end of 1937, Turkish railways had 4312 miles of line, including 93 miles completed in 1937. The highway mileage on Dec. 31, 1937, was 25,657 of which 11,213 miles were surfaced. The Istanbul-Adrianople motor highway (155 miles) was completed in 1938. The number of automobiles in Turkey on Jan. 31, 1938, was 9504. An air line connected Ankara with Istanbul, Izmir, Adana, and other Turkish cities. The Turkish merchant marine on June 1, 1938, comprised 185 vessels of 220,636 gross tons capacity. During 1935 a total of 91,386 vessels of 23,102,312 tons entered Turkish ports.

Government. The basis of the government is a constitution, adopted in 1921, by act of the Grand National Assembly, and altered by a series of later acts of the same body. Under the constitution the executive and legislative powers rest in the Assem-

bly, which consists of a single house having 399 members; these are elected by popular vote, to serve a term of four years. Males and females who have attained the age of 23 years are entitled to vote. The basic law recognizes a single political party, the People's Party. Each Assembly is required to elect from among its members a chief executive of the government, the President, to whom passes the chief part of the Assembly's vested executive power. The President holds office through the four-year term of the Assembly. The Council of Ministers, assisting the President, is chosen by him. A law of 1937 incorporates into the constitution the principles of the People's Party: namely, nationalism, democracy, evolutionism, the separation of the state from religion, and state ownership of communications, mines, industrial establishments, and public utilities. In practice the President has exercised dictatorial powers.

HISTORY

Internal Developments. Kemal Ataturk (q.v.), President of the Turkish republic, died on Nov. 10, 1938, having held the Presidency for 15 years, or from the origin of the republic, which he, more than any other, had founded. Since throughout those years he had exerted a controlling voice in national matters, his death left the government without the guidance to which he had accustomed it.

Ismet Inonu, former military collaborator with Kemal and Premier under him, had given up the premiership late in 1937, apparently having lost the confidence of Kemal. Shortly before dying, however, Kemal (as was reported October 18) included Ismet among three from whom he recommended that the Assembly select his successor. The Assembly, required by the constitution to elect the successor on the day after a President's death, unanimously voted for Inonu, who took office immediately. He later was made leader, for life, of the People's Party.

The government undertook to control Turkish shipping in accordance with its system of conducting economic enterprises through great corporations. The corporation to be used for the control of maritime transportation was the Deniz Bank, allowed by the Assembly (Dec. 27, 1937) to exert exclusive management in maritime operation. In its direction of the country's economic policy the government started a plan to do away with the foreign experts employed in many industries and financial enterprises; in order to replace these foreigners with Turks, the government imposed a special tax on industrial establishments and insurance companies, to produce the means of paying for the education of Turks as experts in such posts.

The economic position of Turkey in 1938 was fair in respect of current operations but still far from intended goals with regard to improvement of the industrial development. The government still needed to obtain from other countries the material essential for setting up manufacturing establishments, extending the means of travel by railroad and highway, and furnishing the farmers with machinery and irrigation. For these things, it had to undertake to pay with the surplus of its exports over its imports. Hence the foreign trade of Turkey and its relations with other countries were closely connected with its internal economy.

Foreign Relations. The Turkish Government won the object for which it had carried on a long dispute with the French Government over the future status of the Sanjak of Alexandretta (see

SYRIA). The settlement provided for Turkey's sharing with France the military occupation of the area; it also provided an understanding that neither of the two powers should join in an attack on the other and that both should act in concert in case of a situation imperiling the territorial integrity of the sanjak. The treaty was to come into force after the contracting governments had exchanged ratifications and was to remain valid for 10 years.

Turkey's economic position, mentioned above, caused the government to seek to improve its commercial relations wherever it could, by obtaining the goods that it needed in trade for its exports, without binding itself to economic partnership with any single nation or group of nations. Thus, while Turkey was bound to Germany at the outset of 1938 by a trading bargain on which Germany still owed in goods not yet delivered a balance estimated at \$15,000,000, the Turkish Premier declared early in 1938 that no political system of foreign origin could be imported into Turkey and, particularly, gave assurance of the Turks' friendliness toward the Jews, against whom the German government was pursuing a severe policy.

About the same time Turkish agents started negotiations in London and obtained in May a British credit of about £16,000,000 for the purchase of British goods needed for Turkey's industrial development and means of defense, to be paid gradually from the proceeds of Turkish exports. In May Turkey ordered from German producers rolling stock for its railway system, to the value of about £T16,000,000; and in October the German Minister of Economy arranged a credit of Rm 150,000,000 to cover Turkish purchases from Germany; these were expected to consist chiefly of arms, material for military aviation, and equipment for electrical systems and chemical works.

Turkey thus found ready means of doing business both with dictatorial and with the democratic nations, and this despite an interruption of the exchangeability of the Turkish pound in the moneys of other lands. On May 11 the Turkish government suspended the payment of Turkish debts in foreign moneys. This step was said to have been occasioned by the sudden rise of an adverse trade balance with the United States, to a total of £T6,500,000, owing to a slump in American purchases of Turkish goods. A payment of \$407,302 due in New York on July 1 on account of the Turkish match monopoly was suspended, this being reportedly the first default of the existing Turkish Government in a matter of external public debt. Payments of sums due were offered in Turkish pound currency. The seasonal rise of Turkish exports in the latter half of 1938 produced a credit balance, so that Turkey resumed a restricted conversion of creditors' Turkish currency into other foreign money late in December.

In July Turkey and Yugoslavia negotiated an agreement for effecting the migration from Yugoslavia to Turkey of 150,000 inhabitants of Turkish stock; eight years were to be allowed for the process. For Turkey's active role in Balkan and European diplomacy during 1938, see BULGARIA, FRANCE, GERMANY, GREAT BRITAIN, GREECE, ITALY, RUMANIA and YUGOSLAVIA under *History*; BALKAN ENTENTE.

TURKMENISTAN SOVIET SOCIALIST REPUBLIC. One of the 11 constituent republics of the U.S.S.R., according to the new constitution, adopted Dec. 5, 1936. Area, 171,384 square miles; population (Jan. 1, 1933), 1,268,900. Ashkhabad, the capital, had 62,693 inhabitants. Other

important towns are Tashauz, Kerki, Leninsk, and Merv.

Production, etc. The chief products are cotton, wool, Astrakhan fur, ozokerite, sulphur, oil, common salt, and sulphates. In 1938 there were 162,032 acres of spring sowing, by collectives, of chief grain crops. There is an air line connecting Tashauz with Leninsk. See SOVIET CENTRAL ASIA; UNION OF SOVIET SOCIALIST REPUBLICS.

TURKS AND CAICOS ISLANDS. See JAMAICA.

TUSKEGEE INSTITUTE. An institution for the vocational training of colored young men and women at Tuskegee Institute, Ala., founded in 1881 by Booker T. Washington. The enrollment for the term beginning September, 1938, was 1645. Summer sessions, 751. There were 205 members on the faculty. The endowment for the year ending May 31, 1938, was \$7,012,675; the income was \$442,053. The library contained 44,679 volumes. President, Fred D. Patterson.

TUTUILA. See SAMOA under *American Samoa*.

UBANGI-SHARI. See FRENCH EQUATORIAL AFRICA.

UDMURT AUTONOMOUS SOVIET SOCIALIST REPUBLIC. See RUSSIAN SOVIET FEDERATED SOCIALIST REPUBLIC.

UGANDA (oo-gan'da or ū-gan'da) **PROTECTORATE.** A British East African protectorate. Area, 93,981 square miles; total population (Jan. 1, 1938), 3,711,494, composed of 3,692,127 natives, 17,256 Asiatics, and 211 Europeans. The chief towns are Entebbe (capital), Kampala, and Jinja.

Production and Trade. Cotton, the staple crop, is grown almost exclusively by native cultivators, the crop for 1937-38 being estimated at 417,000 bales (of 400 lb.). Other important products were coffee, sugar, groundnuts, simsim, tobacco, rubber, tea, tin, gold, hides and skins, and salt. Livestock (stock census of 1937): 2,609,146 cattle, 1,405,549 sheep, 2,541,077 goats. Uganda and Kenya form a single unit for customs purposes and trade between them is free. In 1937 imports (ex-ship Mombasa, Kenya) were valued at £3,555,754, the cost of freight through Kenya not being included; exports (f.o.b. Mombasa), including re-exports of £322,746, totaled £6,025,482 of which cotton (lint and seed) accounted for £4,661,366; coffee, £420,483; sugar, £123,516; gold £119,416. In addition to the external trade afore-mentioned there is an interchange of imported and locally produced goods among Uganda, Kenya, and Tanganyika.

Communications. There were, in 1937, 6838 miles of highway of all kinds, and 328 route miles of railway. Kampala is connected with most of the principal towns by motor omnibus service. Port Bell, Uganda, is a port of call on the air service operated thrice weekly in each direction between Southampton, England, and Durban, South Africa. Steamer services on lakes Victoria, Kioga, and Albert are maintained by the railways and harbors administration. See KENYA under *Communications*.

Government. For 1937 revenue amounted to £1,950,534; expenditure, £1,740,888; public debt, £2,235,600. Budget estimates: 1938, recurrent revenue was estimated at £1,739,979, and recurrent expenditure at £1,618,015; 1939, ordinary revenue, £1,694,000; recurrent expenditure £1,686,000. The government of the protectorate is administered by a governor who is aided by an executive council of 7 ex officio members, and a legislative council of

10 members (6 ex officio and 4 unofficial). Native kings and chiefs, including some with rights regulated by treaty, are encouraged in carrying out the government of their own subjects, and purely native matters are dealt with by native councils. Annual estimates are compiled for all native administrations and submitted to the governor for approval (in 1937, revenue, £461,524; expenditure, £449,732). Governor and Commander-in-Chief, Sir Philip E. Mitchell (appointed October, 1935).

UKRAINIAN SOVIET SOCIALIST REPUBLIC. One of the 11 constituent republics of the U.S.S.R., according to the constitution adopted Dec. 5, 1936. It includes the provinces of Chernigov, Dnepropetrovsk, Donetsk, Kharkov, Kiev, Odessa, and Vinnitsa, and the Moldavian Autonomous Soviet Socialist Republic. Area, 170,998 square miles; population (Jan. 1, 1933), 31,901,400, of whom 80 per cent were Ukrainians, 9.2 per cent were Russians, 5.4 per cent were Jews, and 5.4 per cent were of other origins. Chief towns (with 1933 populations): Kiev (capital), 538,600 (625,000, Jan. 1, 1936); Kharkov, 654,300; Odessa, 497,000; Dnepropetrovsk, 379,200.

Production, etc. The Ukraine is the most important grain-producing area in the Soviet Union. In 1938 there were 17,166,006 acres of spring sowing, by collectives, of chief grain crops. The chief agricultural products are wheat, cotton, sugar beet, and flax. Livestock (1936) was: 2,793,400 horses, 7,689,700 cattle, 7,100,700 pigs, 3,573,500 sheep and goats. The most important industries are metal, coal mining, sugar, and flour milling. Mineral production in 1936 was: Coal, 68,000,000 tons; pig iron, 8,862,000 tons; steel, 7,995,000 tons; rolled metal, 5,843,000 tons. The value of state industrial production in 1936 was equal to 15,000 million rubles (ruble was worth \$0.20 in the U.S.S.R. during 1936). The total length of the railways was over 7000 miles, and the navigable rivers extended 1782 miles. See **UNION OF SOVIET SOCIALIST REPUBLICS**. For the Ukrainian nationalist movement, see **CZECHO-SLOVAKIA**, **GERMANY**, and **POLAND** under *History* and map on p. 288.

ULSTER. See **IRELAND, NORTHERN**.

UNEMPLOYMENT. Estimates of the Number of Unemployed. The National Industrial Conference Board of New York City, an employer organization, has preoccupied itself in recent years with the question of estimating the number of the employed engaged in remunerative activity in private enterprise or on the payrolls of regularly established government agencies, on the one hand, and the number of persons separated from remunerative activity, on the other. It includes all those engaged by such agencies as the WPA and the CCC among the unemployed. Its findings have indicated that in the past nine years, two downward movements of employment have taken place. The first carried the total number of employed from the high of 49,678,000 in September, 1929, to the low of 35,940,000 in March, 1933. The upward movement in employment was more gradual. From March, 1933, the number of workers engaged advanced to a total of 47,803,000 employed in September, 1937. There then took place another downward movement so that in February, 1938, the total number of workers employed declined to 42,435,000. From February once more an advance upward began with the employed increasing to 42,955,000 in June and 45,125,000 in October. On the other hand, the unemployed totaled 469,000 in 1929, or 1 per cent of the country's labor force; 14,706,000 in March, 1933, or 29 per cent of the

labor force; 5,651,000 in September, 1937, or 10.6 per cent of the country's labor force; 10,981,000 in June, 1938, or 20.4 per cent of the country's labor force; 9,918,000 in October, 1938, or 18 per cent of the country's labor force. In November the total employed had dropped further to 9,211,000. This last figure included 3,635,000 workers in the WPA, CCC, and other Federal work agencies.

Railroad Unemployment Insurance Act. An act providing a comprehensive system of unemployment insurance for railroad workers engaged in interstate commerce was approved by President Roosevelt in June, 1938. The new unemployment insurance act provided for a system designed to meet the special needs of the railroad industry, and removed the employees from the coverage of other unemployment compensation acts. Contributions were to be made exclusively by the carriers. The costs of the system, including both the payment of unemployment benefits and the administration of the act, were to be paid from funds into which were to be deposited the taxes collected from the carriers. The administration of the act was to be vested in the Railroad Retirement Board.

Employees eligible under the Act were to be paid benefits for each day of unemployment in excess of seven during any half month beginning with June 30, 1939. Employment benefits were to be based upon annual wages. Thus an unemployed railroad worker was to receive for each day of unemployment \$1.75 per day if his annual compensation had been between \$150 to \$200; and up to \$3 per day if his annual compensation had been \$1300 and over. The maximum benefits within a benefit year were not to exceed 80 times the daily benefits payable to each employee. Unemployment benefits were not to be paid for the following reasons: Voluntarily leaving work without good cause; discharge for misconduct; failure without good cause to accept suitable work; and unemployment due to a strike. An employee was not required to accept work if as a condition of being employed he would be required to join a company union or resign from or refrain from joining any bona fide labor organization.

The employer was required to contribute an amount equal to 3 per cent of the compensation (not in excess of \$300 per month), payable by the employer to an employee. The contributions were to be collected by the Railroad Retirement Board and deposited with the Secretary of the Treasury, who was to maintain an account known as "the railroad unemployment insurance account."

Unemployment Insurance. Under the laws of 21 States and the District of Columbia, unemployment insurance benefits became due as of January, 1938, thus ushering in this important provision for the payment of unemployment benefits under the Social Security Act of 1935. The American Association for Social Security estimated that the total number of workers included under these laws was 11,565,000. The funds accumulated by these States up to Oct. 31, 1937, amounted to \$343,490,000, or an average deposit of \$29.44 per worker. The 21 States, where the benefit provisions went into effect with the opening of the year, were Alabama, Arizona, California, Connecticut, Louisiana, Maine, Maryland, Massachusetts, Minnesota, New Hampshire, New York, North Carolina, Oregon, Pennsylvania, Rhode Island, Tennessee, Texas, Utah, Vermont, Virginia, and West Virginia. Before the end of the year eight more States were to join these jurisdictions, that is to say, Indiana, Mississippi, Iowa, Michigan, South Carolina, Idaho, New Mexico, and Oklahoma. With the exception of Georgia,

Illinois, and Montana, where the laws called for the inauguration of benefit payments on July 1, 1939, benefits in the remaining 17 jurisdictions were to become due on Jan. 1, 1939. It became increasingly evident that the handling of the unemployed benefit payments was to encounter serious difficulties as the year progressed. (1) Administrators in the separate jurisdictions were confronted with the tremendous problem of putting the records sent in by employers in shape ready for the payment of benefits. (2) Many employers, despite intensive educational campaigns, failed to report the wages of their employees. (3) There was very serious danger that the administrations would be swamped by the extraordinary number of claims filed virtually simultaneously. This was borne out when the American Association for Social Security reported that within three weeks after the benefit provisions had begun to operate, over two million unemployed workers had filed claims for benefits. In most of the States, the registration figures were well above the totals expected by administration officials late in 1937. In New York State 500,000 claims for benefits were filed up to January 20, or 75,000 more than expected during the entire month. (4) The payments moved out to the beneficiaries after long and heartbreaking delays. According to the Federal Social Security Board, six weeks after the inauguration of the program payments of benefits to unemployed workers produced but a total of 617,806 checks in the 21 jurisdictions. Within that time, the total amount expended was \$6,278,000, making by February 3 an annual average per check of \$10.16. In fully one-quarter of the States these delays took place, New York State, notably, presenting a poor record. With almost one-third of the applications filed in the country representing the claims of New York unemployed, by February 12 New York State had sent out only 9 per cent of the checks.

By midsummer the delays, difficulties, and inefficiency of the program itself and the inadequacies of State administration were so clearly revealed that a storm of protest arose from many regions in the country. Dr. Herman A. Gray, Chairman of the New York Unemployment Insurance Advisory Council, expressed the sentiments of many persons when he bitterly assailed the whole program before the U.S. Senate Committee on Unemployment, and warned that unless the underlying principles of the Social Security Act as they applied to unemployment benefits were reconsidered and the law's operation "fundamentally revised," the Government would not be fulfilling the promise given and the expectation aroused by the establishment of the system. The present program, he declared, was "administratively unworkable" and so "cumbersome, complex and confused" that it offered "no assurance of any real help" to the unemployed. Similar complaints came from the administrators of the unemployment benefit systems of Indiana, Pennsylvania, and New York.

As experiences continued to pile up, it became increasingly apparent that the unemployment insurance benefits were so small that they averaged considerably less than the relief grants. The data released by the Social Security Board indicated that for the first quarter of 1938 an average grant of \$15.46 per month was made to qualified unemployed persons, regardless of whether they were single or had families to support. On the other hand, work-relief wages during 1937 averaged \$53.41 per month throughout the year, while the average of even direct relief was \$23.43 per month during

the same year, or almost \$8 per month more than the average unemployment-insurance benefit. Between January 1 and March 31, the 22 jurisdictions, which began making unemployment-benefit payments in January, spent a total of \$61,652,000. During the same period, however, these jurisdictions collected in payroll taxes from employers, and in five States also from employees, a total of \$79,000,000, or over \$17,000,000 more than was spent. This substantiated the belief of many critics of the system that unemployment insurance was actually withdrawing more income from purchasing power than was actually being increased as a result of benefit payments.

As a result of the inadequate operation of the law, Mr. Epstein, for the American Association for Social Security, presented the following program for necessary changes and amendments in the Social Security Act, pointing out that the experiences of 1938 had "amply demonstrated that the unemployment insurance system established by Congress was totally unsound, too inadequate, cumbersome and costly to administer." He went on to say further that the present unemployment insurance scheme neither provided "adequately for the unemployed persons who are receiving insurance benefits, nor offers any care of the long-time unemployed remaining in the labor market. . . . The benefits it provides are set in a vacuum for they are fixed with no relation to the subsistence needs of the worker, the size of his family, and the length of his unemployment." With a view to improving the legislation, Mr. Epstein proposed the following changes: (1) Instead of leaving the basic provisions of the State acts to the vagaries of each State, it was necessary to amend the Social Security Act to require that each State unemployment insurance law provide for minimum insurance benefits commensurate with subsistence levels and family needs, and for minimum periods of benefit duration of approximately 26 weeks in the year. (2) In place of the present clumsy and expensive tax-credit system, the Social Security Act should make use of the simple method of Federal subsidies for the State unemployment insurance plans. Under the subsidy system only one tax would be levied by the Federal Government. The Federal Government should grant to the States such amounts as they needed for the payment of benefits in accordance with the minimum Federal standards to be prescribed in the Social Security Act. In this way, by making up the difference between the amounts collected and the sums needed in the States, the Federal Government would equalize the burdens among the States on the basis of ability to pay. (3) The problem presented by the long-time unemployed worker could be met only by integrating relief and insurance into a uniform and economical program. (4) The greater portion of the cost of the supplementary unemployment assistance benefits to be paid to the long-time unemployed should be met by the Federal Government, the balance to be borne by the States.

See UNITED STATES under *Congress*; *AUTOMOBILES*; *MICHIGAN*; *PENNSYLVANIA*.

Unemployment in Foreign Countries. During the winter of 1937-38, growing concern was being expressed for the level of unemployment in many foreign countries. In *Australia* statistics of trade-union employment at the end of 1937 showed that the unemployed totaled 37,558, or 8.2 per cent of the organized workers, as compared with 46,863 persons and 10.7 per cent in December, 1936. *Canada* reported a decline in the percentage of the

trade-union unemployment between January, 1937, and January, 1938, from 14.5 per cent to 12.4 per cent. In *France* the number of unemployed in receipt of benefits in February, 1938, totaled 412,000, as compared with 410,000 in February, 1937. After having reached 1,611,000 in February, 1937, the number of unemployed in *Germany* decreased to 508,000 in March, 1938. In *Great Britain* the number of persons registered with employment exchanges totaled 1,628,000 in February, 1937, and 1,810,000 in February, 1938. In *Sweden* in February, 1937, the number of trade unionists unemployed totaled 80,637 or 14.5 per cent of all trade unionists, and in February, 1938, the figures stood at 89,614, making 14.5 per cent of the total trade union body.

In many countries the volume of unemployment in the third quarter of 1938 was higher than the corresponding period of 1937. In *France* and *Great Britain*, available figures showed that the unemployed was heavier in September, 1938, than in September, 1937. However, the number of unemployed on the live register in *Germany* and *Poland* decreased sharply during the same period. Comparing conditions between August, 1937, and August, 1938, the returns for *Canada*, *Denmark*, and *Sweden* indicated that more persons were out of work in 1938 than had been the case in 1937. The following figures present the state of affairs in outstanding foreign countries during the summer of 1938 with comparisons for the comparable period in 1937.

Australia, 39,824 trade unionists unemployed in June, 1938 (8.6 per cent), as compared with 42,145 (9.3 per cent) in September, 1937. *Austria*, 92,000 unemployed in receipt of benefits in July, 1938, as compared with 178,000 in August, 1937. *Belgium*, 114,000 wholly unemployed in July, 1938, as compared with 88,825 in August, 1937. *Canada*, 11.6 per cent of all trade unionists unemployed in August, 1938, as compared with 7.6 per cent in August, 1937. *Czechoslovakia*, 165,000 unemployed on live register in August, 1938, as compared with 233,000 in August, 1937. *Denmark*, 74,475 trade unionists unemployed in August, 1938, as compared with 66,000 in August, 1937. *France*, 338,000 unemployed in receipt of benefits in August, 1938, as compared with 311,000 in August, 1937. *Germany*, 179,000 unemployed registered in August, 1938, as compared with 509,000 in August, 1937. *Great Britain*, 1,759,000 persons registered with employment exchanges in August, 1938, as compared with 1,358,000 in August, 1937. *Netherlands*, 118,000 unemployed and registered with unemployment insurance societies (24.2 per cent) in August, 1938, as compared with 125,000 (26.3 per cent) in August, 1937. *Poland*, 211,000 unemployed registered in employment offices in August, 1938, as compared with 261,000 in August, 1937. *Sweden*, 50,461 unemployed trade unionists (8.1) in August, 1938, as compared with 40,953 (7.1) in August, 1937. *Switzerland*, 33,000 wholly unemployed receiving unemployment benefits (5.8 per cent) in July, 1938, as compared with 35,000 (6.7 per cent) in August, 1937.

UNFEDERATED MALAY STATES. The five States (see below) of the Malay Peninsula, under British protection but not included in the Federated Malay States. The rulers of these five States are aided by State councils, and by British advisers appointed by the British Government.

Johore. Area, 7500 square miles; population (1937 estimate), 613,510 including 268,300 Chinese, 267,500 Malaysians, 72,600 Indians, and 5110 other races. Capital, Johore Bahru, about 97,634 inhabitants. The chief products in 1937 were rubber, coconuts, pineapples, coffee, tapioca, areca nuts, rice, timber (74,216 tons), firewood (131,945 tons), tin ore, and iron ore. In 1937 imports were valued at \$47,288,555; exports, \$105,821,320; revenue, \$20,196,688; expenditure, \$18,397,752 (Straits dollar [\$] averaged \$0.5797 for 1937). The ruler, who is subject to the advice of a British officer called the general adviser, is assisted by an

executive council and an administrative council. Sultan, Sir Ibrahim (succeeded in 1895).

Kedah, kâ'dâ. Area, 3660 square miles; population (1937), 474,755, including 319,260 Malays, 85,472 Chinese, 56,402 Indians, 631 Europeans, and 13,010 others. Capital, Alor Star, 25,103 inhabitants. The principal products are rubber, betel nuts, coconuts, and rice. In 1937-38 imports totaled \$12,385,148; exports, \$344,625,429; revenue totaled \$7,544,682; expenditure, \$6,625,653. A railway connecting the Federated Malay States and Siam passes through Kedah. Sultan, Sir Abdul Hamid Halim Shah (succeeded in 1881).

Kelantan, kē-lân'tân'. Area, 5750 square miles; population (1937 estimate), 400,378. In 1936 there were 10,811 registered births and 6985 deaths. Kota Bharu, the capital, had 14,843 inhabitants in 1931. The chief products are rubber, rice, coconuts, areca nuts, manganese, fish, tin, and gold. Livestock in 1937 included 102,163 cattle and 37,285 buffaloes. In 1937 imports totaled \$7,941,213; exports, including re-exports, \$10,467,593; revenue, \$3,209,722; expenditure, \$2,757,900; public debt, \$5,182,734. Sultan, Sir Ismail.

Perlis. Area, 316 square miles; population (1937), 52,703, of whom about 43,497 were Malays. Capital, Kangar. The chief products are rice, rubber, coconuts, and tin. Guano deposits exist. In 1937-38 revenue totaled \$728,531; expenditure, \$634,483 (Straits dollar averaged \$0.5797 for 1937; \$0.5692 for 1938). Rajah, Syed Alwi (succeeded, Dec. 20, 1905).

Trengganu, trēng-gü'nōo. Area, 5050 square miles; population (1937 estimate), 198,246. During 1937 there were 6845 live births and 4427 deaths. Capital, Kuala Trengganu (13,972 inhabitants in 1931). In the 22 vernacular schools 2188 pupils were enrolled in 1937. The principal products are rice, coconuts, rubber, areca nuts, fish, iron, tin, and manganese. In 1937 imports were valued at \$6,443,326; exports (including re-exports of \$681,088), \$11,679,578 (iron ore, \$4,495,245; rubber, \$3,701,910; dried fish, \$609,081). In 1937 there were 175 miles of roads in use; 963,233 tons of shipping entered and cleared in 1937. Revenue in 1937 was \$2,660,399; expenditure, \$2,645,686; public debt, \$3,000,000. Sultan, Sir Suleiman Badrul-alam Shah (succeeded in 1920).

UNION COLLEGE. A nonsectarian college for men at Schenectady, N. Y., founded in 1795. The enrollment for the autumn of 1938 totaled 840. The faculty numbered 83. The amount of endowment for the year was \$4,404,297, and the income \$576,028. The library contained 102,350 volumes. President, Dixon Ryan Fox, Ph.D., L.H.D., LL.D.

UNION OF SOUTH AFRICA. See SOUTH AFRICA, UNION OF.

UNION OF SOVIET SOCIALIST REPUBLICS (U.S.S.R.). A republic comprising the greater part of the former Russian Empire. Capital, Moscow.

Area and Population. The area of the Union of Soviet Socialist Republics is 8,213,500 square miles (21,272,900 square kilometers), of which 21.6 per cent lies in Europe, 78.4 per cent in Asia. The population on Jan. 1, 1934, was estimated at 168,000,000. It was 147,013,600 by the census of December, 1926, and 139,700,000 in the same territory in 1914. The census of 1926 gave 71,024,300 males and 75,989,300 females.

The Union at the close of 1937 was composed of 11 Union Republics which in turn included 22 autonomous republics and 9 autonomous provinces as well as lesser subdivisions. The various auton-

omous units represented the principal national groups in the Union, of which there were nearly 200, inherited from the Czarist Empire. The estimated area and population as of Jan. 1, 1933, of the 11 Union Republics are shown in the accompanying table.

SOVIET UNION: AREA AND POPULATION

	<i>Sq. kilometers</i>	<i>Population</i>
Russian S.F.S.R.	16,707,900	105,552,200
White Russian (Byelo) S.S.R.	126,800	5,439,400
Ukrainian S.S.R.	443,100	31,901,400
Uzbek S.S.R.	172,000	5,044,300
Azerbaijan S.S.R.	86,000	2,891,000
Armenian S.S.R.	30,000	1,109,200
Georgian S.S.R.	69,600	3,110,600
Turkmenistan S.S.R.	443,600	1,268,900
Tajik S.S.R.	143,900	1,352,700
Kazakh S.S.R.	2,853,300	6,796,600
Kirghiz S.S.R.	196,700	1,302,100
Total	21,272,900	165,768,400

Estimated populations of some of the chief cities on Jan. 1, 1936, were: Moscow, 3,641,500; Leningrad, 2,739,800; Kiev, 625,000; Tashkent, 565,000; Tbilisi (Tiflis), 426,300; Minsk, 186,500; Kirov, 130,000. Estimates of Jan. 1, 1935, for other cities were: Baku, 670,000; Kharkov, 625,400; Gorki (Nizhni-Novgorod), 512,600; Odessa, 509,000; Rostov-on-Don, 479,000; Sverdlovsk, 450,000; Stalingrad, 390,000; Dnepropetrovsk, 384,900; Saratov, 340,000; Novosibirsk, 310,000; Stalino (Yuzovka), 272,600; Kazan, 271,000; Kuibyshev (Samara), 271,000; Chelyabinsk, 263,300; Astrakhan, 249,700; Omsk, 241,500; Voronezh, 240,000; Vladivostok, 235,000; Archangel, 225,800; Stalinsk (Kuznetsk), 220,000; Ivanovo, 215,400; Yaroslavl, 209,400; Tula, 201,300.

Education. During the two decades ending in 1937, illiteracy was reported to have declined from 67.7 per cent to less than 8 per cent. At the beginning of the 1938-39 school year, there were 33,300,000 children attending 170,764 schools, an increase of 2781 schools since Sept. 1, 1937. In 1937 there were nearly 30,000,000 pupils in primary and secondary schools, 15,000,000 in pre-school kindergartens, 542,000 in universities and colleges, 1,200,000 in technical schools and workers' faculties, and over 1,000,000 students in apprentice schools. In the spring of 1938 the schools of higher education graduated 90,000 students and in the autumn they enrolled 166,000 new students. There were 71,000 new teachers appointed in the Russian S.F.S.R. alone in 1938. Education in the Soviet Union is a charge against each of the 11 Union Republics and against the localities concerned. Expenditures increased from 1,493,000,000 rubles in 1929 to 20,100,000,000 rubles in 1938.

Production, etc. In the Soviet Union transport and communications are conducted as Federal departments. Banking is centralized in a State Bank under government control. Distribution is socialized, with retail trade in the cities conducted mainly by local administrative bodies and in the villages by consumer co-operatives. Industrial production is carried on largely by state enterprises, operating under the general direction of appropriate Commissariats (government departments). A State Planning Commission (Gosplan) plots the objectives for each year and for five-year periods. An Economic Council acts as a co-ordinative body. A commission of Soviet Control checks and supervises results.

State planning is an essential of Soviet economy. The planning system is designed to direct and coordinate the employment of the energies and re-

sources of the country for orderly development. The planning system, however, goes beyond the economic field. It includes science, education, public health, and the extensive social services designed to safeguard the welfare and security of the citizenship.

Under this system the work of Gosplan has assumed a position of primary importance. Its personnel in Moscow includes a considerable number of permanent specialists re-enforced by consultants who are authorities in every field. Under the central body each Constituent Republic has its Gosplan, and there are subordinate planning boards in the various cities.

The first Five-Year Plan was completed Dec. 31, 1932, in four and a half years. Under it the industrial output was increased 119 per cent, and substantial bases in heavy industry were established. In agriculture the whole set-up was recast and in 80 per cent of the agricultural area the small individual strip-farms were replaced by large-scale collective farms, in most cases with a high degree of mechanization. In addition 10 per cent of the total farm area was represented by state farms mechanized in all departments and run on industrial lines.

The second Five-Year Plan, inaugurated Jan. 1, 1933, and concluded Dec. 31, 1937, provided for an increase of 114 per cent in industrial production and an increase of approximately 30 per cent in the output of agriculture (actually total grain production during the second Plan was 27 per cent greater than during the first Plan). No extensive increase in the sown area was provided, the emphasis being on improved methods of cultivation. Capital investments in the national economy for the period were fixed at 130.4 billion rubles (they were 50.5 billion rubles during the first Plan). Upwards of 7000 miles of new rail lines were projected.

The third Five-Year Plan was begun Jan. 1, 1938. Schedules for the first year envisaged an increase in the industrial output of 15.3 per cent and commensurate increases in other lines.

Industry. The increase in general industrial production in 1938 was 12.5 per cent over 1937. The accompanying table shows the output of the lead-

SOVIET INDUSTRIAL PRODUCTION *

<i>Products</i>	<i>1935</i>	<i>1936</i>	<i>1937</i>	<i>% increase over 1936 output</i>
Electric power . . . mill. kw-hr	26,294	33,000	36,600	10.9
Coal . . 1,000 met. tons	108,868	122,700	123,000	0.2
Peat do . . .	19,900	14,266	13,100	-8.2
Crude oil and gas . . . do . . .	26,763	29,293	30,700	5.1
Pig iron do . . .	12,489	14,400	14,550	1.0
Steel do . . .	12,588	16,330	17,800	9.0
Rolled steel products . . . do . . .	8,995	12,470	12,900	3.4
Cement do . . .	4,488	5,849	5,837	-0.2
Timber . . . mill. cu. m.	114.14	126.3	93	-26.4
Passenger cars units . .	18,969	3,655	18,176	397.3
Trucks do . . .	77,773	132,917	181,139	36.3
Tractors do . . .	121,500	131,200	220,000	6.3
Cotton cloth . . . mill. m.	2,532	3,109	3,200	2.9
Woolen goods 1000 m.	91,000	97,500	100,300	2.9
Footwear 1000 pairs	85,500	139,940	183,000	30.8
Canned goods . . . mill. cans	1,155	1,266	845	-27.9
Sugar (granulated) 1000 met. tons	2,750	1,998	2,410	20.6
Average daily carloadings, units . .	68,100	86,200	89,792	4.2

* Figures in some cases are approximate. ♢ Planned output.

Note: m. = meter; met. = metric; mill. = million.

ing industrial products in 1935-37. It is compiled in large part from *Foreign Policy Reports*, June 1, 1938.

Agriculture. Since 1928 the structure of agriculture has been completely reorganized. The small, individual peasant holdings, averaging 12 to 14 acres, have in large measure given way to large-scale collective farms in which the peasants pool their acreage. (Each collective farm family, however, has its own garden plot and domestic farm animals.) This new set-up has made possible better organized methods of production with a high degree of mechanization. The transition was effected largely during the years 1929-33. In 1929 less than 4 per cent of the peasant households were represented in the collective farms, by Jan. 1, 1938, the percentage had risen to 93. There were 244,000 collective farms averaging about 1200 acres, operated by 19,100,000 peasant families in 1938. Some 800,000 peasant households still worked individual holdings. In addition, large state farms operated about 12 per cent of the sown area.

SOWN AREA AND GRAIN HARVEST

	Area of all crops (hectares)	Area of grain crops (hectares)	Grain production (metric tons)
1913	105,000,000	94,400,000	80,100,000
1931	136,600,000	105,500,000	69,480,000
1935	132,500,000	103,700,000	92,010,000
1936	133,000,000	102,400,000	83,000,000
1937	135,200,000	.....	111,000,000

Grain exports, in metric tons, were: 1909-13 (average), 10,700,000; 1931, 5,050,306; 1932, 1,763,298; 1933, 1,689,790; 1934, 771,096; 1935, 1,518,868; 1936, 332,274; 1937, 1,277,534. The accompanying table shows the yields of the principal industrial crops.

PRINCIPAL INDUSTRIAL CROPS

	1935	1936	1937
Cotton (ginned) ..met. tons	530,700	778,100	819,000
Sugar beets .....do...	16,200,000	16,830,000	2,500,000*
Flax (long fiber) do...	550,000	530,000	.....

* Beet sugar.

The backbone of mechanization in Soviet agriculture is furnished by the machine and tractor stations, each of which serves collective farms within its area. These stations grew from 145 in 1930 to 6356 on Dec. 1, 1938. They operated upward of two-thirds of the tractors in the country. Growth of mechanization on farms is shown in the table below.

GROWTH OF MECHANIZATION ON FARMS

Year	Tractors	Combines	Year	Tractors	Combines
1929 ...	34,900	45	1935 ...	379,000	52,500
1931 ...	125,300	6,400	1937 ...	450,200	121,000
1933 ...	204,000	25,000	1938 ...	470,000	137,800

Labor. There were some 27,000,000 wage earners in Soviet industry in 1937, of whom upwards of 80 per cent were members of trade unions. The personnel of industrial workers and employees increased about 150 per cent during the period of the first and second Five-Year Plans (1928-37). There has been no unemployment since 1930. Industry was operated on the basis of a five-day week with a uniform rest day on the sixth day. The seven-hour workday was generally established, with 20 per cent of the workers, those in more arduous or hazardous occupations, employed on a six-hour day. An elaborate system of social insurance provided allowances for sickness, disability, old age,

and death, and furnished free medical care and hospitalization as needed. Annual vacations of at least a fortnight with pay were compulsory. The average wage paid in large-scale industry in 1936 was 2862 rubles per annum.

Electrification. Up to the time of the Revolution, Russia was one of the most backward countries in the world in power development, standing fifteenth among the nations in electric output. By the middle of the second Five-Year Plan it had advanced to third place. A series of large-scale regional power plants, some 75 in all, reinforced by a steadily growing number of local plants, forms the country's power base. Total plant capacity rose from 1,874,000 kilowatts in 1928 (1,098,000 kw in 1913) to 9,500,000 kw in 1937. Output increased from 5 billion kilowatt-hours in 1928 (1.9 billion in 1913) to 32.8 billion kw-hr in 1936 and upwards of 38 billion kw-hr in 1937. Largest plant in operation was that at Dnieproges in the Ukraine, capacity 560,000 kw. Plans were drawn for a giant plant of 2,500,000 kw to be constructed during the third Five-Year Plan at Kuibyshev (formerly Samara) on the Volga River, about 400 miles from its mouth on the Caspian Sea.

Transportation. Railway operations registered marked advances during 1935-37. During the first and second Five-Year Plans freight operations were quadrupled and daily carloadings doubled. New rail construction projects completed during the two Plans included the Taishent-Komsomolsk line in Siberia (2000 miles) paralleling the Trans-Siberian Railway to the north, the Moscow-Donbas trunk line (750 miles), and the Turkestan-Siberian line (900 miles), as well as the complete double-tracking of the Trans-Siberian Railway.

Length of railway lines in 1937 was 53,700 miles, nearly 50 per cent greater than in 1913. Railway freight carried in 1937 aggregated 517,300,000 metric tons (483,200,000 in 1936); passengers, 1,142,000,000. The length of Soviet air lines in 1937 was 72,500 miles. Passengers carried in 1937 numbered 234,000; mail and freight, 48,322 metric tons. Motor transport was growing rapidly and during the second Five-Year Plan upwards of 150,000 miles of new roads were built. The Soviet roads and highway network in 1937 aggregated 1,682,100 miles. The number of automobiles in the Soviet Union on Jan. 1, 1938, was 514,440.

Potential length of inland waterways in the Soviet Union is about 220,000 miles of which 62,000 miles were navigable in 1937. Recent years have seen a rapid expansion. A canal connecting Moscow with the upper reaches of the Volga (80 miles) was completed in the spring of 1937, and another link running to the Baltic was designated to make Moscow a seaport for moderate-sized vessels. Work progressed on a canal linking the Volga to the Don River—thus giving the Volga an outlet on the Black Sea—and on an extensive river-canal chain linking the Southern Urals with the Kuznetz coal basin in West Siberia. Waterway extensions in recent years included the linking of the Baltic and White Seas and the making of the Dnieper River navigable to its upper reaches. Freight carried on inland waterways in 1937 was 84,300,000 metric tons.

Shipping. The Soviet merchant marine had a gross tonnage of 1,280,900 on June 30, 1938 (1,258,200 on June 30, 1937). The total freight carried (including coastwise freight) amounted to 35,500,000 metric tons in 1937.

Foreign Trade. Foreign commerce in the Soviet Union is a governmental monopoly exercised

by the Commissariat of Foreign Trade which maintains trading agencies abroad. Imports and exports are regulated in accordance with the country's system of planned economy. Trade in recent years is shown in the accompanying table compiled from the U.S. *Foreign Commerce Yearbook 1938*.

SOVIET FOREIGN TRADE

Year	Imports (1,000 rubles ^a)	Exports (1,000 rubles ^a)	Imports (\$1,000 ^b)	Exports (\$1,000 ^b)
1934 ...	232,426	418,345	\$200,514	\$360,907
1935 ...	241,374	367,411	209,264	318,534
1936 ...	1,352,535	1,359,104	270,507	271,821
1937 ...	1,341,255	1,728,634	268,251	345,727

^a Gold rubles of a par value of \$0.8713 for 1934 and 1935; the new ruble of three French francs (20 U.S. cents) for 1936 and 1937. ^b U.S. currency dollars.

Values of the chief 1937 imports (in U.S. currency) were: Machinery, \$60,812,000; iron and steel, \$24,184,000; raw or washed wool, \$17,275,000; tin, \$16,547,000; crude rubber, \$15,484,000. The leading 1937 exports were: Wood and its manufactures, \$87,558,000; wheat, \$37,210,000; petroleum products, \$29,483,000; raw fur skins, \$21,267,000; cotton fabrics, \$14,362,000; raw cotton, \$10,350,000. Of the 1937 imports the United States supplied 18.2 per cent by value (15.5 in 1936); Germany, 14.9 (22.8); United Kingdom, 14.3 (15.1); Iran, 6.7 (8.6); China, 5.8 (5.6). The United Kingdom purchased 32.8 per cent of the 1937 exports (26.6 in 1936); United States, 7.8 (9.6); China, 6.2 (6.9); Germany, 6.2 (8.5); Iran, 5.3 (4.7); France, 5.0 (7.6). United States trade figures for 1938 showed general imports from the Soviet Union of \$24,064,113 (\$30,767,804 in 1937); exports to the Soviet Union, \$69,691,498 (\$42,892,010).

Finance. In a country as highly socialized as the Soviet Union the growth of the budget reflects to a large extent the degree of economic progress. The first "firm" budget, that of 1924-25, balanced at 1,400,000,000 rubles. For the calendar year 1938 budget estimates placed receipts at 116,801,000,000 rubles (socialized economy, 92,900,000,000; mobilization of public funds, 11,151,000,000; all other, 12,726,000,000) and expenditures at 115,301,000,000 rubles (national economy, 47,212,000,000; national defense, 27,044,000,000; social welfare, 12,148,000,000; all other, 28,897,000,000). For 1937 the estimates were: Receipts, 96,600,000,000 rubles; expenditures, 93,900,000,000 rubles. Actual budgetary receipts and expenditures during 1933-36, in billions of rubles, were:

	1933	1934	1935	1936
Receipts	39.29	50.82	67.43	89.00
Expenditures	36.00	48.31	66.39	87.50

The only bank of issue is the State Bank, center of the financial system. It has a monopoly of short-term credit operations and it finances the bulk of Soviet foreign trade transactions. Its outstanding credits to various branches of the national economy were upwards of 30 billion rubles in 1937. Its gold fund was over two billion rubles. Soviet savings banks on Dec. 1, 1937, had 14,000,000 depositors with deposits of over 4300 million rubles. During the second Five-Year Plan deposits increased by more than 3300 million rubles.

Government. Supreme political power is vested in a Supreme Council, a two-chambered parliament, deputies to which are elected every fourth year by universal, direct suffrage with the secret ballot. The Supreme Council meets twice a year. The

two chambers in joint session elect a Presidium of 37 members which exercises wide powers between sessions of the Supreme Council, including ratification of treaties and declaration of a state of war in case of invasion of Soviet territory or if called for under treaty. The Supreme Council selects the Council of People's Commissars, or executive cabinet, which operates under the supervision of the Presidium. (For full description of the Soviet Constitution see the YEAR BOOK for 1936).

The Council of People's Commissars was composed as follows at the end of 1938: Chairman, V. M. Molotov; Vice-Chairmen, L. M. Kaganovitch, A. I. Mikoyan, A. Bulganin; Commissar of Foreign Affairs, M. M. Litvinov; Defense, K. E. Voroshilov; Navy, M. P. Frinovsky; Finance, A. G. Zverev; Foreign Trade, A. I. Mikoyan; Railway Transportation, L. M. Kaganovitch; Water Transportation, N. I. Yezhov; Communications (acting Commissar), Yartzev; Aviation Industry, M. M. Kaganovitch; Ammunitions, I. P. Sergeiev; Ship Building, I. T. Tevosian; Armaments, B. L. Vannikov; Fuel Industry, L. M. Kaganovitch; Electric Plants and Electric Industry, M. G. Pervukhin; Ferrous Metallurgy, T. A. Merkulov; Non-ferrous Metallurgy, A. I. Samokhvalov; Chemical Industry, M. F. Denisov; Building Materials Industry, L. A. Sosnin; Light Industry, S. G. Lukin; Textile Industry, A. N. Kosigin; Lumber Industry, N. M. Antzelovich; Heavy Machine Building Industry, V. A. Malishev; Intermediate Machine Building Industry, I. A. Likhatchev; General Machine Building Industry, P. I. Parshin; Fish Industry, P. S. Zhemchuzhina; Food Industry, V. P. Zotov; Meat and Dairy Industry, P. V. Smirnov; Agriculture, I. A. Bendediktov; Grain and Livestock State Farms, P. P. Lobanov; Agricultural Collections, S. E. Skrinknikov; Trade, A. V. Lubimov; Home Affairs, L. P. Beria; Justice, N. M. Richkov; Health (acting Commissar), Propper-Grebenschikov; Chairman, State Planning Commission, N. A. Voznesensky; Chairman, Art Committee, A. J. Nazarov; Chairman, Committee of Higher Education, S. V. Kaftanov; Chairman, State Bank, A. Bulganin.

Joseph Stalin, General Secretary of the Communist Party of the U.S.S.R., while holding no executive governmental post except that of member of the Presidium of the Supreme Council, was the most powerful political figure in the country.

HISTORY

Foreign Relations. As the avowed champion of peoples oppressed by "capitalistic" invasion and conquest, the Russian Soviet Union found its foreign policy involved, during 1938, in three areas beyond Russian frontiers; the cause of the Spanish liberal republic, despite aid of various sorts sent from Russia, sank gradually into defeat, the Japanese progressed in their invasion of China, and the troops of Nazi Germany marched into undefended Austria and Czecho-Slovakia. The effect of these three phenomena in combination was to give an appearance of weakness to the Soviet Union as an effectual comrade of nations menaced by enemies that were the Soviets' own natural or theoretical adversaries. It appeared to some commentators that the Soviet Government had suffered, through the failure of its foreign policy, a setback both to its revolutionary repute and to all that it had until then effected in organizing its foreign and military relations.

The Soviet Union was bound, in the case of Czecho-Slovakia, by an agreement for mutual

assistance, formed in May, 1935; this agreement was not absolute, but depended on the observance by France of an otherwise similar agreement with Czecho-Slovakia, executed a few days earlier. In the earlier stages of the German proceedings against Czecho-Slovakia, it appeared that the French Government intended to lend the latter country military aid; the question arose as to how the Soviet Union would act to add its armed support in an effectual manner though separated from the menaced territory by Poland and Rumania.

Foreign Minister Litvinov was quoted as disposing of this point with the phrase, "Where there's a will there's a way," but no definite indication appeared that Russian forces had a specific plan or manner of action for a military commitment against Germany. When the German moves brought a crisis in September, the French made no military move against Germany, and the Soviet Union's obligation to help Czecho-Slovakia thus never came literally into force. G. E. R. Gedye in a dispatch to the *New York Times* related that the Russian authorities had expressed willingness to support Prague even in the absence of French support, but that conservative Czech Agrarians had prevented their government's acting on the proffer. Litvinov, in a speech (September 20) declared that Britain and France had ignored the Soviet Union's offer of military aid, and the implication was that the Union had no part in the abandonment of Czecho-Slovakia (q.v.).

In China's case, the Soviet Union gave limited assistance to the invaded country during 1938 in two ways: directly, by sending aviators and military instructors, as well as a certain amount of munitions and some airplanes; indirectly, by engaging with Japanese forces in July on Changku-feng heights (bordering Manchoukuo), a disputed bit of strategic territory (see MANCHOUKUO).

Army and Navy. The armed forces of the Soviet Union were a subject of surmise rather than of definite data. Troops east of Lake Baikal were commonly supposed to number more than 400,000. The double-tracking of the Transsiberian railroad added greatly to the means of moving and supplying troops in the eastern parts of the Union. The virtually completed building of the Baikal-Amur railroad, paralleling the Transsiberian but 100 miles farther north, strengthened the defense of the Russian East. A railroad under construction in 1938, running southward from the Transsiberian, was to connect with Urga, capital of Outer Mongolia. In the west, according to a current account, the Ukraine was to be made secure against invaders by defensive works, the creation of a belt of waste land, the colonization of border districts with men well qualified to give military service, and the building of strategic railroads.

Premier Molotov in an address (November 6), speaking of the Union's power for war, cried, "If anyone doubts our strength, let him try us." The implication of the phrase was defensive. Kalinin (Chairman of the Presidium), speaking in June, urged the workers, on the other hand, to produce a navy superior to the British, and added, in the spirit of earlier revolutionary war cries, "Our enemy is the capitalist world; we live for . . . the future—for a complete victory of communism throughout the world." Thus it was not yet plain whether the defensive or the offensive ideal ranked uppermost in the military planning of the Soviet Union. The numerous removals of generals, admirals, and officers of lesser rank, in the course of the political purges of 1937 and 1938 (see below) were a feature

of the Union's military situation, for they tended to interrupt continuity of thought and planning. In addition to removing officers, the authorities brought into play, as a device for preventing the commanders from alienating the troops, a system of soldiers' commissars, who kept in touch with the troops, maintained a watch over officers, and exerted authority equal, in theory at least, with that of the commanders.

Internal Economy. Since the communistic system of the Soviet Union involves the government's planning and operation of productive occupation as a whole, the Union's budget bears a close relation to economic activity. The budget adopted for 1938 was variously reported in the United States, in figures that did not agree; for most of the items they differed by not more than 2 per cent. One version showed total income as 125,000,000,000 rubles, derived from taxes and business profits of 117,300,000,000 and loans of 7,700,000,000; and expenditures totaling 124,200,000,000 rubles, of which the national economy absorbed 47,200,000,000, social and cultural activity 31,700,000,000, defense 27,000,000,000, and other expenditure 18,600,000,000. The grand totals were over $2\frac{1}{2}$ times those for 1934. It did not follow that the scale of living of the population as a whole had expanded in proportion, for the purchasing power of the ruble, in terms of the individual's purchases, could not be said to have remained wholly the same; nor did there exist any ready and adequate means for the public outside of Russia to determine the purchasing power of the ruble in 1938, relatively to 1934. Actual prices for goods varied considerably, as between those charged by lawful shops and by speculators; in the case of clothing, rough woolen trousers were reported to be priced at 35 rubles in the shops and obtainable at 80 rubles or more from "speculators" (unlicensed dealers); felt boots, costing 80 rubles in shops, were said to be offered at 180 rubles by the "speculators." Other costs and prices (not necessarily uniform for the Union) were thus given in the press in 1938: Bread for a family of five for a month (about 300 lb.), 90 rubles; cloth shoes, 60 rubles a pair; an automobile cylinder block, 1200 rubles. Some commentators continued to treat the ruble as approximately equal to 20 cents in U.S. currency. Wages, thought to have averaged 251 rubles a month for all workers, late in 1937, were raised by an average of 10 per cent for 1938; the increased pay averaged 319 rubles a month in heavy industry, 216 in light industry, 300 in railroad employment.

Despite the limited spending-power of the people, there occurred in 1938 a widespread and prolonged shortage of manufactured goods for sale. It was attributed in part at least to a paradoxical cause: abundant agricultural production. The supposed working of this cause was, that the agricultural workers, by reason of abundant returns, had more to spend and that they exhausted the market for goods intended for industrial workers. While the harvests were good in the main, they were not uniformly so, as a considerable part of Russia suffered from drought. Foodstuffs were actually more abundant, but in the case of some articles they still either failed to meet the demand or else remained too high in price for the average purchaser's purse; this was the case with the majority of meats and of dairy products, in spite of a generally favorable agricultural trend.

The industrial population, like the agricultural, was receiving more wages than in 1937, and the rate of wages had been rising since 1928; conse-

quently the increase of urban purchasing power was added to the rural purchaser's demand. The situation was summed up in the Russian jest: "Who are the richest of peoples? We are—we cannot spend all that we earn." Secondary causes, too, supposedly contributed to the shortage of manufactured goods; the "speculators" forestalled consumers in the shops, exhausted the local supply of goods in particular demand, and peddled their purchases, taking the risk of punishment; in some shops the employees personally bought up incoming consignments of scarce articles; in some the management, in order to avoid punishment for failing to earn the required profit, shirked restocking with goods that could not be profitably handled, however needful these were to the public—window panes, in particular, were said to be hard to get, although factories had them in considerable stock.

Economic Planning. The third Five-Year Plan went into effect at the beginning of 1938, the second Five-Year Plan having terminated with 1937. While the practice of planning in terms of five years at a time was observed in the naming of the new term, the year did not bring any definite indication whether the authorities had in mind any precise, dominant aim for the period 1938–42. A goal was set for 1938, the design being to produce goods to the total value of 84,300,000,000 rubles, or 15.3 per cent more than the total of 1937; the actual increase in production achieved for 1938 was subsequently estimated as 12 or 13 per cent. As to the outline that the new Five-Year Plan would take, there was some anticipation that it would continue to cultivate the growth of production, with view specially to establishing reserves of productivity and of material; that agricultural production would be required to augment very considerably; that the need to raise the production per capita, both in agriculture and in manufacturing, would be tackled; and that the exploitation of petroleum would be undertaken east of the Volga River.

The manufacturing industries were definitely under the management of the authorities in 1938, but in agriculture, under the lately established system of collective farming, management remained to a great extent in the hands of each farming community. The collective farming units, according to a recent count, numbered 243,000; they contained an estimated 93 per cent of all peasants of the cultivated areas; and they had free use of the land, by grant from the government. While subject to governmental regulation in divers respects, they retained, with the use of the land, a considerable collective freedom in the direction of their own production. The system, though regarded by some as anomalous to the outright rule of public authority that prevailed in manufacturing, had accomplished a fairly thorough, if humane, "liquidation" of the old-style, self-managing cultivator.

The Political Field. The eradication of persons obnoxious to those holding the highest authority continued through 1938. In some cases those to be removed were tried in public and condemned to death or imprisonment; in other cases, men who held or had held positions of importance were removed from office and replaced by others, their own further careers not always being disclosed. In harmony with the reported trial and execution of eight Soviet generals in 1937, correspondence from Riga stated in September, 1938, that the Russian Naval Ministry had admitted the execution, carried out some months before, of Orloff, Commander in Chief of the Navy; Sivkoff, Admiral in command of the Baltic fleet; and Ludry, Admiral at the head

of the Naval Academy; there was uncertainty at the time as to the whereabouts of nine other former high officers of the navy.

A group of 21 defendants were brought to trial (March 2) before the military collegium of the Supreme Court, condemned of treason, and sentenced (March 15); the group included five men of former high political prominence in the Soviet regime: Nikolai Bukharin (q.v.), Alexey Rykov (q.v.), G. G. Yagoda (q.v.), Nikolai Krestinsky, and K. Rakovsky. All were executed, save Rakovsky and two others, sent to prison. The general charge was that these men had formed a bloc of Rightists and Trotskyists, to overthrow the Soviet system and restore capitalism; certain physicians in the group were accused in particular of having murdered Maxim Gorky and others while pretending to treat them. Krestinsky, after the manner of some of the defendants in previous trials of the same type, made a confession in court; he then disavowed the confession and on the following day withdrew the disavowal.

Marshal Vassily Bluecher, commander of the forces on the Union's eastern borders during the engagements with the Japanese at Changkufeng in July, was reported in October to have dropped out of view and it was thought that he might have been arrested; in December, however, appeared an unofficial report that he was serving in the War Office in Moscow. Two officers on the Eastern front, Gen. G. S. Lushkov and Major Franzevitch, fled to the Japanese lines in June. Late in December, a minor political trial led to the conviction and condemnation to death, at Kiev, of five of the staff of the Commissariat of Internal Affairs. The charge against them was that they had compelled persons to make false confessions of counter-revolutionary activity; their methods and purposes in that course were not disclosed in the news on the subject.

In the matter of economic planning, already mentioned, Valery Mezhlauk, chairman of the State Planning Commission, was dropped at the elections held in December, 1937, and replaced by N. A. Vojnesensky; there followed accusations that wreckers and spies for Trotsky and Bukharin had worked their way into the commission in order to ruin the planned economy at its source.

Furtherance of Soviet Theory. The more thorough establishment of Communism was still an object of much public effort. A popular election was held in the Soviet Union on June 26. Although there arose no question of a contest as to the candidates for office, an overwhelming majority—reportedly over 99 per cent—of the registered voters attended and, almost without exception, voted the orthodox slate. Results were alike in the several republics. It was reported that the voters showed beginnings of curiosity about the purpose of the proceeding, as had apparently been anticipated by authorities when they decreed the formality of single-party elections, as a preliminary to an eventual reasoning vote. The Supreme Council of the Soviet Union (legislature created by the constitution of 1936) met for the first time in January, 1938; its chief action, taken in August, was the adoption of the year's budget.

Authorities displayed some concern that greater progress had not been made toward rendering atheism the universal attitude in spiritual matters. Reports of the persistence of many individuals in the permitted religious observances, particularly at the times of the chief Christian festivals, appeared in the news. A dispatch told in October that

the *Teachers' Gazette*, a journal of the Commissariat of Education, had given warning of a revival of religious manifestations among children, as in the singing of Christmas carols; that enemies of the people had sabotaged anti-religious instruction; teachers were accordingly cautioned against indifference on this subject and exhorted to convert children to an active attitude against religion.

See CHINA, FINLAND, FRANCE, GERMANY, GREAT BRITAIN, POLAND, RUMANIA, and SPAIN under *History*; COMMUNISM; MILITARY PROGRESS; NAVAL PROGRESS; POLAR RESEARCH.

UNITARIAN CHURCH. A denomination of independent congregational churches voluntarily uniting themselves together for more efficient religious work. The purpose of the American Unitarian Association, which is the executive arm of the denomination, is:

To diffuse the knowledge and promote the interests of pure religion which, in accordance with the teachings of Jesus, is summed up in love to God and love to man;

To strengthen the churches which unite in the Association for more and better work for the Kingdom of God;

To organize new churches for the extension of our faith in our own country and in other lands;

And to encourage sympathy and co-operation among religious liberals at home and abroad.

The Association recognizes that its constituency is congregational in tradition and polity, and that nothing in these By-laws is to be construed as an authoritative test.

The one hundred and thirteenth annual meeting of the American Unitarian Association was held in Boston, Mass., May 26, 1938. According to the statistics available for 1937-38, the denomination had 355 churches; 58,951 members; 133,905 constituents; 2285 Sunday school officers and teachers, and 14,651 pupils. The denominational publication is *The Christian Register*, a weekly. The officers of the Association are: President, the Rev. Frederick M. Eliot, D.D., LL.D.; Executive Vice-President, the Rev. Everett M. Baker; Secretary, the Rev. Palfrey Perkins, D.D.; Treasurer, Parker E. Marean. Headquarters, 25 Beacon Street, Boston, Mass.

UNITED BRETHREN IN CHRIST. This denomination resulted from the experiences and work of Phillip William Otterbein, a German Reformed pastor, and Martin Boehm, a Mennonite preacher. It was formally organized in Frederick County, Md., in 1800.

The church functions through a General Conference held every 4 years, 28 annual conferences, and a Board of Administration that co-ordinates and promotes the financial support of the General Causes, the Foreign Missionary Society, the Home Mission and Church Erection Society, the Board of Christian Education, and the United Brethren Printing Establishment.

Leading institutions of learning are: Bonebrake Theological Seminary, Dayton, O.; Lebanon Valley College, Annville, Pa.; Otterbein College, Westerville, O.; Indiana Central College, Indianapolis, Ind.; York College, York, Neb.; Shenandoah College, Dayton, Va.

The membership in the United States in 1938 totaled 416,737. The official papers are the *Religious Telescope*, the *Watchword*, and *The Evangel*. Headquarters are in Dayton, Ohio.

UNITED STATES. The area of the United States proper, or the 48 States and the District of Columbia, totaled (1939) 3,026,789 square miles; this excluded open sea and parts of the Great Lakes within territorial limits; but it included 53,013 square miles of other water. The non-contiguous lands under the United States' authority (Alaska, Hawaii, the Philippine Islands, the Pan-

ama Canal Zone, Puerto Rico, Guam, the Virgin Islands, and American Samoa) comprised 711,606 square miles. The combined area of the Union and these lands was 3,738,395 square miles.

The population of the 48 States and the District of Columbia, at the census of Apr. 1, 1930, was 122,775,046. An official estimate for July 1, 1938, made by the Bureau of the Census, placed the total population at 130,215,000. No estimates of the population State by State were made for 1938. The population of the non-contiguous lands (as listed above) totaled 14,233,389, as determined in 1929 for the Philippines and in 1930 for the other lands; the Philippines contributed all but 2,061,570 of this total.

The estimated increase in the population of the Union from Apr. 1, 1930, to July 1, 1938, totaled about 7,440,000; this came to slightly more than 6 per cent of the population of 1930, whereas the population had increased from 1920 to 1930 by 15 per cent. The percentage of yearly increase averaged, for 1930-38 (as estimated), about half of that for 1920-30. Interrupted immigration and a slow rise in the ratio of deaths to births were represented as the causes of the slackening pace of the population's increase. (For States' respective areas and populations, see under each State.)

Agriculture. See AGRICULTURE; AGRICULTURE, U.S. DEPARTMENT OF; sections on *Agriculture* under the various States; and articles on CORN, WHEAT, etc.

Commerce. The general course of business continued downward for the first five months of 1938, touched in June the bottom of the descent that had started in August, 1937, and thereafter improved until early in December. The *New York Times'* weekly business index, a measure of commercial and industrial activity, averaged, for January, about 81 per cent, scored 75, the year's lowest, for the week ended with June 4, and rose to 94.4 for the week ended with December 10; these figures compared with 111 for the second week of August, 1937, and about 64 for the low point of March, 1933. Industrial employment sank to 75.7 per cent, for June, by the Labor Bureau's index, as against 101.1 for June, 1937. Consumers' purchasing power suffered both from the low rate of employment and from a considerable reduction in the year's total of declared dividends. There was an accompanying fall in prices of divers sorts; the Labor Bureau's index of commodity prices reached the year's lowest point, 76.7, in December. Prices for manufactured goods in some industries were cut, as in the case of steel; in other industries, they were lowered by the promotion of cheaper brands, as in the case of cigarettes. The Federal Government's intervention, on the other hand, sought to bolster prices: For agricultural products, by subsidizing exports, purchasing surpluses, and making liberal loans on unsold crops; for capital goods, by financing public works; for the woolen industry, by purchasing and ordering garments for the poor. In the domestic sale of goods, as measured in dollars, the decline was almost universal; but it was more severe in the case of manufacturers' sales than of wholesalers' distribution, which in turn suffered more than did retail trade. Manufacturers' monthly sales averaged about 17 per cent less than for 1937; wholesalers', about 12½; and retailers' sales, according to one computation, fell short of 1937 by 11 per cent. As to time, the most conspicuous declines occurred in April and May; as to kinds of products, they occurred largely in capital goods and those particularly used in automobiles. The year's total

of mercantile retail sales was estimated at \$35,700,-000,000.

Foreign trade, in dollar totals, fell short of that of 1937 by nearly 8 per cent as to exports and 36 per cent as to imports. Exports had the advantage of European demand for many agricultural products through the first half of 1938, due to inferior foreign harvests in 1937; foreign countries also sought aircraft and machinery for working metals. Imports felt the effect of disturbed conditions abroad and of depressed demand. Apart from the trade in goods, the United States received from abroad a net addition of some \$1,973,000,000 in gold, as well as silver valued, for the net importation, above \$223,000,000. Figures on imports and exports follow.

GENERAL EXPORTS AND IMPORTS [In thousands of dollars]

	1937	1938	1937	1938
January	222,665	289,063	240,444	170,689
February	233,125	261,928	277,709	162,955
March	256,566	275,302	307,474	173,360
April	268,945	274,467	286,837	159,827
May	289,922	257,267	284,735	148,248
June	265,341	232,723	286,224	145,869
July	268,184	227,527	265,214	140,818
August	277,031	230,797	245,668	165,516
September	296,579	246,329	233,142	167,595
October	332,710	277,696	224,299	177,998
November	314,697	252,239	223,090	176,180
December	323,403	268,756	208,833	171,474
12 months	3,349,167	3,094,095	3,083,668	1,960,528

GOLD AND SILVER TRANSFERS [In thousands of dollars]

	Gold exports		Silver exports	
	1937	1938	1937	1938
January	11	5,067	2,112	355
February .....	..	174	1,811	233
March	39	20	1,546	191
April	13	145	1,668	250
May	4	212	1,841	317
June	81	131	1,144	254
July	206	65	214	193
August	169	17	278	401
September	129	11	285	1,463
October	232	16	380	1,259
November	30,084	14	527	823
December	15,052	16	236	1,344
12 months	46,020	5,889	12,042	7,082
	Gold imports		Silver imports	
	1937	1938	1937	1938
January	121,336	7,155	2,846	28,708
February	120,326	8,211	14,080	15,488
March	154,371	52,947	5,589	14,440
April	215,825	71,236	2,821	15,757
May	155,366	52,987	3,165	17,952
June	262,103	55,438	6,025	19,186
July	175,624	63,880	4,476	18,326
August	105,013	165,990	4,964	4,985
September	145,623	520,907	8,427	24,098
October	90,709	562,382	5,701	25,072
November	52,194	177,782	10,633	24,987
December	33,033	240,542	23,151	21,533
12 months	1,631,523	1,979,438	91,877	230,331

Mineral Production. The more important minerals mined in the United States are treated in separate articles. There are also paragraphs on mineral production in the articles on the individual States.

Railways. See separate article on RAILWAYS.

Shipping. See articles on SHIPPING and SHIP-BUILDING.

Finance. See article on PUBLIC FINANCE.

Army and Navy. See articles MILITARY PROGRESS and NAVAL PROGRESS.

Education. See the articles EDUCATION IN THE UNITED STATES and UNIVERSITIES AND COLLEGES. Separate articles on the most important universities and colleges also are given under their re-

spective titles. Sections on education are included in the articles on the several States.

ADMINISTRATION

General Conditions. The year 1938 inherited from 1937 a condition of persistent economic debility evidenced by reduced industrial activity, widespread unemployment, increasing insolvency among the railroads, low prices for many commodities, and the inactivity of uninvested private capital. There remained an unfinished conflict of interests between unionized employees and employers and likewise between two great groups of unionized labor, the A.F.L. and the C.I.O. The scene somewhat resembled that of 1931, the year that had bankrupted the prestige of the Hoover Administration. At Washington, because antagonism aroused in Congress in 1937 by the bill to change the Supreme Court's composition remained unhealed, the President had opponents within his own party. The popular tendency to impute the blame for adversity to those who had claimed the credit for prosperity was at work. Elections for a new Congress gave all these factors a field in which to work.

Factors favorable, both to the country and to those in charge of its "planned economy" also were present. The agricultural areas escaped widespread droughts and crop failures such as had been common in the earlier '30's. The divers subsidies and other aid to farmers worked sufficiently well to prevent recurrence of the wholesale ruin that had befallen farmers in the original depression. The dispensations of public support under the Social Security Act preserved great numbers from feeling the full force of bad times; in particular, unemployment compensation, paid to persons losing employment, began or had recently begun in many States. The number of indigents nevertheless increased greatly in the earlier part of the year, and precedent already set made them look to the Federal Government as the chief source of support.

The President. President Roosevelt's activities in 1938 differed in two notable respects from those in the previous phases of his administration. He proposed no new and daring venture in government or in economics; but he gave much attention to efforts to promote the defeat of his Democratic opponents in the elections for Congress. While his thoroughgoing supporters, aware of the impairment of the personal dominance on which his whole direction of National affairs rested, understood this resort to factional hostility to be needful to the security of what he had accomplished, many others, struck by the contrast with his earlier tolerance toward adversaries, and still more by what was thought an encroachment upon the province of the voter, condemned his course.

The President read his annual message to Congress on January 3. He opened with a warning of the need of adequate means of defence, in view of disturbance among other nations. The bill for the regulation of agriculture, which the previous session had left in conference, was recommended for passage. The request, made in 1937, for a law setting minimum wages and maximum hours of industrial employment, was renewed. The message declared that a higher national income was needful and set \$90,000,000,000 or \$100,000,000,000 as "our objective," but proposed no specific legislation toward this end. The Administration's policies as to taxation and incurring deficits were defended. Concentrated control over the property of others, especially in banking, was condemned in general terms. "Fundamental sound economic conditions"

were cited as reason why the "recession" then current should cause little fear. Business was assured of the Government's co-operation, "provided the component parts of business abandon practices which do not belong to this day and age." The message closed with several paragraphs of defensive tone; they contained such expressions as: "Where in some particulars . . . legislation has failed we cannot be sure whether it fails because some of its details are unwise or because it is being sabotaged"; "if private co-operative endeavor fails to provide work . . . those suffering hardship from no fault of their own have a right to call upon the Government for aid"; "it is the opportunity and duty of all . . . to co-operate with the Government . . . in whatever program may be sanctioned by the chosen Representatives of the People"; "I am sure that the Congress . . . will not let the people down."

The budget message (January 5) recommended curtailing expenditure on Federal public works such as highway subsidies to States, Federal buildings, and further projects of reclamation and river and harbor improvement; asked Congress to pass an act or initiate a constitutional amendment to allow the President to veto individual items in appropriation bills; and proposed reducing expenditure for the relief of indigents among the unemployed by \$493,000,000, for the fiscal year 1939, below the total for 1938, subject to change if business should fail to mend; yearly coverage, by the Treasury, of loss to the capital of the Commodity Credit Corporation and the guaranteeing of the Corporation's borrowings were recommended. With the aid of the proposed cut in support to the unemployed indigents, already a doubtful possibility, the budget as submitted showed a deficit (net of postal expenditure offset by earnings and of charges for retirement of debt) of \$949,600,000, the lowest subsequent to that for 1931; receipts were estimated at \$5,919,400,000, expenditures at \$6,869,000,000. The message did not propose any changes in taxation, Congress having the subject in hand.

A special message (January 28) asked Congress to authorize a program for increasing naval and, in lesser degree, military armament, in view of increasing armaments abroad. The cost of the program, supposedly about \$800,000,000, was to be spread over a series of years, and only a minor portion of the proposed total called for expenditure in the fiscal year just ahead (see *Legislation*). A special message (April 14) on the state of business and the needs of the unemployed defended the Administration against the charge of having precipitated the current economic relapse by any of its projects or policies; declared that the nation's income ought to rise within a decade to more than \$100,000,000,000, and that "the Federal debt . . . can only be paid if the Nation receives a vastly increased citizen income"; recommended the appropriation of an additional \$1,250,000,000 for expenditure by the WPA in the seven months to start July 1, as "ammunition of the highest grade for attack on recession"; proposed further appropriations for dispensation by the Farm Security Administration, National Youth Administration, and Civilian Conservation Corps; announced the policy "to make additional bank resources available for the credit needs of the country" by the "desterilization of approximately \$1,400,000,000 of Treasury gold" (i.e. gold that the Treasury had purchased and kept separate from the gold against which it issued monetary paper); proposed to effect through the

Federal Reserve Board a reduction of the required reserves of banks; asked for statutory permission for the U.S. Housing Authority to undertake immediately to build additional housing for the poor, to cost \$300,000,000; recommended the renewal of the PWA's financing, through loans and grants, of public works; and recommended the appropriation of an additional \$100,000,000 for dispensation by the Bureau of Public Roads, for aid to work on highways that could be started within the calendar year. The message also uttered a warning against words and acts harmful to the policy of promoting economic activity: "Appeals to prejudice, the creation of unkindness . . . are offenses against the whole population. . . . Use of power by any group . . . to force its interest . . . is an attack against our national life."

A proposal that Congress take literally the Sixteenth Amendment's authorization "to lay and collect taxes on income from whatever source derived" and enact a statute rendering State and Federal salaries and interest taxable both by the Federal Government and by States was delivered April 25; such action, if sustained by the courts, would have supplied an early addition to the collection of income taxes. A "fireside chat," the eleventh of this series of direct addresses to the population by medium of the radio, gave publicity to the proposals made to Congress on the same day, for moves to combat the new economic depression. A message delivered to Congress on April 29 drew the members' attention to the "concentration of economic power in American industry and its possible bearing on decline in competition" and recommended an appropriation for certain departments' study of the subject.

In unofficial public utterance, President Roosevelt declared (January 8), at a Jackson Day Democratic dinner in Washington, that he opposed only a small minority of bankers, business men, and industrialists, and said of dissidents in his party: "It is not only necessary but it is right that the party slough off any remains of sectionalism and class consciousness." Before an audience at Gainesville, Ga., he asserted (March 23) that wages in the South were far too low and that, as efficiency went "hand in hand with good pay," Southern industries could not compete with those elsewhere; the overwhelming majority of the people of Georgia, he said, opposed "feudalism." At Gettysburg, Pa., addressing the first combined reunion of surviving veterans of the Blue and the Gray, he said of 1863 and 1938: "The challenge is always the same . . . whether each generation can summon the practical devotion to attain and retain that greatest good for the greatest number, which this Government . . . was created to insure." At Kingston, Ontario, attending the opening of an international bridge, he gave his Canadian hearers "my assurance that the people of the United States will not stand idly by if domination of Canadian soil is threatened by any other [than the British] empire." In a "fireside chat" (June 24) he gave the people a review of the record of the Congress, praising its acts to aid agriculture, to regulate wages and hours, and to finance relief and recovery; he condemned the recent defeat of his proposal of 1937 for reorganization of the administrative branch of the Government, and dismissed the defeat in 1937 of the measure to change the Supreme Court with the characterization, "a lost battle which won a war." Also, after reviewing the Administration's handling of needs caused by current economic trouble, he hinted at his intended personal fight against dissident Demo-

crats in the primary campaigns, saying, "I feel that I have every right to speak in those few instances where there may be clear issues between candidates for a Democratic nomination involving these [the Democratic 1936 platform's] principles." He characterized opponents of the New Deal as "defeatists" and "copperheads."

The personal participation of President Roosevelt in primary campaigns among the States took the form of speaking tours in which he expressed approval of Democratic Senators seeking renomination or else signified disapproval and endorsed rival candidates for the Democratic nomination. He showed his attitude as to a few Representatives, but Senators were his main concern. The spectacle of a President's taking the platform in State after State to sway the Senatorial primaries of his party impressed the public and the press as a novel one. By adoption of a word familiar through foreign political news, his course came to be called a party "purge" (see under *Politics*, below).

The first of the President's campaign trips (July 8-17) was devoted to endorsements of favored members of Congress, mainly Senators. On the 8th Senator Bulkley was approved, at Marion, Ohio; Senator Barkley, at Covington, Ky., on the 8th; Senator Thomas, at Oklahoma City (10th); five of the Texan Representatives, at addresses in Texas (11th); Senator McAdoo, at San Diego, Calif. (17th). A brief second speaking tour was made in August on the way north from Pensacola, where the President had landed from a cruise to the Panama Canal Zone; the addresses dealt with two Southern Senators undesirable to the New Deal. At Warm Springs (August 10) Mr. Roosevelt approved the candidacy of Lawrence Camp, who sought the Democratic nomination for Senator in opposition to Senator George; at Barnesville (August 11) the President spoke outright for the defeat of George, "a dyed-in-the-wool conservative," who was on the platform at the time; later, on the same day, he spoke from the car platform at Greenville, S. C., mentioning the desirability of choosing candidates in favor of the New Deal and pointedly failing to mention Senator Smith, who sought to be nominated for re-election, in the approaching primary. In a brief third trip early in September, President Roosevelt went into Maryland and made two addresses supporting Senator Tydings's rival for the Democratic nomination, though not attacking Tydings explicitly. Among the Senators for whom the President spoke, Bulkley, Barkley, and Thomas won in the primaries, while McAdoo lost; the three against whom he spoke, George, Smith, and Tydings, all won. There arose question of consequent impairment of Mr. Roosevelt's prestige with the people, for he had in effect asked them in many Democratic constituencies to follow his judgment in their voting.

The President extended through the Secretary of Commerce an invitation to leaders of the smaller business enterprises to confer in Washington. About a thousand, from 40 States, accordingly met there early in February; in an agitated session the conference unexpectedly voted (February 3) resolutions which, as published in the press, made caustic demands for the termination of some policies of the New Deal. A committee picked to present the resolutions to the President reportedly altered them after conference with Secretary Roper; thus, "unwarranted and malicious attacks on business by Administration representatives should be permanently stopped" reportedly became a proposal that "the Government continue to co-operate with busi-

ness"; "opposed to all forms of Federal wage and hour regulation and legislation" became "question the merits of a standard wage and hour bill because of geographical differentials."

In the Federal proceedings as to the TVA President Roosevelt took an important part by removing (March 22) the Authority's chairman, Arthur E. Morgan, opponent and accuser of the other two members (for these proceedings, see under *Administration*, below).

Organization and Personnel. Another regulative body, the Civil Aeronautics Authority, was organized, as provided by an act of Congress earlier in the year, for the purpose of regulating commercial and private flying, after the manner in which the Interstate Commerce Commission dealt with the operations of the railroads. The Authority was composed of a board of five members, receiving salaries of \$12,000 a year, and an Administrator (Clinton M. Hessian); all took office on August 8. There were at the time 20,076 pilots and 9732 airplanes with certificates to fly. An Air Safety Board of three members came into existence at the same time. A Wage and Hour Division was established in the Department of Labor, as provided in the Fair Labor Standards Act of 1938; Elmer F. Andrews was appointed (July 15) its Administrator.

The Federal system of civil service, by an executive order issued on June 24, was made to extend over a great number, by report more than 100,000, of the persons in the civilian employ of the Government but not previously subject to the civil-service rules. Of this number, 71,000 were said to hold positions in the so-called emergency agencies and corporations that had sprung up in the era of the New Deal. The executive order was issued shortly after, but was distinct from, an act of Congress giving civil-service status to some 15,000 postmasters of the first, second, and third classes. The number of Federal civilian employees prior to the order was about 813,000, which included some 533,000 already holding civil-service status. By virtue of the order, most of the positions without such status, between casual workers and the posts of higher direction, were reported to have obtained it.

Among the leading figures in the Administration, two made ready in December to vacate important positions in the Cabinet: Secretary of Commerce Roper gave his resignation, to take effect on December 23, and Attorney-General Cummings's resignation was to take effect very soon after the turn of the year. To fill Roper's place, the President immediately appointed as Secretary of Commerce, Harry L. Hopkins, Administrator of the WPA, who took office ad interim on the 24th. Press reports indicated that the President had decided to appoint as Attorney-General Frank Murphy, the outgoing Governor of Michigan, nationally noted in 1937 for permitting the C.I.O. to seize properties of industrial employers. Col. F. C. Harrington, U.S.A., was assigned to act as Administrator of the WPA in Hopkins's place.

Dr. Arthur E. Morgan of the TVA (see below) was removed from office and Harcourt A. Morgan was made chairman of the TVA, in his place. Assistant Attorney-General Robert H. Jackson was appointed Solicitor-General in February, after confirmation by the Senate. When examined by a subcommittee of the Senate's committee on the judiciary, prior to confirmation, Jackson upheld the liberal view that the Supreme Court should interpret the constitution in accordance with contempo-

rary popular opinion; The Supreme Court, he said, "must ultimately express the opinion and interests of the American people. I don't think you can maintain, except with the Army, any institution which consistently defies the will of the people." The vacancy filled by Jackson resulted from the resignation of Solicitor-General Reed upon his nomination to the Supreme Court. On January 7 Joseph P. Kennedy, Chairman of the Maritime Commission, was nominated by the President to be Ambassador to Great Britain, and Hugh R. Wilson, Assistant Secretary of State, was nominated Ambassador to Germany. Adm. E. S. Land became Chairman of the Maritime Commission, and Adolf A. Berle, Jr., was made Assistant Secretary of State.

Redistributive Agencies' Predominance.

Administrative agencies employed chiefly in the redistribution of wealth among the nation's inhabitants increased the predominance over other Administrative operations, which they had acquired under the New Deal. The extent of this predominance may be noted from the proportion that the sums appropriated for expenditure intended mainly to provide support to private individuals in the fiscal year that began on July 1 bore to the whole budget for that year. Such appropriations totaled about \$5,000,000,000, inclusive of sums for the benefit of veterans and their families; expenditures for other Federal activities, exclusive of the service of the debt, approximated \$2,700,000,000. Thus, about 65 per cent of Federal operating appropriations for the year went into providing or augmenting the livelihood of the poorer classes. These classes were mainly the veteran group (whose claim to special aid rested on precedents dating back almost through the whole life of the nation), the great class of indigents able to work but lacking gainful employment in private enterprise, the young unemployed who had failed as yet to find jobs, people working in regular trades but insufficiently employed to make their normal incomes, the greater part of the farmers, and the classes specially handicapped or passing beyond the age for employment. These groups received, respectively, aid from the WPA, the NYA, the CCC, the PWA, the AAA (with its various adjuncts), and the Social Security system.

Operation of the WPA. The number of the persons receiving "subsistence" wages from the Works Progress Administration throughout the country increased at a rapid pace through the spring and summer, until it surpassed 3,100,000 early in September. This was well above twice their total of a year earlier, when the count reached 1,458,830. The increase, natural to a time of extensive unemployment and attendant destitution, was met by the provision made by Congress for more extensive distribution of public support to the needy. This provision, however, coinciding with the advent of a campaign for the election of members of Congress, a matter of great concern to the Administration, offered obvious opportunity for the use of the WPA, among the other Federal dispensaries of money, as means to secure the voting allegiance of a great part of the population. Through the summer and autumn controversy raged as to whether the WPA deliberately sought to use its distributions for partisan advantage. The Senate's special committee dealing with condemned practices in the election of members of the Senate paid particular attention to charges against the WPA; it prepared a report on its investigations, but the report awaited the convening of Congress

at the beginning of 1939. The situation differed from that in 1936, in that though the stakes of the campaign of 1938 were nominally less, there was a more efficient opposition to the use of money by the WPA for political advantage. The widespread and systematic attention given to the subject rendered it difficult, even if intended, to use the WPA in the campaign on an effective scale.

The number of the unemployed, according to a Federal estimate cited by the President in February, had increased by 3,000,000 in the previous three months. Additions to the WPA's payroll, however, came only gradually. The number of recipients early in February was about 1,950,000. From July 1 on, the expenditures of the WPA rose to a much higher scale. The monthly total, nearly \$150,000,000 for July, went on increasing to such an extent that it became a question whether available appropriations would last until February so as to cover the seven months for which the President had estimated that they would serve. In addition to its payments in money wages, the WPA, using a sum allotted to it by the President out of an appropriation in his control, spent about \$15,000,000 to buy garments for distribution among its clients in the autumn. The chief part of these purchases consisted of unsold stocks of ready-made clothing that clogged the market for the output of the garment-makers' industry and thus caused unemployment; the aim was to put the garment-makers back to work and by the same expenditure to furnish needy people with apparel. With another part of the money, several thousand unemployed garment-makers were hired to make clothing for needy wearers. The WPA also acted as distributor for supplies of products that the Federal Surplus Commodities Corporation had bought up in riding markets of gluts. The policy of putting the clients of the WPA at work, as far as feasible, on construction financed by the PWA, was kept up. The National Youth Administration, connected with the WPA but having a separate appropriation, and the Civilian Conservation Corps, separately directed, continued to supply occupation and support to needy young people.

The PWA's Renewed Activity. The Public Works Administration had been restricted in 1937 to financing undertakings already approved. Until the President launched, in April, 1938, his new program of aid for "relief and recovery," this agency was comparatively inactive. On April 16 it started again to allot grants and loans, the first being out of remaining available funds, in advance of further appropriation. The appropriation act of June 21 provided it with \$965,000,000, plus the remainder of previous appropriations, but restricted the allotments so that they should not exceed stated totals for different sorts of enterprises. The PWA worked at high speed in order to enable a great amount of construction to start in the shortest possible time; it still had in its files a great number of applications that had been held in abeyance; and thus on August 13 it was able to announce that it had approved proposed contracts by which it stood ready to finance, through loans and grants, 3028 undertakings, in addition to those previously approved. It was thus ready to supply the means for \$1,205,000,000 of construction, of which \$196,000,000 was Federal and \$1,009,000,000 non-Federal. This speed had for its incentive the desire to bring many projects to the stage of execution without the delays that had marked previous efforts to start subsidized construction. With the same end in view, applicants were encouraged to put into their con-

tracts promises of special rewards for architects and engineers who should advance dates of construction. There occurred some disappointments; some former applicants no longer wanted to execute works for which they had formerly asked money. The PWA announced on August 25 that work had started on 80 per cent of the Federal share of the program, but doubt remained as to how much of the total allotted to finance construction other than Federal had been expended up to the end of the calendar year. Much of the proposed stimulation of industry and employment was to occur through activity in industries that would supply materials and equipment for construction—an activity widely ramified and difficult to determine in detail.

As the dispensation of Federal money by the PWA worked more slowly than that by the WPA, it drew less attention as to its possible political effect in the year's campaign. The President, on his visit to Maryland early in September to oppose the Democratic renomination of Senator Tydings, gave the people of that State expectations of early action on the part of the PWA to finance bridges over the Susquehanna at Havre de Grace and over the Potomac at Morgantown; and financing for one of these bridges was soon afterward approved. Administrator Ickes announced (July 30) that the PWA was to grant \$26,000,000 outright toward the public construction, in Pennsylvania, of a 162-mile toll highway between Harrisburg and Pittsburgh, the Reconstruction Finance Corporation lending the rest of the total projected cost of \$58,000,000.

The PWA had power, under the appropriation act of June 21, to make loans and grants to municipalities for their purchase or construction of public systems for the distribution and, if needful, the generation, of electricity. The Supreme Court's decision of January 8, in the utilities' cases, denied the companies' objections to the grants and loans. Thus came forward anew the issue as to whether the Government was to furnish capital with which electric systems under public ownership would compete with and possibly drive to the wall privately owned systems obliged to meet their own capital debts and pay taxes. Mr. Ickes, in accordance with an informal assurance from the President, declared a policy of allowing no money to a municipality to equip it for competition with a privately owned company, unless reasonable efforts had been made in good faith to buy the company's property. Although the main purpose of the PWA at the time was to generate employment by putting construction under way, and was consequently not the financing of mere changes of ownership, negotiations with private owners were made a requirement, as a preliminary to aid from the PWA, where private companies were involved. In the absence of stated and specific standards for setting offers to owners, some of the negotiations were protracted and difficult.

Aid to Farmers. Federal support for farmers, until after the crop of 1938, followed mainly the methods provided in statutes of prior years. Marketing control (restriction of farmers' sales) was, however, applied to the 1938 crops of cotton and three types of tobacco, in accordance with the Agricultural Adjustment Act of 1938 and after a ratifying vote, in March, cast by the farmers of each of the crops affected. Wheat was ranked as a soil-depleting crop under the old law and thus qualified to receive a Federal distribution at 12 cents a bu. to farms approved as co-operating in conserving the soil. The Crop Insurance Corpora-

tion was organized, under the new law, to insure the farmer a normal yield of wheat, starting with the crop of 1939. Insurance due on his crop's deficiency was to be payable alternatively in the requisite quantity of wheat or in cash to such wheat's current value; the premium was payable either in cash worth a percentage of the normal crop, or in the form of a warehouse receipt for wheat to such percentage.

Federal cash payments made directly to farmers in 1938 were predominantly those for soil conservation and the loans granted on unsold crops of certain products. The Government's lending on wheat was so liberal, in proportion to the value of the grain on the farm, as to cause expectation of the surrender of the hypothecated wheat to the Government later on unless the market should rise considerably. A similar condition prevailed in cotton.

The year's chief problem for the Government, in its efforts to assure support to farmers, lay in surpluses caused by two successive years of abundant crops. There was no longer question of killing off livestock for lack of feed nor importing cereals, as had been done on occasions of crop failures still recent. Things had gone toward the opposite extreme; the Federal efforts were therefore bent toward keeping the superfluity off the domestic market, paying the growers in one way or another enough to make up their loss from a low market, and finding ways to rid the country of the farmers' superabundance. Special devices to promote exports came again into favor. The Red Cross arranged in September to send 60,000 barrels of domestic flour to Spain for the use of that country's destitute refugees, with free shipping supplied by the Maritime Commission. About the same time the Department of Agriculture announced plans to buy wheat and sell it abroad and to pay to exporters of flour an "indemnity" equal to the amount that they would lose by selling abroad. In spite of these and other measures taken on their behalf farmers of some important groups displayed considerable dislike for the new Agricultural Adjustment Act after it went into force. Objections centered on the intended compulsory restriction of their acreages and marketings of leading crops, such as wheat, cotton, and corn, in accordance with the so-called system of market quotas. Elections, required by the act, were held in December among the respective growers of cotton, rice, and three leading types of tobacco, for the ratification of proposed plans of crop-control for 1939. It required in each case a vote of two-thirds to ratify. The cotton growers ratified by a vote of 84 per cent; the growers of the three types of tobacco failed in each case to ratify, giving insufficient majorities; and the growers of rice gave an adverse majority. The evidence of strong opposition, among farmers, to the proposed Federal restrictions on their crops, gave impetus to plans to amend the act. The votes in December, as compared with those that had been cast in March, prior to experience of compulsory restriction of the farmer's sales of crops, suggested that this system had lost friends as it became better known.

Secretary of Agriculture Wallace, in connection with a decision of the Supreme Court as to his regulation of business in the Kansas City Stock Yards, made a public criticism of the Court's position as to review of procedure in administrative regulation of business (see *Judiciary*, below). In concert with the authorities of New York State, the AAA established (September 1) a system,

approved by vote among some 60,000 dairy farmers in several States, imposing minimum prices for their sales of milk in the New York market. The Farm Security Administration dispensed subsistence to a relatively small group of destitute farming people to the extent of about \$1,000,000 a month; it continued to aid the system of "subsistence" homesteads by which the defunct Resettlement Administration had given a limited number of farmers a new start.

Social Security's Wards. The Social Security Board, administering Federal grants to States, toward support for the needy elderly, blind, and children, was much occupied with its consequent function of enforcing reasonable efficiency and honesty in the States' distributions to these groups (see OKLAHOMA and OHIO). The appropriations for the Board's grants to the States in the fiscal year starting with July 1 exceeded \$300,000,000; this was about \$70,000,000 more than the appropriations for the fiscal year ended on June 30, 1938, and about \$150,000,000 above the total expended in the fiscal year 1937. The rise conformed with persistent increase in old-age assistance among the States, due to greater demand for it and to more liberal laws. See OLD-AGE PENSIONS.

Met mainly by payments not budgeted as Federal expenditure, there was a sharp rise during the year in the States' distributions on account of unemployment compensation. These ran to about \$180,000,000 for the six months ending with June 30. The increase in their rate was due in part to the great number of the newly unemployed and in part to the addition of 21 States, including New York and Pennsylvania, to the number making these distributions. The funds out of which these payments were made, while in the charge of the Federal Treasury, accrued mostly from the States' taxes for the purpose and were therefore mainly not a burden on the Federal budget. The main part of the Federal distributions for Social Security was the matching of the States' payments for support to the elderly poor.

The fund for the old-age annuities, eventually to give retirement on pension to employed workers in general, under the Social Security system, continued to accumulate, with as yet relatively slight outgo; the similar Federal fund for the pensioning of railroads' employees, independent of the Social Security system, afforded one of the minor Federal distributions of wealth. See OLD AGE PENSIONS.

The Promotive Enterprises. Apart from Federal activities explicitly represented as designed to dispense money or goods to the population, the Government carried on numerous activities that, while some of them redistributed wealth to an appreciable extent, as in creating work, were regarded as mainly advancing the well-being of the population in other ways. The U.S. Housing Authority (USHA), Home Owners' Loan Corporation, Federal Housing Administration, Farm Credit Administration, and Export-Import Bank accomplished their purposes by granting or facilitating credit; the Tennessee Valley Authority and the Federal electric development on the Columbia River took the form of public productive enterprises.

Aid to Housing for the Poor. The U.S. Housing Authority, created by an act of 1937, had as its task the granting of credit and of some sorts of subsidy for the creation of living quarters, essentially multiple dwellings in cities, for about a million persons. Its original appropriation

of \$500,000,000 was augmented to \$800,000,000 by the appropriation act of June 21, 1938. This was done in accordance with a recommendation in the President's "recovery and relief" message of April 14. While this recommendation was made on the plea of providing new work for the unemployed, the appropriation was popular with a widespread group convinced of the appropriateness of Federal aid for affording the urban poor better quarters than the slums which were the best that their incomes would allow them. The USHA was set to the task of exhausting its appropriation within the calendar year. Its Administrator, Nathan Straus, was able to announce on December 8 that \$647,575,000 had been allotted in 60-year loans at the rate of 90 per cent of the cost of the housing to be erected. The unused balance, somewhat over \$150,000,000, was to be held as a margin of safety, to make sure of possible requirements, on existing commitments, that could not be predetermined. The allotted money was placed about the country in accordance with a system of set quotas and was accordingly widely distributed; the loans were scattered among local housing authorities in 155 communities, situated in 31 States. Loans to a total of some \$500,000,000 remained unmade because the appropriation did not suffice for them. As in the case of the PWA, the total of money actually paid for work and materials out of the allotted loans during the year was uncertain. A forecast issued on July 1 anticipated that \$204,000,000 would be thus spent in the ensuing year.

Discord over the TVA. Dissension among the three members of the Tennessee Valley Authority, first conspicuous in 1937, afforded one of the chief matters of conflict between the New Deal and its critics in 1938. The original difference was that between Dr. Arthur E. Morgan, Chairman of the Authority, and David E. Lilienthal, Director in charge of electrical development; the third Director, Harcourt A. Morgan, took the side of Lilienthal, opposing his own namesake, Chairman Morgan. The dispute, originally over Lilienthal's antagonistic policy toward the privately owned enterprises for purveying electric current in the market entered by the TVA, spread to other issues. In particular, it embraced the relations of Lilienthal and his ally to efforts made by Senator Berry of Tennessee to obtain high compensation for the alleged value of deposits of marble in lands in which the Senator had an interest, and which the TVA had taken.

Chairman Morgan had opposed the Berry claims as an attempt to obtain unwarranted compensation from the Government. There followed, late in 1937, an inquiry by a Federal commission to determine the merit of these claims. Chairman Morgan gave before this commission testimony adverse to the claims and to the position of his two fellow-Directors thereon. The commission held (March 1) that the deposits on which the claims were based had no commercial value. Chairman Morgan promptly issued (March 2) a demand for an investigation of the TVA by a joint committee of the House and the Senate, thus virtually appealing over the head of the President and breaking wholly with the Administration.

The President responded by removing Chairman Morgan from office. By preliminaries to the removal he established ground for his action. He first gave out to the press (March 4) a complaint of Lilienthal and Director Morgan charging Chairman Morgan with having made unsupported attacks on their integrity and competence, and

with helping private companies to oppose their proceedings. Next, the President announced (March 8) that he had summoned the Directors to his office to give him facts substantiating charges on either side. He held hearings (March 11 and 18), at which Chairman Morgan, fearing that the President's investigation would forestall and abort that by Congress, refused to particularize. Charging him with "contumacy," the President removed him from office (March 22) and made Harcourt A. Morgan chairman in his place.

In the Senate, meanwhile, Bridges of New Hampshire and other members of the opposition denounced the record of Lilienthal, creating a definite trend of sentiment that rendered it difficult to omit or to milden the investigation that Dr. Morgan had demanded. A joint committee was created, having Senator Donahay of Ohio as chairman. One of its first acts was to order (May 18) that Dr. Morgan have access to the TVA's papers, which he said had been denied him.

Dr. Morgan's testimony was given at various times thereafter, through the summer. He represented the other Directors as having made incorrect reports to the President and to Congress, as having wasted money or jeopardized it by injudicious construction and contracts (as that with the Aluminum Co. of America), and of having failed properly to determine the cost of the production of electricity (in which the TVA, according to the President's phrase, was to have provided the nation with a "yardstick"). The committee looked into the records of the Berry claims, originally for \$5,000,000. It brought to light a report thereon, made by the Authority's geologist, Edwin C. Eckel, in November, 1934, raising the doubt of these claims' good faith, and other reports, to the effect that the marble involved in the claims lacked commercial value. Director Lilienthal admitted having agreed, in a private conference with Berry in March, 1936, to a meeting of Berry's and the TVA's experts, with a view to conciliating differences over the claims; he defended this course by pointing out that the claims might thereby possibly have been settled for \$20,000, a sum much less than the cost of subsequent proceedings. The committee's report on its investigation was to go to Congress in 1939.

The TVA made some progress during the year in negotiations with private enterprises with which its sales of electricity brought it in competition. A plan put forward in May on its behalf proposed a division of territory, by the TVA's purchase of electric properties within a defined area and the confinement of Federal competition to corresponding bounds. (See also *TENNESSEE*.)

The Bonneville hydroelectric development on the Columbia River, the first part of a Federal undertaking distinct from the TVA but of similar character, was made ready for operation about the end of June. Its control was shared by a Columbia River Administrator and other administrative agencies, under an act of 1937 (see 1937 YEAR BOOK, p. 756). Its advent in the market for electricity stirred discussion as to whether it would tend, like the TVA, to appropriate the customers of the private purveyors in its area.

Work of the Regulative Agencies. Within the Department of Labor, the Wage and Hour Division (Elmer F. Andrews, Administrator) started, in July, to regulate hours and wages of labor under the Act of 1938 (see Congress, below); the depressed state of industry throughout the country limited opportunity for its action, and it

did not at the outset take a leading role in the Federal regulative system. The National Labor Relations Board continued the active prosecution of the line of conduct that it had taken in 1937, supported by mainly favorable decisions of the Supreme Court noted under *Judiciary*, in this article); the NLRB was still opposed by the A.F.L. as partial to the C.I.O. The Maritime Commission carried on a multiple role, aiding and regulating private shipping, operating Federally controlled vessels, and handling labor problems on the latter.

The exceedingly enfeebled financial condition of most of the railroads offered the Interstate Commerce Commission a dilemma, transferred by the President to a special committee of three Commissioners. The Securities and Exchange Commission promoted radical changes in the government of the New York Stock Exchange, received the submission of the generality of the great holding companies in the electrical field to the statute for their modification or dissolution, and performed a great many investigations of individual cases of questionable practice in the markets for securities, some of which led to Federal or State prosecutions. The Federal Communications Commission, after three years' investigation of the American Bell Telephone system, issued (April 1) a report adverse to that system with regard to its charges and profits.

The Bituminous Coal Commission (established in May, 1937), countermanded, early in 1938, a schedule of minimum prices for soft coal, varying with grades and areas, that it had issued in December, 1937. This action quieted lawsuits brought by parties maintaining the set prices to be prejudicial to them. But as no new schedule was issued during the year, the soft coal industry was left as a whole to face risk of considerable loss on operations under the existing system of wages.

Course of the NLRB. The extensive scale of the NLRB's operations appeared in a report (March 26) showing that it had, since its outset late in 1935, handled 12,485 cases, affecting 3,247,678 employees; 9150 of the cases had been closed, over 55 per cent of them by the parties' agreement, 15 per cent by dismissal, 24 per cent by the petitioning unions' withdrawal, and 5 per cent by compliance with decisions; 1069 elections had been held, to settle questions as to who should represent employees in negotiations with employers; and 1113 strikes had been terminated. On the other hand, the Business Advisory Council, a body of business men organized to advise the Secretary of Commerce, recommended (February 17) that the Labor Act be amended to prevent the coercion of employees "from any source"; that any party to a labor dispute (instead of employees alone) be allowed to take a case before the NLRB; that no labor organization be favored over another; and that the rights of all parties before the Board be defined.

An order of the Board (April 6) required the Inland Steel Co. to sign a written agreement with a union in the C.I.O., covering the company's labor relations; the ruling held that a signed agreement was an "integral part" of the process of bargaining required by the Labor Act and set at naught employers' contention that they could not be required to sign an agreement with a union, a party that could not effectually be held responsible at law for performance of the signed obligation. The Board's order of April 16 set aside an employees' election that the Board itself had held,

at the Carrollton Metal Products Co. (Ohio), and which a union in the A.F.L. had won. In June, a case against the Bank of America was taken up at Los Angeles, an indication of the Board's disposition to include banking employment in its field. The Board granted (June 22) exclusive jurisdiction, in the Pacific Coast area, to the International Longshoremen's and Warehousemen's Union, led by Harry Bridges and a C.I.O. affiliate; a count reportedly had shown about three-fourths of the affected employees to be connected with this union, but the A.F.L. had protested that the Board must set up a bargaining unit not greater than the employed group under one employer. The Serrick Corporation (of Muncie, Ind.) was ordered (July 28) to give up a contract with employees in the A.F.L. for a closed shop, and to reinstate 18 employees who had not become affiliated; the C.I.O. had failed in 1937 in a strike to win control of the employees of this company. In August the Board's attempt to hold hearings at the seat of the C.I.O. strike at the Maytag works in Newton, Iowa, was thwarted by Governor Kraschel's intervention with troops (see Iowa). In the case of the Muskin Shoe Company (Maryland) the Board ordered the employer to desist from distributing to employees copies of an anti-C.I.O. speech, despite the invocation of the employer's alleged right of free speech; a similar action was taken in the case of the Mock-Judson-Voehringer Co. in Greensboro, N. C.

As to Aid for Railroads. The railroads, already enfeebled, lost ground alarmingly early in the year. The Erie R.R. passed into the control of the Federal District Court at Cleveland (January 18) by way of the Bankruptcy Act. In February the railroads as a whole, though not universally, failed to earn the cost of current operation, which in turn did not include interest on debt. Their credit fell too low to permit of their borrowing from the Reconstruction Finance Corporation. For months their earnings continued below the level of self-support and cut down steadily many systems' margins of solvency. They early asked of the Interstate Commerce Commission immediate permission to increase their tariffs on freight throughout the classifications by about 14 per cent; the Commission granted (March 8) less extensive increases on some but not all classifications, designing to furnish \$270,000,000 of additional yearly income. Traffic increasing only gradually, the carriers' difficulties persisted, as was foreseen at the time when the higher freight rates were granted. The President (March 17) appointed Commissioners Splawn, Eastman, and Mahaffie of the ICC as a committee to propose to Congress a plan for dealing with the railroads' trouble. The committee's report, published April 11, proposed that the RFC devote \$300,000,000 to loans to the railroads for equipment and lend them, beside, during the next 12 months, what they might need to pay their fixed charges; further recommendations favored the creation of a Federal Transportation Authority, for advising railroads how to check waste and how to consolidate or co-ordinate with one another, and asked for the ICC the power to compel lines to pool their earnings and traffic. The proposals were not warmly welcomed; the President submitted them to Congress without specific recommendation, and Congress did not legislate on the subject.

The representatives of the railway employees' unions rejected (April 15) a request of the railroad executives that the unions consent to tem-

porary reduction of the employees' pay. The lines formally ordered in May a wage-cut of 15 per cent; and in July the unions were sounded again, without avail, on a proposal that would have limited the temporary reductions to the suspension of a 7 per cent increase that had been obtained in August, 1937. The unions prepared to strike when the order for the cut should go into effect on October 1. The President then put the matter into the hands of a board of National emergency, and the wage-cut was finally abandoned. The ICC granted the lines a rise of $\frac{1}{2}$ cent a mile in passenger fares early in the year, but the higher rate cost them so many lost fares that some of the railroads returned voluntarily to the 2-cent rate by the end of the year. See LABOR ARBITRATION.

Federal Maritime Policy. The Maritime Commission had its share of difficulties bred by economic relapse. Ships recently laid up, as reported on May 1, numbered 79 in Atlantic and Gulf ports alone; unemployed seamen in these ports, about 11,000, or one-fifth of the total for the seamen's group. The Commission, under these circumstances, took to buying shipping that had financially come to grief in the hands of private companies. It assigned to the South American Atlantic route three vessels that had been forced to give up the domestic coast-to-coast route; by agreement of August 19 it acquired 90 per cent of the voting stock of the insolvent Dollar Steamship Lines, Inc. Its policy antagonized the maritime employees' unions within the C.I.O.; Mervyn Rathborne, leader of one of these, issued (August 28) an accusation that the Commission had adopted a policy of taking over and operating ships with a view to "eliminating the maritime unions" therefrom by making the employees servants of the Government, thus depriving them of their advantages under the National Labor Relations Act. The issue as to maintaining a degree of discipline on unionized vessels had been in controversy for some time; Joseph P. Kennedy, outgoing chairman of the Commission, advised the Senate's committees on commerce and on labor (February 16) that legislation to prevent strikes on ships was urgently needed, while on the other side, unions claimed that they and not ships' masters had the right to punish infringements of discipline by members of crews.

The Maritime Commission established (March 13) a system for carrying cadets on merchant vessels and training them for officers, somewhat after the practice in certain foreign merchant marines.

Other Administrative Matters. Administrative Government in the older and narrower sense continued to be overshadowed by the extensions that the Administration had added to it. The Treasury, dealing with the monetary policy and the task of obtaining the means for expenditure, formed an exception. It changed policy as to the monetary metals by adding a great sum in recently imported gold to the total of gold against which it had issued to the Federal Reserve system its gold certificates; also, it lowered further its price for foreign silver, and, in response to the Mexican Government's seizures of Americans' properties, it suspended its undertaking to purchase Mexican silver. While the addition of more gold to the monetary base raised the limits of possible increase in the paper currency, there was no real blossoming of inflation. As to further devaluation of the dollar in terms of gold, the avoidance of moves in this direction, according as it did with evidence that the original devaluation of the dollar

had failed to lift permanently the domestic price level, improved confidence in the immediate outlook for the fixity of the dollar. The Administration's foreign policy changed in tone, if not in principle, with regard to Americans' rights in several countries where these were judged to be invaded or threatened by dictators. The policy of participation, on a great scale, in the prevalent increase of the Nations' naval armaments, was definitely adopted and translated into legislation, a course that not only added to the importance of naval and, in lesser degree, of military affairs, but lent accompaniment to the representations made to other governments. Efforts made through the banking system and the Reconstruction Finance Corporation to generate an outflow of credit to private undertakings as a stimulant to impaired economic health brought no conspicuous result. The Department of Justice, in connection with an incipient drive to establish medical care on the basis of fixed relations between medical men and co-operative groups organized to insure medical services to their members, instituted proceedings against the American Medical Association, regarded as a center of the medical profession's opposition to such change, and there followed (December 20) an indictment of the Association and some of its officers, under the anti-trust law.

Proceedings of the Treasury. The Treasury had in January agreements requiring it to buy 5,000,000 oz. of Mexican silver a month and, in addition, to purchase gradually from time to time an accumulation of 35,000,000 oz. held for Mexico in London. The reported object of these agreements was to maintain the peso at 27.8 cents in dollar exchange. Mexico, in financial straits, decreed the virtual confiscation of foreign investments (American included) in the production of petroleum, and diplomatic efforts to obtain compensation for Americans met with refusal. Secretary of the Treasury Morgenthau announced (March 27) that purchases of Mexican silver under the existing agreements would cease April 1. It was explained later that the Treasury made no attempt to exclude silver of Mexican origin when buying, as was its practice at the time, silver from abroad at 43 cents an ounce, but nevertheless, the Mexican peso dropped from its previous exchange value of 27.8 U.S. cents and gradually reached the neighborhood of 20.5 cents about the end of the year. The Treasury's price for purchasing foreign silver was lowered to 43 cents, from 45 cents an ounce, late in March.

The Treasury was carrying, in February, about \$1,200,000,000 of gold recently brought in from abroad, which it had purchased but had not used as the basis for further issue of gold certificates. It announced (February 14) that it would issue such certificates against all gold to be received from abroad thereafter in excess of \$100,000,000 in any quarter. Soon changing its policy further, the Treasury, in accordance with the President's proposal in his "Relief and Recovery" message, proceeded (April 14) to "deteriorate," or issue certificates against, all the gold, then nearly \$1,400,000,000, held in the non-monetary category. While this resembled renegation of the Treasury's former praise of sterilized gold as a "cushion" against inflation, it put the currency that the gold had cost back into the Treasury. At the same time it brought to mind the possibility of another devaluation, by which the Treasury might be further replenished. Secretary Morgenthau formally denied

(June 20) current rumors of impending devaluation.

As to Federal revenue, the total receipts as stated by the Treasury for the fiscal year ended with June 30, 1938, attained about \$6,241,600,000; this exceeded by about \$948,000,000 those for the previous year and surpassed those for any prior year but 1920. Income taxes made up nearly two-fifths of the gain for the year and the special, new taxes for the purposes of the Social Security Act provided nearly one-half. Despite record-breaking income, the fiscal year 1938 ended with an annual deficit of nearly \$1,460,000,000, the eighth Federal deficit in annual succession. This deficit included the cost, \$200,000,000 approximately, of statutory retirement of debt. It was not affected by the issue of paper money against sterilized gold, but this helped the Treasury's cash standing and restricted the year's rise in the gross debt. Increasing by \$740,000,000, the gross debt attained \$37,164,740,315. The fiscal year's expenditures, exclusive of debt retirement, approximated \$7,701,000,000. The revenues were from taxes on incomes made largely in 1936 and on business largely as it had been prior to the swift collapse late in 1937; expenditure showed only the beginning of the cost of Federal aid to people in the later destitution.

The Government's income and outgo for the last six months of the calendar year 1938 (the first half of the fiscal year 1939) had a different complexion. The Treasury's statement for December 30 showed, for six months, receipts of about \$2,927,000,000, expenditure of \$4,529,000,000, and a consequent half-year's deficit of about \$1,602,000,000, considerably exceeding the deficit for all the fiscal year 1938. Gross debt on December 30 stood at \$39,427,183,902.

Occurrences in Foreign Relations. Relating to Mexico's seizure of American-owned properties, the Department of State persisted for several months, without success, in sending the Mexican Government diplomatic notes calling for the compensation of the owners. Exercising a claim of rightful possession to Canton and Enderbury Islands (See CANTON ISLAND, ENDERBURY ISLAND; PHOENIX ISLANDS.) in the Pacific Ocean, the U.S. Government announced their occupation in March.

The German annexation (*Anschluss*) of Austria was formally recognized (April 6) in a note delivered by U.S. Ambassador Wilson to the German Foreign Minister; Secretary Hull called on the German Government to assume the late Austrian Government's debts to the United States and in a note written June 9, rejected a reported German view that Austria but not its debts had been annexed. The German and Czechoslovak governments were urged (May 28) in a public statement by Secretary Hull to compose their differences in accordance with the Kellogg-Briand treaty against war. The further sale of helium gas for the use of German airships was refused in May. Myron C. Taylor was appointed (April 30) to be a member of an inter-governmental committee for aiding the emigration of refugees from German territory. Japan yielded to protests of the Department of State on a number of secondary matters, agreeing to terminate the intrusion of Japanese fishing vessels in the salmon-stocked waters off Alaska and apologizing for a Japanese soldier's blow of the hand upon the face of a secretary of the U.S. Embassy at Nanking. Secretary Hull announced (June 11) that the Government was discouraging American sales of airplanes to Japan because of Japanese bombing of the Chinese population.

The tone of relations both with Germany and with Japan became more serious toward the end of 1938. The harshness of the treatment of Jews in Germany having increased early in November, the President ordered (November 14) the immediate return of Ambassador Wilson to Washington. Wilson was called ostensibly to report on the situation in Germany; yet the President, in a statement on the following day, declaring the purpose of the summons, expressed himself with such sharpness on the German occurrences as to give the order to Wilson the plain aspect of rebuke. Germany responded by calling home Ambassador Dieckhoff from Washington (November 18), likewise to report. The U.S. Embassy in Berlin remained open and was occupied with insuring the immunity of Jewish-American citizens from anti-Semitic measures.

Ambassador Nelson T. Johnson, in turn, was called from China (December 8) to report to the President on conditions there. The implications in this case were different. Japan's occupation of the chief cities of the Chinese coast had brought forward the question of the future Japanese policy toward other nations' trade with China, the United States' trade in particular. It was reported from Tokyo (December 9) that the Japanese foreign minister had intimated to the American and British ambassadors the prospect that the equal opportunity for nations to trade with China, as assured by the Nine-Power Treaty, would cease. There followed the reported granting of a loan of \$25,000,000 from the Import-Export Bank to the Chinese Government and the Treasury's extension (December 19) of the arrangement made with the Central Bank of China in 1937 to assure it of credit in dollars, against gold deposited in the United States. Both these measures opened possibilities of future purchases by China that might help its resistance to Japan.

See ARGENTINA, AUSTRIA, BRAZIL, CANADA, CHINA, CZECHO-SLOVAKIA, ECUADOR, FRANCE, GERMANY, GREAT BRITAIN, ITALY, JAPAN, MEXICO, PANAMA, PHILIPPINES, etc., under *History*; COMMUNISM, FASCISM, MILITARY PROGRESS, NAVAL PROGRESS, PAN AMERICAN CONFERENCE, REPARATIONS AND WAR DEBTS.

CONGRESS

75th Congress, Third Session. Convening on January 3, the Congress held its second regular annual session, or its third session, counting the special session held late in 1937. The session of 1938 lasted a few days over five months and adjourned on June 16.

The composition of both houses remained substantially the same that it had been in 1937. The Democratic majority in the Senate gained one member at the expense of the Republican opposition, when Steiwer of Oregon resigned, and his place was filled by Alfred Evan Reames, an interim appointee. Copeland (q.v.) of New York died in June, but not till the session had ended. Moore of New Jersey left the Senate about a fortnight after the start of the session, to take office as Governor; in his place he named John Milton, a fellow-Democrat.

The Democratic party kept its superabundant majorities of over 3 to 1 in the House and about 4 to 1 in the Senate. Discord among the Democratic members seriously blunted the working edge of this superiority. While the factional opposition to some of the President's proposals, after the revolt of 1937, did not take the form of organized

and continuous resistance all along the line, it sufficed to cause the delay, the partial sterilization, and even the rejection of some measures that he particularly advocated. No measures of importance running directly counter to the purposes of the Administration were passed, save possibly the joint resolution for the investigation of the TVA, which the President had apparently sought to avert but did not directly oppose. The session worked fewer nation-wide changes than had most of its predecessors from 1933 through 1936. In this respect it even fell behind the regular session of 1937, despite a moderation in the tone of the inter-Democratic conflict.

Chief Results of the Session. Congress was liberal in appropriating further great sums for poor-aid in the form of paid employment through the WPA, for public works to be financed by the PWA with a view to reviving prosperity, and for naval expansion likely to have similar effect; the approach of Congressional elections tended to aid the passage of such appropriations, and the grants were not formidably opposed, though effort was made to limit the Administration's powers over the dispensation of the money. In the field of social reform, a new Agricultural Adjustment Act was passed, to permit of further administrative measures toward restoring farmers' income, again disturbed by low prices; a revenue bill was enacted, but its original provisions for the punitive taxation of income retained in closely held corporations were in great part removed; the principal new departure in social legislation, a bill to set minimum wages for private employment and for limiting hours of work, was enacted with modifications brought about chiefly by Southern members, rendering it possible to keep the minimum of wages lower in some regions than in others. The President sustained his most serious defeat in the rejection of the bill (originally presented to the special session of 1937) for reorganizing the administrative departments. Legislation to help the railroads, threatened with general insolvency by reason of lack of income to meet fixed charges, was not definitely attempted.

Regulation of Employment. The *Fair Labor Standards Act* (popularly the Wages and Hours Act), signed June 25, dealt with employers engaged in interstate commerce or in enterprise affecting it. These were required to pay each employee so engaged at least 25 cents an hour in the first year of application, at least 30 cents in the next six years, and at least 40 cents thereafter, save as prescribed by an Administrator. This Administrator, created by the act, might set a lower minimum hourly rate of pay, but not below 30 cents after the first seven years. His own pay was to be \$10,000 a year, and he was to head a Wage and Hour Division in the Department of Labor. He was to appoint an industry committee for each industry engaged in interstate commerce or in producing goods therefor. On the recommendation of such a committee the Administrator might set a minimum wage lower than 40 cents an hour for employees of a classification as to which a higher rate would tend to curtail employment or prove detrimental in other specified ways. The act limited a worker's weekly time of employment to 44 hours for the first year of the limit's application, 42 hours for the second year, and 40 hours thereafter. It made exception for overtime allowed at $1\frac{1}{2}$ times the normal pay, for seasonal industries, and for some types of contracts with employees, certified by the NLRB. Remedy for a person injured by

an order of the Administrator was to be sought in a review of the order by a Circuit Court. Special provisions were made as to child labor, apprentices, and handicapped workers. The act was implemented with penalties for infractions.

New Aids to Farmers. The *Agricultural Adjustment Act of 1938* (signed February 16) continued and amplified the existing Soil Conservation Act, on which it superimposed a great aggregate of new provisions. Among these, in addition to the benefit payments, to be made to farmers under the elder act, for conserving and increasing the fertility of their soil, the new act entitled the farmer to "parity payments." The parity payments were to be so calculated as to make up any deficiency in the grower's income arising from a decline in the purchasing power of the unit of his product as compared with what it would buy at the average of the years 1900-1914; these payments were to be made with regard to wheat, corn, cotton, tobacco, and rice. The old soil-conservation payments were to continue in modified form, their rate being increased to recipients of less than \$200 a year from this source and limited at the upper end to a maximum of \$10,000. The division of such payments between landlord and tenant was made subject to regulation by the Secretary of Agriculture.

A third source of Federal money for the farmer was provided in the form of the commodity loan, a type of crop loan to be obtainable from the Commodity Credit Corporation; in particular, the Corporation was required to make such loans on wheat, cotton, or corn, in case of the domestic supply's exceeding a normal year's consumption and export, or in case of the commodity's dropping a specified percentage below its determined parity as to purchasing power. Members of agricultural co-operative bodies were in such cases to be allowed to borrow more on their crops than non-members. As an indirect aid to agricultural income, cotton was added to the list of commodities of which the export might be subsidized.

As a safety valve to check overproduction of crops for the purpose of obtaining these various proffers, the measure set up a system for limiting the cultivation and marketing of products of the farm. The Secretary of Agriculture was to establish a marketing quota for any of certain crops exceeding the normal year's consumption and exports as follows: Corn, when 117.7 per cent of normal; wheat, 135 per cent; cotton, 149.8 per cent; rice, 121 per cent; tobacco, 288.75 per cent of domestic consumption and 173.25 of export. He was then to allot acreage for corn, wheat, cotton, tobacco, or rice, calculated to produce a sufficiency if the crop made a normal yield to the acre. Products marketed in excess of the producer's quotas were subjected to stated fines (15 cents a bushel in the cases of wheat and corn); and no quota was to have effect if opposed by more than one-third of the farmers voting in a referendum upon it.

Crop insurance was provided, for the growers of wheat only. For this purpose was created a Federal Crop Insurance Corporation, affiliated with the Department of Agriculture and having ultimately a capital of \$100,000,000 (initially, \$20,000,000). It was to sell growers insurance for their wheat, against loss to the crop from unavoidable causes, including drought, flood, insect pests, and disease of the plant. The insured was to be allowed to pay his premium in wheat.

The session inherited from the previous autumn's special session uncompleted legislation in the realm

of this act. The earlier session had left in the hands of a conference committee two unlike bills passed respectively by either house. This committee set to work on January 3 and wrote a measure which, as was charged, contained new matter. The House of Representatives, on receiving this bill from its conferees, passed (February 8) by a rising vote of 186 to 99 a special rule limiting debate on the 121-page bill to 4 hours, and passed the measure under these conditions, by a vote of 263 to 135, on the following day. The opposing minority, mainly Republican, had a chance to state in a laconic way, during the brief debate, objections to the "regimenting" of agriculture, to the "doctrine of scarcity" (through crop limitation) as the cure for farmers' poverty. The Senate passed the bill (February 14) after a limited time of debate, by vote of 56 to 31, exclusive of 4 pairs. Largely on account of the limitation of the farmer's acreage in certain crops, the National Grange (one of the farmers' organizations) opposed the measure to the end. The act made no appropriation for the parity payments that it allowed the farmers.

Modifications in Taxes. The *Revenue Act of 1938* became a law May 27, without the President's signature. It was chiefly notable for amendments mitigating the severity of the predecessor act's taxation of corporations' undistributed yearly income; for a recasting of the taxation of capital gains; and for the exclusion of provisions, sought by the Administration, for particular punitive taxation of the undistributed yearly income of closely held corporations, such as "family" corporations. All provisions of the new act as to income tax were made to apply to taxable years beginning after the end of the calendar year 1937. The existing normal taxes and surtaxes on individuals remained unchanged. Husband and wife, if making a joint return, were to become jointly and severally liable for payment for the tax thereon. Joint returns were prohibited where either spouse was a non-resident alien.

As to corporations, the method of taxing undistributed net income, set up in the act of 1936, was given up, for taxable years starting after Dec. 31, 1937. Instead, ordinary corporations that earned over \$25,000 in a year were taxed at 19 per cent of adjusted net income, but were allowed a credit of $2\frac{1}{2}$ per cent of the amount that they paid out during the year in dividends, up to $2\frac{1}{2}$ per cent of all adjusted net income. Under the predecessor act corporations were liable for progressive punitive taxes running up to 27 per cent on the ultimate fraction of income if undistributed. The new plan was made to apply only to taxable years beginning not later than Dec. 31, 1939; this limitation was imposed by the opponents of the tax on undistributed earnings, who hoped to remove later the remaining vestige of this kind of taxation. Special provisions were made as to the taxes of corporations having but slightly over \$25,000 of income in a year, and for those having less than that total, as well as for those of other categories separately treated in the earlier act.

The taxation of capital gains was altered by subjecting those realized by an individual, on assets held over 18 months, to taxation at a flat rate of 30 per cent of a fraction of the gain, varying with the span of time for which the assets had been held: for assets held between 18 months and 2 years, this fraction was $66\frac{2}{3}$ per cent; for those held over 2 years, 50 per cent. The individual had the option of treating long-term capital gain either as ordinary income or as capital gain subject to

the flat tax. Some new provisions were made as to net capital loss. Capital gains on assets held less than 18 months were to be treated as ordinary income. No extensive change was made in existing law as to taxing the capital gains of corporations.

The taxes on decedents' estates and on gifts remained as before, but the allowable time for payment on estates was extended to 10 years, as against the previously allowed 8, subject to administrative permission; interest charged in the interval was reduced to 4 per cent, from 6. The system of taxing "excess" profits as calculated on the value of declared and taxable value of stock of a corporation was recast, the tax on value of capital stock being set at \$1 per \$1000 (with adjustment for foreign companies), and the tax on profits running at the rates of 6 per cent of profits over 10 per cent on the declared capital stock and of 12 per cent of profits exceeding 15 per cent thereon.

Excise taxes were removed from tooth pastes, toilet soaps, furs, phonographs, sporting goods, cameras, chewing gum, brewer's wort, and malt syrup, crude petroleum and the refining thereof, sales of produce for future delivery, and matches (except some special types). The tax on theater tickets was made to apply only to the price actually paid, if a ticket were sold at the box office at a reduced rate. The tax on transfers of stocks and bonds was removed from transfers between custodians and owners. Radio messages to the press were exempted from tax. All changes as to excise taxes were to become effective June 30, 1938.

The course of this act through Congress brought into play keen opposition between the administration and its adversaries. The original bill, prepared for the committee on ways and means by a subcommittee of Representatives headed by Fred M. Vinson, with the advice of leading officers of the Treasury, followed in the main the fiscal doctrines of the Administration. The tax on undistributed profits was retained, in somewhat curtailed form; the general system of the existing taxation of individuals' capital gains as income, in proportions reduced in accordance with the time that the gain-yielding assets had been held, was retained also; and a new specific tax on undivided profits of closely held corporations, sought by the Administration, was included. The bill went to the House on March 1; here a strong group attacked the plan for the taxation of closely held corporations as tending to drive enterprises out of the hands of managing owners, thus sacrificing them to "absentee ownership" and trusts. The House defeated this feature of the bill (March 9) by a counted but unrecorded vote of 180 to 124, and efforts to restore it were unavailing. The Senate, receiving the bill, amended it by putting the taxation of capital gains on a flat basis, doing away with the surtax on the undistributed income of corporations in general, and making other less sweeping changes. A conference committee eventually made the composite of the House bill and the Senate's, and this composite was enacted. The President, in an address at Arthurdale, W. Va., condemned as "undesirable features" of the act its treatment of capital gains and corporate undistributed income and declared that he would let the act, because of its more acceptable features, become a law, without his signature; Senator Harrison of Mississippi, pro-Administration Democrat, made a sharp rejoinder to the speech.

Defeat of Reorganization Bill. The House of Representatives recommitted (April 8), by a

close vote of 204 to 196, a reorganization bill designed to give the President great power to re-group or reshape the parts of the administrative organization. He had first sought this power more than a year before, in a message delivered Jan. 13, 1937, and he had asked it of the special session in his message of Nov. 16, 1937. The Senate passed (March 28) in the session of 1938 a reorganization bill allowing the President to consolidate, co-ordinate, and rearrange executive agencies of the Government; but exception was made of certain quasi-judicial agencies, and changes were rendered subject to veto by Congress through a vote of two-thirds, while the bill imposed certain changes, including the substitution of a single Commissioner for the existing Civil Service Commission, the creation of a Department of Public Welfare, and the substitution of an Auditor-General for the powerful existing Comptroller-General. When the bill went to the House the desks of many members were showered with letters of protest from constituents and others; some of the supporters of the bill declared later that some of their acknowledgments of such letters had been returned in the mails because the addressees could not be found, but no specific intrigue to deceive was established. The House voted enfeebling amendments, one of them to let Congress veto administrative alterations by simple concurrent resolution, requiring only a majority's vote. Motives, such as unwillingness to surrender legislative power, distrust of the timeliness of strengthening executive sway, fear in some cases for patronage, and in others Democratic anti-New-Deal sentiment, and, particularly, signs of the measure's unpopularity among constituents, combined to create a strong Democratic opposition. Thus a move to recommit the bill to the reporting committee was brought about. The vote for recommitment was mainly a Democratic vote: it was cast by 108 Democrats, 88 Republicans, 6 Progressives, and 2 Farmer-Laborites. Thus laid aside, the bill was revivable during the session, but it was not again brought out. Its rejection occurred in the face of reported warning from the pro-Administration leadership that such a step would be regarded as a vote of lack of confidence in the President.

Measures Against Unemployment. The chief of the measures to give paid occupation to the unemployed, whose number had again augmented greatly in the severe economic setback then current, was the *Work Relief and Public Works Appropriation Act of 1938* (signed June 21). It appropriated about \$3,750,000,000; in new appropriation, \$2,915,605,000, and the rest in divers unexpended balances reappropriated. All applied to the fiscal year ending with June 30, 1939. Of the total, \$1,425,000,000 in new appropriation plus remaining balances still available was allotted to the Works Progress Administration; some other Federal organizations designed to dispense employment to special groups (such as the National Youth Administration) received appropriations. The sum newly appropriated to the WPA was limited as to uses to be made of it: For work on highways and streets, expenditure was not to exceed \$484,500,500; on public buildings, parks, public utilities, sewers, transmission lines, airports, etc., not over \$655,500,000; on a group of enterprises not involving construction, not over \$285,000,000; however, a transfer from other groups to increase the allotment of any group by not over 15 per cent was permitted, and the President was empowered to allow the Works Progress Administrator to divert \$25,000,000 to

provide direct aid to the support of needy individuals. For the Public Works Administration the appropriation was \$965,000,000 newly appropriated and in all, \$1,465,000,000. The new money was assigned to Federal works of construction, to total not more than \$200,000,000; to grants and loans to States and to public agencies; and to construction of works of divers sorts, which were destined to be leased when finished. Outright grants of Federal funds toward non-Federal undertakings were not to exceed 45 per cent of the cost of any project. The allowed cost of the Federal 3-year program of building was raised to \$130,000,000, from \$70,000,000. The Rural Electrification Administration was authorized to borrow, from the Reconstruction Finance Corporation, up to \$100,000,000 additional, for its loans to groups bringing in electricity. To meet the cost of the farm-parity payments authorized in the Agricultural Adjustment Act (see above), \$212,000,000 was appropriated. The Housing Authority was permitted to increase the total of its 60-year loans for "low-cost" housing to \$800,000,000, from the existing limit of \$500,000,000.

The measure met with some opposition in Congress, partly in the form of the Republican minority's denial of the efficiency of "pump-priming" (Federal spending for the purpose of renewing the flow of income to the people from normal productive industry) and partly from objection in the Senate to giving the Administration the power to lend money to public agencies throughout the country to enable them to compete with previously established privately owned public utilities. The latter difficulty was met by assurance from the President that money would not be thus provided without previous effort to buy out any privately owned utility that would incur competition.

Applying to the then-current fiscal year 1938, a *Deficiency Relief Appropriation Act* passed at the end of February added \$250,000,000 to the sum at the disposal of the WPA. Considerable sums, applying to the fiscal year 1939, were appropriated for public work, in the form of the yearly Federal road-aid and the cost of the Civilian Conservation Corps.

Loans to Private Borrowers. Three acts of the session tended to promote or "prime" a resumption of economic activity by providing or aiding loans to private borrowers. The Commodity Credit Corporation, a corporate agency of the Farm Credit Administration, was rehabilitated by the *Commodity Credit Act* (signed March 8). Through previous operations this corporation had lost almost all its margin of solvency. The Secretary of the Treasury was directed yearly to restore any impairment of the corporation's net worth, bringing it up to \$100,000,000. (Appropriation of \$94,280,000 immediately needed for this purpose was made in the Second Deficiency Appropriation Act, passed at the close of the session.) The Corporation was authorized to borrow up to \$500,000,000 on its obligations, to be guaranteed, principal and interest, by the Government; by this means it was enabled to obtain cash needed for further loans to farmers, as provided in the Agricultural Adjustment Act (see above). The *National Housing Act of 1938* (signed February 3) expanded the Federal Housing Administration's scale of operations in the insuring of mortgages. Mortgages were made eligible for the insurance of payment, up to 90 per cent of the appraised value of the property, on the smaller insured mortgages, to as much as \$6000. The President was authorized to increase

the total of outstanding insurance on mortgages to \$3,000,000,000, half as much again as the already allowed total. Permission was given to insure mortgages on housing built for rent, to replace slums. The growth of the National mortgage associations as lenders on mortgage was encouraged by liberalized provisions as to their financial state. Mortgages to be paid off by partial payments over 25 years, as against 20 years in the pre-existing law, were made insurable, in the cases of the small loans. Builders of apartment houses were enabled to obtain insurance on mortgages when construction had started, instead of when it was finished. A *Farm Loan Act* was passed over the President's veto, prolonging for another year the reduced rate of interest at 3½ per cent on loans made through the National farm loan associations. The *Recovery Loan Act* (signed April 13) augmented the power of the Reconstruction Finance Corporation to make loans to business enterprises, by allowing, for a year, lending for the purpose of promoting economic stability. A measure to furnish loans to the railroads, then threatened with insolvency in many cases, failed of passage.

Naval Expansion Authorized. The *Naval Expansion Act* (signed May 17) authorized a program for the augmentation of the naval fleet over a course of years, on a great scale. The President recommended the increase of the fleet in a special message delivered January 29, citing the renewal of active building of warships in other countries and urging that the building program be increased by 20 per cent and include the starting of two battleships in the calendar year. The act increased the program of construction established under the treaties of naval limitation, by authorizing a list of additions to the authorized composition of the Navy. These raised the tonnage in capital ships by 105,000, to 630,000; aircraft carriers, by 40,000 tons, to 175,000 tons; cruisers, by 68,754 tons, to 412,524 tons; destroyers, by 38,000 tons, to 228,000 tons; submarines, by 13,658 tons, to 81,956 tons. Increase of the force of naval airplanes to 3000 was authorized. The President was authorized, should he find that the tonnage of capital ships under construction elsewhere required it, to build capital ships, each exceeding 35,000 tons, and in such case the addition to the allowed tonnage in capital ships was to be 135,000 tons (the equivalent of 3 units of 45,000 tons each). The expenditure of \$15,000,000 for experimental vessels of under 3000 tons was authorized; also, the expenditure of \$3,000,000 for another rigid airship, of not over 3,000,000 cu. ft. in gaseous capacity. The Second Deficiency Appropriation Act appropriated \$36,000,000 for starting the program. Naval expansion went through despite opposition from an active anti-armament group. As it passed the Senate it would have required the President to determine that another Power was building one of the higher-tonnage battleships before he could proceed to build any; this limitation was attenuated in the bill as finally enacted. A *Naval Personnel Act*, passed late in the session, raised the authorized number of officers of the Navy to 8249, from 6531; as 675 officers in service were in a special classification not among the enumerated 6531, the actual increase was 1043. A *Naval Reserve Act* (signed June 27) dealt with the organization of the Naval Reserve and Marine Corps Reserve, giving a separate classification to those passing directly from the Navy to the Naval Reserve and forming the division thereof known as the Fleet Reserve; regulating assignment to the Fleet Reserve; and

granting certain advantages, such as increased compensation for injury in the line of duty, drill pay for some classes of members, and more openings in the grades above lieutenant-commander.

Further Regulation of Commerce. The *Food, Drug, and Cosmetic Act* (signed June 24) repealed and took the place of the Food and Drug Act of 1906. Cosmetics were put under regulation similar to that of foods and drugs. The introduction into interstate commerce of any food, drug, or cosmetic if either misbranded or adulterated was prohibited, and its seizure was authorized. It was required that new drugs be adequately tested before going on the market (a wholesale poisoning in the South having freshly demonstrated the mischief that untested drugs could work). Adulteration and misbranding were defined in the sense of the act. Deceptions effected by containers and by labels were prohibited. The Secretary of Agriculture, in charge of the enforcement of the act, was vested with enhanced powers to prescribe standards, limit tolerances, etc. Court appeal from his orders was allowed. The general purpose of this act was to modernize regulation in this field in the light of experience. The bill had failed to emerge from conference in the previous regular session.

An act was passed to require that national associations of dealers in securities "over the counter" (outside of the organized exchanges) register with the Securities and Exchange Commission with a view to their self-regulation under the Commission's supervision. The act formulated rules that the Commission was to require such dealers or brokers to follow.

The regulation of commerce with a view to checking monopoly was recommended to Congress as a subject for study, in a message delivered on April 29. The message declared that "the power of a few to manage the economic life of the Nation must be diffused among the many or transferred to the public and its democratically responsible government." It recommended that a study of economic concentration be made by the Federal Trade Commission, Department of Justice, and S.E.C., financed by an appropriation from Congress. The *Monopoly Inquiry Act*, passed late in the session, provided for such an inquiry, but somewhat changed the character of the agency that would conduct it. There was created a Temporary National Economic Committee of 12 members; these were to be 3 members of the Senate, appointed by the President of that body (Vice-President Garner); 3 Representatives, appointed by the Speaker; and 6 persons to be named severally by the heads of the Departments of Justice, Commerce, and Labor, the Treasury, the S.E.C., and the Federal Trade Commission. The committee was directed to make a study of monopoly and concentration of economic power with a view to determining the causes thereof, the effect on the price system, the policies of industry as to prices, and the course of trade, employment, long-term profits and consumption, and the effects of Federal policies as to taxes, patents, and other possible matters of regulation. A preliminary report was to be rendered to the President and to Congress before the assembling of the 76th Congress or as soon thereafter as possible. The committee received the power of subpoena and an appropriation of \$500,000.

Appropriations of the Session. While the Budget for the fiscal year 1939, as presented to Congress on January 5, called for expenditures of \$7,070,558,000, appropriations made by the session added heavily to the total. They increased the

allowance for poor-aid, whether through "work relief" or other means, and for public works and kindred operations by not far short of \$3,000,000,000. Substantial additional appropriations were made for the current fiscal year 1938. Estimates current in the press put the total appropriations of the session around twelve billions of dollars. This included, for the Post Office, nearly \$800,000,000 recoverable, for the most part, from receipts; also an estimated \$2,719,000,000 in reappropriations and in new appropriations of amounts not likely to be used up in the period to June 30, 1939. The actual provision made for Federal expenditure in that period was therefore uncertain but probably was near ten billions. The totals of the chief appropriation acts were as follows: Work Relief and Public Works Appropriation Act (see above), \$3,750,000,000 approximately; Agricultural Appropriation Act, \$935,395,279, exclusive of \$154,525,000 in "permanent" appropriations; First Deficiency Appropriation Act, \$28,099,038; Second Deficiency Appropriation Act, about \$270,000,000; Treasury and Post Office Supply Act, \$1,403,683,526, of which \$610,912,627 was for the Treasury; Departments of State and Justice Appropriation Act, \$130,589,795; Department of the Interior Appropriation Act, \$129,678,461; and Independent Offices Appropriation Act, \$1,423,098,240; Military Appropriation Act, \$459,401,254; Non-Military War Department Appropriation Act, \$196,962,867; Naval Appropriation Act, \$546,866,494.

Miscellaneous Acts. Among other enactments, the *Flood Control Act of 1938* authorized a set of public works on harbors and on rivers in the Northeast, the Mississippi basin, and the Pacific watershed; the *Merchant Marine Act of 1938* amended the act of 1936, increasing the Maritime Commission's power to regulate standards of labor on ships, making additional provisions as to the Commission's ownership and sale of vessels, and authorizing it to insure mortgages on ships; the *Postmasters' Civil Service Act* required that all subsequent appointments of postmasters of the first, second, and third classes, except for reappointments of incumbents, be made according to the Civil Service Act and the rules made under it; the *Judgeship Act* created four new Federal Circuit Judgeships, a dozen among the District Courts, and provided for the termination of a few existing judicial positions.

Bills Failing of Passage. In addition to the rejected Administrative Reorganization Bill (see above), some strongly backed schemes of legislation were rejected or blocked. The Federal anti-lynching bill, which seemed to have the support of a majority in the Senate, never came to a vote. As had happened the year before, the measure was forced from the top of the calendar by a determined war of obstruction, or filibuster, conducted by Southern members. The filibuster of 1938, however, was much more stubborn and prolonged, as the bill came before the Senate early in the session. It extended over a period of 30 days, the opponents occupying the floor and retaining it every time that the bill was discussed, while advocates, with like persistence, tried to exhaust opposing voices and bring the bill to a vote. Eventually the Senate fell sufficiently behind with its other business to necessitate the bill's giving place to others. The opposition contended that the South had succeeded in reducing the number of lynchings very greatly in the course of years and ought to be left to deal with the subject; it also held that the bill, in subjecting a State's officers of the law to Federal pun-



Acme

HARRY L. HOPKINS

Secretary of Commerce, appointed Dec. 23, 1938



Acme

STANLEY REED

Associate Justice of U.S. Supreme Court, assumed office Jan. 31, 1938



Acme

THE ATLANTIC HURRICANE

Havoc wrought at Westhampton, N. Y., by the great storm that struck inland across Long Island, New England and Southern Quebec on Sept. 21, 1938, causing nearly 700 deaths and immense property damage

UNITED STATES



UNITED STATES CONCLUDES TRADE PACTS WITH BRITAIN AND CANADA

Those present at the signing of the treaties in Washington on Nov. 17, 1938, were (front row, left to right): Arnold Overton, of British Board of Trade; Sir Ronald Lindsay, British Ambassador to the United States; President Roosevelt; Prime Minister William Lyon Mackenzie King of Canada; and Secretary of State Cordell Hull. Rear row, left to right: Francis B. Sayre, Assistant Secretary of State; Sir Herbert Marler, Canadian Minister to the United States; O. E. Skelton, Canadian Under-Secretary of State for External Affairs; and Charles Barnes, Treaty Division, U.S. State Department

ishment for giving a prisoner up to lynchers, would open the way to Federal regulation of the State's police power in many fields. The Ludlow War-Referendum resolution, which had given evidence of strong support in the House in the special session of 1937 (see YEAR BOOK, 1937, p. 757, col. 2), was blocked in the House (Jan. 11, 1938) by a narrow margin of 209 to 188, on a vote to bring the measure out of committee for consideration on the floor; proposing a Constitutional Amendment that would require a popular referendum to be held before the Government could declare war, except in case of invasion, it was strongly opposed by the President, who condemned it in an open letter, and Speaker Bankhead, who took the floor to argue against it. A nascent effort to repeal the widely criticized Neutrality Act was abandoned in consideration of the Administration's view that its consideration would be untimely at a moment when disturbed conditions abroad and the consequent division of sentiment in the United States rendered the subject of neutrality difficult to discuss. A bill to shut out from Federal contracts companies violating the National Labor Relations Act was urgently pressed by John L. Lewis, head of the C.I.O., who asked Speaker Bankhead in vain to let him request the members individually, in the Speaker's room, to vote consent for the measure's being taken from the unfavorable committee on rules, for immediate consideration (June 15).

Investigations. Much the most conspicuous investigation of the year, in Congress, was the inquiry into the affairs of the Tennessee Valley Authority, conducted by the committee of Congress, created by a joint resolution signed April 4. This investigation, closely connected with the controversy over the TVA, is treated above, in this article's section on *Administration*.

The Joint Congressional and Departmental Committee created by the Monopoly Inquiry Act (see above) first met on July 1. Senator O'Mahoney (Dem., Wyoming), who had sponsored the bill to create the committee, was elected chairman. Each member from Congress was paired with a member from a department; the six pairs thus formed were each to take up a different phase of the subject. Besides O'Mahoney, the Senatorial members were Borah of Idaho and King of Utah; the Representative members, Sumners of Texas (Dem.), Reece of Tennessee (Rep.), and Eicher of Iowa (Dem.). It was ruled by the chairman that the committee's power of subpoena did not extend to the summoning of witnesses. Agenda for the inquiry were submitted respectively by the members from the Governmental departments. They included industrial mergers and combinations and industrial price policies (Department of Justice), corporate structures and certain banking and financial matters (SEC), problems of production and distribution (Trade Commission), bids on government contracts and anti-trust laws in the United States and elsewhere (Treasury), data from the experience of the NRA and from the Bureau of the Census (Department of Commerce), and the bearing of business policies on labor, employment, and price levels (Department of Labor). The inquiry in its early stages dealt largely with data, rather than testimony. It was still in progress near the close of the year.

A Senatorial Election Expenditures Committee armed with an operating fund of \$500,000 was formed with the particular purpose of investigating any misuse of Federal or other funds in the

year's campaign for the election of Senators. A great part of its intended function was to detect or to deter the employment, apprehended in some quarters, of Federal dispensations of money (as through the WPA) to influence the elections. Sheppard of Texas was the committee's chairman. This committee condemned practices in the primary contest for the Senatorship in Tennessee, declaring (July 27) that this campaign "pointed sharply toward an election contest in the Senate, regardless of which candidate should triumph." Dealing with a complaint of Senator Tydings (Dem.) of Maryland, running for renomination, the Committee held (September 11), that the Collector of Internal Revenue at Baltimore, by summoning employees of his office and apprising them of his intention to support the rival candidate, had violated the Civil Service Act. It characterized as "unfortunate" a reported speech of Aubrey Williams, deputy WPA Administrator, to a gathering of workers' organizations, in which he voiced the recommendation to "stand by our friends." The most conspicuous activities of this committee had to do with the primaries in the States about to elect Senators, as the Administration's efforts to sway the Democratic nominations gave the primaries a particular importance.

Among other investigating committees, the House of Representatives' committee to investigate un-American activities, headed by Representative Dies, paid particular attention to Communistic participation in some of the more recently organized labor unions. Vice-President John P. Frey of the A.F.L. testified before it to the effect that the strikers' seizures of employers' premises, common among unions in the C.I.O. during 1937, were Communist "contributions." The committee sought to bring about the deportation of the foremost leader of labor organizations on the Pacific Coast, Harry Bridges, on the ground that he was an alien Communist. Secretary of Labor Perkins, asked by Dies to move for Bridges' deportation, rejoined (August 30) that Dies sought to usurp functions of the executive branch and cited a court ruling that membership in the Communist party did not constitute ground for the deportation of an alien. The Committee requested the President (August 24) to direct heads of departments to give it assistance, alleging that departments had carried on their pay rolls investigators for the Senate's committee to investigate the infringement of civil liberties (a committee of opposite tendency) and that the Dies committee was itself authorized by the House to apply to the departments for aid. The Senate's committee on civil liberties, headed by Senator La Follette, continued its investigations in 1938 and put on its records much testimony to the effect that employers had infringed on the civil rights of strikers, in dealing with recent strikes; acts of employers in the course of the C.I.O.'s strike of 1937 against the independent steel companies were particularly a subject of investigation. The Senate's committee to investigate lobbying continued to operate in 1937; among other matters it gave publicity to testimony to the effect that Dr. Glenn H. Frank, discharged president of the University of Wisconsin (see YEAR BOOK, 1937, p. 785, under *Wisconsin*) and currently chairman of the Republican party's program committee, was running a magazine, *Rural Progress*, financed by "great capitalists" to propagandize farmers. Whether by coincidence or by design, much of the Federal legislative investigation done during the year was

of a nature tending to sway votes in one direction or another.

JUDICIARY

Changes in the Supreme Court. Justice Cardozo (q.v.) died on July 9; he had previously been prevented by illness from taking part in the work of the court for several months. Justice Sutherland retired from the bench by his own choice on January 18, and Stanley Forman Reed of Kentucky, the Solicitor-General, reputed one of the ablest legal minds on the staff of the New Deal, was appointed in Sutherland's place and joined the court on January 31. Cardozo's seat, on the other hand, remained vacant for the rest of the year. Since Justice Reed had joined too late to participate in some of the decisions subsequent to his accession and might be considered partial because of his previous participation in suits as the Government's counsel, he commonly abstained from the decisions for some months. Thus decisions were therefore reached by the remaining seven members. As to the effect of this on the Court's attitude toward social changes, the conservative group lost one voice by Sutherland's retirement, but the expected gain of a voice on the liberals' side in Sutherland's successor was hardly yet effective till the end of 1938.

Supreme Court's Rulings. The most widely noted of the Supreme Court's decisions were those confirming unusual powers asserted by several of the new governmental agencies, where the exercise of these powers assertedly harmed private litigants. The cases of the Alabama Power Co. and the Duke Power Co. against the Public Works Administration were decided on January 3, in favor of the PWA, by a unanimous court. The agency's power to lend and to grant Federal moneys to local governmental bodies, thereby enabling them to set up electric plants to compete with the complaining companies to the latter's expected damage, was found valid. Justice Butler gave the opinion. The decision cleared the way for providing \$109,750,000, as already undertaken, to 61 of the local bodies. For previous data on case above, see YEAR BOOK, 1937, p. 758, col. 2. On March 28, by 6 to 1, the Court rejected the effort of the Electric Bond and Share Co., one of the principal holders of public utilities' shares, to invalidate the statutory grant of power to the Securities and Exchange Commission to compel holding companies of its sort to register with the commission and thus perform the first step in compliance with the Federal plan or ridding such companies of the complex capital structure employed for the control of affiliated companies. The Wagner Labor Act and particularly its enforcing agency, the National Labor Relations Board, were approved in numerous decisions. Some of the most widely noted were those denying the District Courts the power to halt the NLRB's hearings by injunction (January 31); upholding orders of the NLRB's to employers to reemploy strikers; and permitting the Board to withdraw, for correction of procedural error, an order against the Republic Steel Corporation, to which this company had sought to continue litigation with a view to overthrowing the proceeding against it. On December 5 a decision in the Consolidated Edison Co. case held the Company subject to the NLRB's jurisdiction but invalidated the latter's order requiring the abrogation of a contract with a union in the A.F.L. See LABOR ARBITRATION. In the Kansas City Stockyards case by a majority of 6 to 1 the Court gave a decision (April

25) unfavorable to the Administration, calling forth official public criticism, from Secretary of Agriculture Wallace. In this case Fred C. Morgan *et al.* sought a rehearing on the ground that an order of the Secretary of Agriculture, issued in 1933, setting new maximum rates of commissions on sales of livestock at the Kansas City Stock Yards, had been issued without opportunity for the persons affected to be adequately heard on the findings made by his subordinates. Chief Justice Hughes delivered the opinion, which held the rates set by the Secretary to be invalid. Wallace, after a fortnight's interval, delivered a series of public attacks on the course of the Court in this case; one of these, an open letter to Hughes, charged (May 12) that the Court had by its decision in the case reversed a position that it had taken in 1936; the letter referred to the Court's ruling on an appeal by the same parties at an earlier stage of the proceedings, in which the Court had held it needless for the enforcing agency to issue a preliminary report, on the findings of which the persons affected might be heard in their own defense. Another of Wallace's attacks, a statement made to the press on May 18, spoke of "a great battle" fought "a year ago," to settle "whether the courts would take over the function of determining legislative policy," and declared that "another battle seems to be opening" over the courts' attempted "taking over the rate-making and regulatory functions of administrative agencies." Two days later (May 20) Solicitor-General Jackson presented to the Court a brief demanding a rehearing of the case on the ground that the decision of April 25 had reversed that of 1936. The Court's ruling (May 31) on this demand was by a majority of 6 to 1, Black alone dissenting. The opinion, summarized by Chief Justice Hughes, declared the assertion of the two earlier rulings' inconsistency unwarranted and asserted that the more recent decision had been based, not on the lack of an examiner's report of findings, but on failure fairly to advise the persons prosecuted of the charges and to give them adequate hearing.

The Court held for the Government in a number of cases concerning the power of the Federal Government to tax the incomes of agents of one or another of the States. In the Port of New York Authority case the Treasury's claim to levy taxes on the salaries of officers of the Port Authority, a body set up by the State for public purposes, was upheld (May 23) by 5 to 2; the opinion, by Justice Stone, stated as the criterion, that "the tax neither precludes nor threatens unreasonably any function essential to the continued existence of State government." In the Georgia Football Ticket case, decided simultaneously but separately, tickets to football games of the State University and State School of Technology were found liable to the Federal tax on tickets of admittance, despite Georgia's treating football as part of its system of higher education. In the Wyoming Associated Oil Corporation case, the prevalent 5-to-2 majority held (March 7) that income from petroleum yielded by land leased from the State of Wyoming did not enjoy exemption from a Federal tax; this decision fell in line with another, still recent, as to income from a contract with a State. Lawyers serving State agencies for the liquidation of banks and insurance companies were held liable in like manner (February 28), those in question not being technically State employees. Affecting a constitutional power of the President, his veto, in May, 1936, of a minor measure to compensate an

individual was held (January 17) valid though sent to the Senate when that body was in recess for three days.

Cases Affecting States' Powers. South Carolina's limitation of the width and weight of trucks using the State highways was upheld (February 14). Arizona's license fee and privilege tax imposed on newspapers was found valid (May 2), despite the American Newspaper Association's invocation of the constitutional guarantee of freedom of the press. Indiana's application of its tax on gross receipts to the proceeds of sales in interstate commerce was declared (May 16) to be unconstitutional, as leading to double taxation, repugnant to the Commerce clause, in case Indiana's practice were adopted by other States. New York City's levy of 3 per cent on public utilities' gross income was upheld (March 28).

Other Courts' Rulings. Apart from some earlier decisions in cases noted above as decided in the Supreme Court, the lower Federal courts made a number of noteworthy rulings on matters of National concern. This was particularly true as to the Labor Act; some conspicuous decisions touching upon it are here noted. The Circuit Court at New York upheld (February 14) an order of the NLRB to Remington Rand, Inc., to bargain with a union within the A.F.L. The same court found the Consolidated Edison Co., a public utility serving New York City, subject to the NLRB, as the company served some customers engaged in interstate commerce; it sustained (March 14) the NLRB in voiding the company's contract with an affiliate of the A.F.L. (reversed by Supreme Court; see above). Decisions as to whether companies must re-employ employees who had quit work to strike varied: the Circuit Court at Chicago denied the NLRB's petition (April 28) to force the Columbian Enameling and Stamping Co. to rehire 250 employees discharged during a strike; while among opposite instances, the New York Circuit Court required the Black Diamond Line (February 26) to reinstate strikers. In a case involving the seizure of the employer's plant, an order of the NLRB requiring the re-employment of the men involved, by the Fansteel Metallurgical Corporation was voided by the Circuit Court at Chicago (July 22). The Circuit Court at Philadelphia held (August 3) that a jurisdictional dispute between labor unions was not, in the meaning of the Wagner Act, a labor dispute in which the employer was required to negotiate.

ELECTIONS

Changes in Congress. There were elected (November 8, except for Maine, which held its general election on a different date, September 12), 35 Senators and 435 Representatives to serve in the incoming 76th Congress. According to counts still subject to revision of figures and possible contests in some cases, Republicans gained 81 seats, net, in the House of Representatives and 8 in the Senate. The new House of Representatives as consequently constituted contained 261 Democrats and 169 Republicans, the remainder being 1 Farmer-Laborite, 2 Progressives, and 1 American Labor. The Senate in the new Congress was to contain 69 Democrats, 23 Republicans, 1 Independent, 2 Farmer-Laborites, and 1 Progressive. In addition, 6 Democratic Senators whom the Administration had sought to eliminate from renomination, as antagonistic to its policy, were re-elected, and 1 Democrat, nominated in Idaho in preference to the pro-Administration incumbent, won a seat, so that the anti-Administra-

tion wing of the Senate Democrats was maintained and slightly increased.

On a straight party count the Democratic vote in the next Senate was thrice the Republican, while Democrats in the House exceeded Republicans by 91 votes or somewhat above 3 to 2. The prospect of continued dissension among Democratic members, however, left it in doubt on what majorities, if any, the supporters of the Administration could rely in either house. The numbers of anti-Administration Democratic Senators and Representatives could not be counted, as the individuals were not formally pledged or organized. The Administration's effort to eliminate some of them in the primaries gave the group an incentive to work apart from the pro-Administration wing, as a measure of self-preservation. Thus the election rendered it difficult for the New Deal to carry out any further sweeping advance of social liberalism, yet it offered no clear prospect of extensive repeal of innovations already enacted.

Failure of the Democratic "Purge." The Congressional campaign included an effort, made by the Administration, to defeat non-co-operating Democrats in the nominating primaries. The President took the unusual course of touring the country in advance of the primaries and revealing himself for or against certain members of his own party who sought re-election to the Senate, or in rare cases to the House. In other instances men close to the President spoke for or against Senators' renomination. In all, nine of the Democratic Senators who had opposed in 1937 the President's plan to alter the Supreme Court came up for renomination: Clark of Missouri, Lonergan of Connecticut, Adams of Colorado, George of Georgia, Gillette of Iowa, McCarran of Nevada, Smith of South Carolina, Tydings of Maryland, and Van Nuys of Indiana. President Roosevelt asked at Barnesville, Ga., August 11, that the voters deny a renomination to Senator George; on September 5, at Denton, Md., he asked votes in the primary against Tydings. Candidates were chosen against some of the others, reportedly after conference at the White House. Administrator Hopkins of the WPA advised the nomination of Otha D. Wearin in Iowa, in place of Senator Gillette. All nine of the dissident Senators, however, won renominations. On the other hand, of a number of Senators for whom the President and Postmaster-General Farley respectively had spoken on pre-primary tours, two lost the nominations to other candidates; they were McAdoo of California and Pope of Idaho. In New York State, the President opposed the renomination of Representative John J. O'Connor, Dem., chairman of the committee on rules, who had helped cause the failure of the Administrative Reorganization bill (see section on *Congress*, in this article); O'Connor was defeated for the Democratic renomination, won a Republican nomination, and lost the election to his Democratic opponent. Some of the Senators whom the President had indorsed, moreover, were renominated, notably Barkley of Kentucky, despite the rivalry of Governor Chandler. Of the nine Senators who had opposed the Court bill in 1937, all but Lonergan were re-elected.

UNITED STATES MILITARY ACADEMY. A government institution at West Point, N. Y., for the theoretical and practical training of cadets for the military service of the United States, opened in 1802. On Sept. 1, 1938, the total number of cadets was 1825. There were 279 members on the faculty. The academy is a component part of the Regular Army of the United States and is main-

tained solely by appropriations from the Congress of the United States, which in the fiscal year 1939 amounted to \$3,122,830 for salaries and maintenance of public works. The Library contained 105,508 volumes. New buildings completed during the year were: Addition to the East Academic Building, Cadet Barracks, Quartermaster Garage, Freight Receiving Warehouse, addition to the Gymnasium. Superintendent, Brig. Gen. Jay L. Benedict, U.S.A.

UNITED STATES NAVAL ACADEMY.

A school for the education and training of midshipmen in Annapolis, Md., founded in 1845. The total number of midshipmen at the beginning of the academic year 1938-39 was 2312. The faculty numbered 289. The library contained 84,000 volumes. Midshipmen, immediately after graduation, who are found in all respects qualified, are probationally commissioned either as Ensigns in the line of the U.S. Navy or as 2d Lieutenants in the U.S. Marine Corps, to fill existing vacancies. Superintendent, Rear Admiral Wilson Brown, U.S.N., assumed command, Feb. 1, 1938.

UNIVERSALISTS. A religious denomination, existing chiefly in the United States, Canada, Japan, and Korea, which holds as part of its doctrine the universal fatherhood of God, the universal brotherhood of man, the certainty of punishment for sin, and the final harmony of all souls with God. In 1938 there were 24 State Conventions and 1 State Conference. The number of churches was 544; ministers in fellowship, including lay licenses, 536; church members, 52,311, and Church Schools, 340.

The departmental work is carried on by different organizations, including The Women's National Missionary Association, The Young People's Christian Union, The General Sunday School Association, and the Universalist Publishing House. The denominational periodical, the *Christian Leader*, is published weekly. Rev. W. H. Macpherson, D.D., of Joliet, Illinois, is president of the Universalist General Convention. Headquarters of the denomination: 16 Beacon St., Boston, Mass.

UNIVERSITIES AND COLLEGES. Enrollment. The annual study of registrations in 577 approved colleges and universities by Dr. Raymond Walters was published in *School and Society* for December 17. It shows that full-time students numbered 822,890 and that there was a grand total (including part-time and summer students) of 1,259,973. This represents an increase of 6.6 per cent in full-time students over the corresponding enrollments for 1937, and an increase of 6.8 per cent in total enrollment.

Dr. Walters credits these increases to improved economic conditions and to Federal aid to needy students. Regarding the influence of Federal aid he says:

In considering the increase of 6.6 per cent in the enrollment of full-time students for 1938 over 1937, it is pertinent to know that National Youth Administration payments of an average of \$15 monthly for work performed at the institution by undergraduate students and an average of \$30 monthly for work by graduate students are based this year "upon a figure equal to 9.3 per cent of the total number of residents enrolled in the institution" carrying "at least three-fourths of a normal schedule." Last year it was 8 per cent; in 1936 it was 12 per cent.

The study gives comparative figures for freshmen in 516 institutions for 1937 and 1938 in four large fields: Liberal arts, engineering, commerce or business administration, and agriculture. The total enrollment of freshmen in these institutions in the four fields was 196,582, or 4.4 per cent more than in 1937.

The 15 largest institutions with their resident enrollments and ranks are as follows:

<i>Institution</i>	<i>Students</i>	<i>Rank</i>
California	24,809	1
Minnesota	15,148	2
Columbia	14,980	3
New York University	14,257	4
Illinois	13,872	5
Ohio State	13,148	6
Michigan	11,475	7
Wisconsin	11,438	8
U. of Washington	10,393	9
Texas	9,776	10
C. C. of New York	8,628	11
Harvard	8,583	12
Louisiana	7,901	13
Pennsylvania	7,151	14
Hunter	7,000	15

The ranking of the institutions having the largest total enrollments is as follows:

<i>Institution</i>	<i>Students</i>	<i>Rank</i>
New York University	38,744	1
California	29,727	2
Columbia	28,446	3
C. C. of New York	23,252	4
Minnesota	(Position estimated)	5
Northwestern	18,882	6
Ohio State	17,106	7
Texas	16,669	8
Illinois	16,534	9
S. California	15,487	10
Michigan	15,332	11
Wisconsin	15,054	12
Pennsylvania	14,590	13
U. of Washington	14,319	14
Brooklyn	12,882	15

There was a total of 137,502 liberal arts freshmen, or 5.7 per cent more than in 1937. Previously in recent years there has been a decrease in liberal arts freshmen.

There were 28,376 engineering freshmen. This was an increase of 1.5 per cent over 1937. "This is in contrast with the 10 per cent increase of 1937 over 1936 and the 17 per cent increase of 1936 over 1935 for approximately the same institutions."

In commerce or business administration there were 22,139 freshmen, or a decrease of 1.3 per cent from 1937. This decrease is in sharp contrast with the 33 per cent increase in 1937 over 1936, the 14 per cent in 1936 over 1935, and the 12 per cent in 1935 over 1934 in approximately the same institutions.

The agricultural freshmen numbered 8565 or 8.0 per cent increase over 1937. There was a decrease of agricultural freshmen in 1937 but in previous years the increases had been 10 per cent and 30 per cent.

Educational Foundations. Among the educational foundations that have reported during the year are the following: *The Carnegie Corporation* (q.v.) reported that during the fiscal year it had distributed a total of \$3,830,000. This was divided as follows: Library interests \$571,600, adult education \$180,000, the arts \$646,125, research studies and publications \$554,660, and general educational program \$1,877,250.

The General Education Board (q.v.) reported that unappropriated assets available Dec. 31, 1938, were \$28,192,611.85. Approximately \$12,000,000 of this is promised for the board's present program in southern education, and \$7,300,000 has been set aside for contingencies, leaving a free balance of about \$8,700,000. In the 35 years of the board's existence it has appropriated a total of \$225,334,670.

The Rockefeller Foundation (q.v.) reported appropriations amounting to more than \$9,500,000 during 1938. These included medical science \$2,400,000, public health \$2,200,000, social sciences

\$2,000,000, natural sciences \$1,100,000, the humanities \$800,000, and rural reconstruction in China \$400,000.

The trustees announced the removal of restrictions on gifts that had been made earlier. It is provided that 10 years after the date of the gift the income from it may be used for purposes other than that for which the gift was made. Five years after the date of the gift 5 per cent of the fund may be used for purposes other than that for which the gift was made. Ten years after the date of the gift any part or the whole may be used for other purposes.

Gifts and Bequests. The U.S. Office of Education has reported that practically all colleges and universities suffered decreases in receipts from 1929-30 to 1933-34 but that receipts have steadily increased since the latter date.

The John Price Jones Corporation, Fund-raising Consultants, issued a report of gifts and bequests received by 49 of the leading institutions of higher learning. The report shows that from 1920-21 through 1928-29 the yearly average received was \$45,573,053. From 1928-29 through 1936-37 the yearly average was \$45,094,512, an average decrease per institution of only \$9766.

The total gifts to these 49 institutions from 1920-21 through 1936-37 was \$537,089,355 and the total bequests were \$232,824,205 making a total of gifts and bequests of \$770,913,560.

When the gifts and bequests to Harvard, Yale, and the University of Chicago, which amounted to a total of \$165,809,517, are taken from the grand total, the other 46 institutions received a yearly average of \$27,148,662 in gifts and bequests for the years 1920-21 through 1928-29, but only \$19,991,343 yearly from 1929-30 through 1936-37.

The reports of college and university administrators make it evident that they consider the situation regarding gifts and bequests as serious. At the twenty-fourth annual meeting of the Association of American Colleges held in January, and attended by representatives of approximately 300 of the 528 member institutions, the following statement was adopted:

In view of consideration by the present Congress of amendments to the tax law, the Association of American Colleges, comprising 528 member institutions, respectfully urges amendment of the Revenue Act of 1936 to encourage larger philanthropies for education and charity.

The association believes that the downward trend of gifts to endowments of privately controlled educational institutions creates an alarming emergency. The decrease has been more than 50 per cent in the past 10 years (from \$70,000,000 in 1925-26 to \$33,000,000 in 1935-36); furthermore, it seems clear to us that the cumulative effects of the present tax law will create an even more alarming situation.

The association urges the elimination from taxation of gifts from individuals, in excess of the present 15 per cent exemption (with reasonable limitations); and the interpretation of income from donations to revocable trusts for education and charity, as the income of the trust and not of the donor.

Among the larger gifts and benefactions announced during the year were the following:

Amherst College received \$100,000 by the will of the late George Dupont Pratt. Boston University received a gift of \$486,500 from the Charles Hayden Foundation for a new building for the College of Business Administration. The School of Theology of Boston University received a gift of \$100,000 from Rev. Charles H. Atkins, and a like amount from an anonymous giver. Brown University announced a gift of \$914,000 from the Charles Hayden Foundation. The Carnegie Institute of Technology announced early in the year that it had raised \$1,450,000 toward a proposed endowment of \$4,000,000 which is to be duplicated by the Carnegie Corporation if raised by 1946. The Institute also received a gift of \$300,000 from the Maurice and Laura Folk Foundation for the support of a program of education and research in social relations.

By the will of the late Miss Kate S. Buckingham, a

trust fund of \$2,000,000 was established for the Chicago Art Institute. Columbia University received \$135,000 by the will of the late Associate Justice Cardozo for the establishment of a chair of jurisprudence. Columbia also received \$250,000 from the Carnegie Corporation. Of this amount \$150,000 is for endowment of the Melvil Dewey professorship of library service and \$100,000 for the Columbia School of Library Service to be used for general purposes. The Connecticut College for Women announced the gift of a new chapel from Mrs. Edward S. Harkness. By the will of the late Edward Bayard Halstead, Drake University and Johns Hopkins University share equally in a residuary estate valued at more than \$500,000. Also Johns Hopkins is to receive \$200,000 and Drake \$75,000 at the termination of existing trusts.

Lindenwood College announced the gift of a \$200,000 estate left by the late Mrs. Lillie P. Roemer. MacMurray College received a gift of property valued at \$1,000,000 from James E. MacMurray. The Horace H. Rackham and Mary A. Rackham fund established a trust endowment of \$500,000 for agricultural research at the Michigan State College. The College of Medicine of the Ohio State University received \$200,000 by the will of the late Marietta Comly for medical and surgical research. George Peabody College received a gift of \$100,000 from the General Education Board toward the endowment of its library school.

Phillips Academy will receive from Col. Henry L. Stimson an 18-acre estate in Washington, D. C., valued at more than \$300,000. Pratt Institute received \$250,000 by the will of the late George Dupont Pratt. Princeton University announced gifts totaling \$1,011,492 for the three months following Dec. 1, 1937. The Rochester Athenaeum and Mechanics Institute received a residuary estate valued at more than \$150,000 by the will of the late Miss Frances A. Baker. Simmons College received a gift of \$200,000 from the Paul Wilde Jackson Fund. It is required that the income of the gift be used for scholarships for a period of 25 years after which it may be used for such charitable or educational purposes as the governing board of the college may determine. Swarthmore College received a trust fund of \$100,000 by the will of the late Miss Laura Allen. The income of the trust is to be used to pay the salaries of professors of chemistry in the college.

Teachers College of Columbia University received \$500,000 by the will of the late Valentine Everitt Macy. The University of Southern California received from Capt. Allan Hancock a gift of a completely equipped building for scientific research in zoology, botany, and related fields. The gift will be known as the Allan Hancock Foundation for Scientific Research. The University of Chicago received from the Rockefeller Foundation a gift of \$1,500,000 conditioned on the University's securing an additional \$500,000 before 1941. Chicago also received \$150,000 from the Rockefeller Foundation for the support of psychiatric teaching and research over a period of three years. The graduate school of the University of Michigan received \$500,000 from the Horace H. Rackham and Mary A. Rackham Fund, the income of which is to be used for at least five years for sociological research in Flint, Michigan. The University of Pennsylvania announced gifts amounting to \$2,298,514. This was three times the amount of the gifts received during the same period in the previous year. The College of Mines and Metallurgy of the University of Texas received a bequest valued at approximately \$1,000,000 by the will of the late Frank B. Cotton. Vassar College completed an endowment fund of \$1,000,000 for an alumnae house. By the will of the late Neil Gray, Yale University will, upon the death of Mr. Gray's sister, receive a sum estimated at more than \$500,000.

Study of Teacher Education. The American Council of Education has received a grant of \$200,000 from the General Education Board for the purpose of making a five-year study of teacher education. The study, which will consider the problems involved in the training of teachers for elementary and high schools and for colleges and universities, comes at an opportune time. It has become very difficult to fix the boundaries of the field belonging to the liberal arts colleges and that which may be occupied by teacher-training institutions.

There has been a determined effort, since 1920, to improve the quality of instruction in public schools by increasing the training that prospective teachers must secure. Prior to this date, the completion of a two-year normal school course was regarded as adequate preparation for those who expected to teach in elementary school. The curriculum of those earlier normal schools was composed very largely of reviews of the subjects taught in the elementary school and the learning of the

methods that should be employed in teaching them. There was little time left which could be devoted to the cultural subjects such as were offered in liberal arts colleges. At the same time, the teachers for high schools came from the colleges where they received no very direct training for teaching. Under such conditions there was no overlapping of the fields occupied.

The requirements for certification to teach in a number of the states now include the equivalent of one entire year of professional courses and actual and extensive experience in practice teaching. It is very difficult for the smaller colleges to meet either of these requirements. Conditions are such that several scientific associations have taken steps to bring changes. It is asserted that high schools do not employ persons who are competent in the sciences because such persons do not have the lengthy training required for certification to teach. It has been freely stated that the effects of this practice is to be seen in the poor training that high-school graduates have when they enter college. It is charged that in one state it is impossible to obtain one of the advanced certificates unless the candidate offers credits earned in one particular teacher-training institution.

The Association of American Colleges manifests great interest in the proposed study. At its annual meeting in January it passed resolutions that assured the Council of its willingness to co-operate. It also signified its "interests in in-service training of teachers, a fifth year of work beyond the secondary level for prospective teachers, the presentation of subject-matter for professional use, the certification of teachers, selection of candidates for certification, the contact of liberal arts colleges with the public schools and especially the secondary schools, the type of preparation which a teacher of subject-matter in a liberal arts college should have, the relation of professional and subject-matter courses in liberal arts colleges, and a definition of terms used to describe professional courses for teachers.

The period of training for elementary teachers was lengthened to three years, and later to four years. This made it possible for the teacher-training institutions to include cultural subjects. The states also raised the standards of certification of all teachers in the public schools. This forced the colleges whose graduates were to teach in the high schools to include teacher-training courses in their curricula. The definition of fields for the two types of institutions no longer held, and often serious difficulties resulted.

The smaller colleges, many of whose graduates were forced to resort to teaching, often urged that the cultural courses were in their field. They reasoned that the introduction of these courses into the teacher-training institutions would be followed by a decrease in their own student enrollments. The teacher-training institutions would be followed for a time by offering "professionalized subject-matter courses." In these the emphasis was supposed to be upon the teaching aspects of the subjects. This plan did not operate satisfactorily. There were few who could teach such courses, and as time passed only the title remained. These institutions did not and do not generally confer degrees, but their students are able to transfer credits, often at their face value, and obtain regular degrees from prominent institutions.

UPPER VOLTA. See FRENCH WEST AFRICA.
URUGUAY, ū'rōō-gwā or ōō'rōō-gwī'. A South American republic. Capital, Montevideo.

Area and Population. Uruguay has an area of 71,172 square miles and a population estimated in December, 1937, at 2,093,221 (1,937,707 in 1931). About 45 per cent of the people live in cities of 6000 or more. Living births in 1936 numbered 40,755 (19.8 per 1000); deaths, 19,843 (9.7 per 1000); marriages, 12,087 (5.9 per 1000). The people are almost entirely of European descent, with Spanish, Italian, and Portuguese strains predominating. The language is Spanish. The estimated population of Montevideo in December, 1937, was 692,796; of other cities in 1936: Paysandú, 50,000; Salto, 48,000; Mercedes, 34,000; Minas, 30,000.

Education and Religion. About 35 per cent of the adult population is estimated to be illiterate. In 1936 there were 195,228 pupils in 1586 public and private schools, 14,247 in secondary schools, 9453 in 62 evening courses for adults, and 17,122 students in the University of the Republic at Montevideo. During 1937-38, 160 new primary schools and 10 industrial schools were opened and the construction of 8 modern secondary schools in the interior was started. Expansion of the university was also under way. The first "South American Summer School" was held in Montevideo Jan. 10-Feb. 3, 1938, with outstanding authorities from various South American universities lecturing. Roman Catholicism is the prevailing religion but complete religious liberty is guaranteed.

Production. A 1937 estimate placed the annual value of production at about 370,000,000 pesos, with agriculture contributing about 12 per cent of the total, pastoral industries 24 per cent, and the processing and manufacturing industries 59 per cent. About 60 per cent of the total area is devoted to stock raising, 20 per cent to mixed stock and crop ranches, and 7 per cent to crop farms. Livestock estimates for 1937 were: Cattle, 7,127,000; sheep, 17,931,000; swine, 300,000. In the same year 932,266 cattle, 1,152,150 sheep, and 83,513 swine were slaughtered. The wool clip for the year ended Sept. 30, 1938, was 52,356 metric tons. Production of the chief crops in 1937-38 was: Wheat, 15,144,000 bu.; barley, 721,000 bu.; oats, 3,591,000 bu.; corn, 3,011,000 bu.; linseed, 3,728,000 bu.; rice, 1,176,000 bu. Other crops are wine grapes, potatoes, tobacco, and alfalfa. The government has undertaken the development of copper, lead, and gold deposits. The 1937 industrial census showed 11,493 establishments with 88,267 employees and a capital investment of 256,000,000 pesos. The principal manufactures are meat products, flour, shoes, tanned hides, wool textiles, building materials, automobile bodies and tires, petroleum products, alcohol, furniture, and clothing.

Foreign Trade. General imports in 1938 were valued at 74,394,000 pesos (appraised values) compared with 80,393,000 pesos in 1937, and general exports at 96,292,000 pesos (99,152,000 in 1937). The United Kingdom supplied 19.8 per cent by value of the 1938 imports (16.8 in 1937); Germany, 16.8 (11); United States, 12 (13.6); Brazil, 7.7 (6.7). Of the 1938 exports, the United Kingdom took 26.1 per cent (24.1 in 1937); Germany, 23.5 (13.2); Argentina, 9.5 (9.2); France, 7.4 (4); United States, 4 (14.1). The value of the chief 1937 exports was (in U.S. currency): Wool, \$22,960,000; hides and skins, \$6,690,000; preserved mutton, \$3,512,000; frozen beef, \$2,933,000.

Finance. Budget estimates for 1939 placed total revenues at 87,554,000 pesos (86,775,000 in 1938) and expenditures at 87,526,000 pesos (88,195,000 in 1938). Actual expenditures in 1938 were 87,671,000 pesos and receipts about the same (85,110,000 and 88,167,000 pesos, respectively, in 1937). The total

public debt on Dec. 31, 1938, was equivalent to 420,680,000 pesos (funded debt of Republic, 350,170,000; funded debt of Montevideo and interior cities, 70,148,000; Treasury bills outstanding, 362,000). The internal debt amounted to 199,604,000 pesos and the external debt was divided as follows: £14,280,510, U.S. \$57,136,300; French francs (gold) 118,603,000; Uruguayan gold pesos 1,269,935. For conversion of the debt, see *History*. The average exchange rate of the peso was \$0.4173 in the free market in 1938 (\$0.5575 in 1937) and \$0.5697 in the controlled free market (\$0.5595 in 1937). The law of Feb. 2, 1938, devalued the peso to 0.585018 grams of pure gold $\frac{1}{10}$ fine (formerly 0.732328 grams).

Transportation. There were in June, 1937, 1485 miles of privately owned railway line and about 388 miles of state line. The 1937 mileage of roads and highways was about 22,487 miles; number of automobiles on Jan. 1, 1938, 60,922. Airlines operated under the national flag extended 719 miles in 1938. A new air passenger service between Montevideo and Buenos Aires was opened Mar. 12, 1938. Montevideo is also on the American, German, and French international air routes. During 1937, 2036 ocean-going vessels of 9,342,184 net registered tons and 1356 river steamers of 1,002,440 tons entered the ports.

Government. A constitution adopted in 1934 fixes the form of governmental authority; in particular, it does away with the previous constitution's distinctive institution, an elective National Administrative Council of nine members, which formerly had a share of the executive power. The present constitution assigns the executive authority to a President aided by a Council of nine Ministers. The legislative authority rests in a Parliament of two chambers: the Senate, having 30 members, and the Chamber of Deputies, having 99. Males and females 18 years old have the right to vote in the popular elections. Their vote elects quadrennially, at large, the members of the Senate and, by districts, the members of the Chamber of Deputies. The Legislators proclaim, to be President for a term of four years, a candidate of the political party that has obtained the highest popular vote. The members of the Council of Ministers are chosen from the two political parties that have obtained the highest votes in the general elections: from among the party gaining the highest vote, 6 Ministers; from that next highest, 3. President, Alfredo Baldomir (inaugurated June 19, 1938).

History. The election of Gen. Alfredo Baldomir to the Presidency marked the return of political life to a definitely constitutional basis; while President Gabriel Terra had brought the constitution of 1934 into the world and had served his second term under that constitution, his successor gained the office by the expressed preference of the popular vote for him and his party, over other candidates. The popular vote cast on Mar. 27, 1938, out of a total of 357,205 ballots, gave 219,311 to the Colorado Party; and of the vote for this party 121,259 ballots favored Baldomir, while its official candidate, Blanco Acevedo, received 97,998 votes; a candidate of the National Party received 114,506 votes. The system of seeking votes for rival candidates under the same partisan designation, in use in Uruguay, implies that the candidate obtaining the highest personal vote among the candidates within the political party that scored the highest partisan vote may benefit by the ballots cast for others under the same party banner; consequently Baldomir's rivalry with Acevedo was a normal feature of the election. Baldomir's inauguration brought him unusually en-

thusiastic acclaim from the attending public—a demonstration credited, in the press, to Baldomir's having won on his promise to the voters that he would restore democracy and oppose fascism.

A few weeks after the inauguration a multitude thought to number 120,000 marched (July 25) in Montevideo, displaying the national flag, and held an outdoor meeting to demand a new constitution, more in accord with popular views. The sense of recent release from the Terra regime's long-continued restraint of popular action gave additional impulse to the demonstration. Ex-President Terra, however, did not long remain wholly dissociated from the government; the new President and cabinet nominated him in August to be president of the Bank of the Republic, and a law passed in November authorized this bank to stabilize the price of wheat by buying, selling, and exporting for the government's account, in addition to governing foreign exchange. Terra visited Italy late in the year and there negotiated a new Uruguayan commercial agreement with the Italian Government (approved by the cabinet December 16), whereby Italy was to admit a much higher yearly total of some Uruguayan products; wool, meat, cereals, linseed, hides, and other goods were to be admitted in totals that aggregated 179,000,000 lire in yearly value, instead of 58,000,000 set by the pre-existing agreement. The extent of countervailing concessions to Italy was not yet set forth in the news. Politically, however, the prospect of greater trade with Italy armed the supporters of fascism with arguments of self-interest that might have effect on the Uruguayan business world.

Uruguay's position in foreign trade during 1938, and in domestic economy as well, rendered it highly desirable to improve outlets for the agricultural surplus. The country's system of social insurance ran into deficits, attributed in part at least to the original admittance of numerous persons, retiring from active occupation, to public support, although they had not materially contributed to the fund for the payments. The control of foreign exchange, owing partly to the weakness of the peso in terms of the U.S. dollar, was strictly maintained. In April, for instance, quotas of imports were allowed only as to 13 exporting countries, about two-thirds of the allowed total of all the quotas being allotted to Great Britain and to Germany. A small sum outside the quotas was allowed for payment of any imports from other countries, the United States included. In July the co-ordination of imports, exports, and exchange was united in the hands of the Bank of the Republic. It was reported in December that the conversion of the divers issues of Uruguayan external debt had been completed, with resulting lower rates of interest.

Uruguay and Argentina made an agreement, announced January 16, to maintain the status existing on Jan. 1, 1936, with regard to the possession of long-disputed islands in the Río de la Plata (including Martín García Island). A step important to the Uruguayan social structure was taken by the enactment, in May, of a law on homesteads; these were to be dwellings or farms occupied in each case only by members of one family; a homestead, with its necessary machinery, tools, food, and livestock, might not exceed 5000 pesos in value; it could not be encumbered; once declared a homestead, neither the possession nor any part of it could be attached; it could be sold only under specified conditions.

See also CHACO DISPUTE, SETTLEMENT OF.

UTAH. Area and Population. Area, 84,990 square miles; included (1930) water, 2806 square

miles. Population: Apr. 1, 1930 (census), 507,847; July 1, 1937 (Federal estimate), 519,000; 1920 (census), 449,396. Salt Lake City, the capital, had (1930), 140,267.

Agriculture. Acreage, production, and value of the chief crops of Utah, for 1938 and 1937, appear in the accompanying table.

<i>Crop</i>	<i>Year</i>	<i>Acreage</i>	<i>Prod. Bu.</i>	<i>Value</i>
Hay (tame)	1938	494,000	1,051,000 *	\$8,198,000
	1937	515,000	1,171,000 *	8,900,000
Wheat	1938	287,000	6,573,000	3,221,000
	1937	279,000	5,459,000	4,313,000
Sugar beets	1938	52,000	742,000	.....
	1937	46,000	570,000	2,816,000
Potatoes	1938	13,600	2,244,000	898,000
	1937	12,900	2,128,000	915,000
Barley	1938	62,000	2,542,000	966,000
	1937	61,000	2,379,000	1,356,000

* Tons.

Mineral production. Much the greater part of Utah's yearly production of minerals, totaling \$61,103,970 for 1936, was in gold, silver, copper, lead, and zinc. The value of the yearly production of the five, \$48,836,356 for 1936, had jumped to \$87,897,549 for 1937; for 1938 it receded to \$44,304,023 (U.S. Bureau of Mines' approximation), which was lower than the total of 1936. All five of the metals failed in 1938 to approach their totals for 1937 either as to value or as to quantity. The production of gold diminished to 210,650 oz. (1938), from 322,759 (1937); in value to \$7,372,750, from \$11,296,565. That of silver fell to 9,629,713 oz. (1938), from 12,869,117 (1937), and to \$6,225,629, from \$9,954,262. That of copper sank to 215,798,000 lb. (1938), from 411,988,000 (1937); by value, to \$21,148,204, or considerably less than half of the total, \$49,850,548, for 1937. The output of lead dropped to some 132,076,000 lb. (1938), from 178,916,000 (1937), and to \$6,207,572, from \$10,556,044. That of zinc, to 68,372,000 lb. (1938), from 96,002,000 (1937), and to \$3,350,228, from \$6,240,130. Inactive and oversupplied markets for copper, lead, and zinc led to the curtailment of operations by the mines producing them; the Utah Copper Company shut down for six weeks in the summer, and two leading producers of lead and zinc in the Park City area closed early in 1938. As much of the yield of gold and of silver came from ores mined essentially for copper, lead, or zinc, the production of gold and of silver was sympathetically reduced. The same thing happened in the case of molybdenum, which the Utah Copper Company had produced, in 1937, to a total of 4,912,569 lb. of metal in concentrates.

Finance. Utah's State expenditures in the year ended June 30, 1937, as reported by the U.S. Bureau of the Census, were: For maintaining and operating governmental departments, \$17,174,813 (of which \$3,836,699 was for highways, and \$4,242,849 was for local education); for interest on debt, \$469,451; for capital outlay, \$3,571,523. Revenues were \$24,385,265. Of these, property taxes furnished \$3,670,134; sales taxes, \$7,125,103 (including tax on gasoline, \$3,252,905); income taxes, \$1,550,639; departmental earnings, \$1,695,490; sale of licenses, \$1,577,018; unemployment compensation, \$1,212,732; Federal or other grants-in-aid, \$5,874,021. Funded debt outstanding on June 30, 1937, totaled \$8,742,899. Net of sinking-fund assets, the debt was \$3,901,295. On an assessed valuation of \$524,417,178 the State levied in the year ad-valorem taxes of \$3,146,503.

The State's monopoly of alcoholic beverages had receipts for the year of \$4,023,774, this figure was not included in the State's revenue. Out of profit

the monopoly paid, in the year, \$550,000 to the State; this sum is included in the State's total revenue.

Education. Utah had, as reported for the academic year 1937-38, 144,463 inhabitants of school age (from 6 to 17 years, inclusive). Enrollments of pupils in public schools, to the number of 138,669, comprised 96,612 for elementary instruction and 42,057 in high schools. The year's expenditures for public-school education, capital outlay included, totaled \$12,122,550. The teachers, principals, and supervisors numbered 4618; they were paid, for the year, at the average of \$1313.34.

The popular vote adopted (November 8) an amendment to the State constitution, removing restrictions as to source and amount of revenue for the public schools. This change, supported by the State Teachers' Association, was expected to help the schools to obtain more ample support, particularly as the means need no longer be obtained by the unpopular method of taxing property.

Charities and Corrections. Public support in 1938 for indigents in Utah was mainly administered by the Department of Public Welfare, which among its other activities granted, from proceeds of the sales tax, moneys for general poor-relief. The State institutions for the care and custody of persons were severally governed by their own directing boards. They included the State Prison, at Salt Lake City; Industrial School, Ogden; Training School for the Feeble-Minded, American Fork; School for the Deaf and Blind, Ogden.

The State's resources for poor-relief were heavily burdened. The severe depression in metal mining, mentioned under *Mineral Production*, increased dependency and at the same time brought on a decrease in the yield of the sales tax, the source of the State's means for poor-relief. The temporary payment of aid to persons thrown out of employment, under the system of unemployment compensation, was in force, but the Unemployment Insurance Office, in charge of this service, was overburdened.

Political and Other Events. The direct primary for the nomination of the political parties' candidates went into effect in the State. It was first used at the primary elections of September 13. The failure of the Church of the Latter-day Saints (Mormons) in their endeavors of several years to provide for the subsistence of all indigent members was announced (June 5) by Heber J. Grant, head of the church. In a press interview he asserted that the church, while able to provide for all members in need, had been powerless to overcome its dependents' preference for Federal support. The Mormons had established for their poor a system of organized self-help, in which opportunity to produce goods and barter them for other products had been provided instead of a dole or of paid jobs such as those offered by the WPA.

The Utah Copper Company's mines and smelters in the State were shut down (June 1), and remained closed for about six weeks. The suspension stopped the employment of about 3000 persons and thus added to the burden of poor-relief.

An investigation of alleged corruption in the municipal administration of Salt Lake City brought about, in January, the discharge of the Chief of Police and the Manager of the Department of Safety; both were appointees of Mayor E. B. Erwin. Erwin resigned his office early in February. Great Salt Lake was reported to have recovered some of the shrinkage that it had undergone between 1925 and 1935. Its level in June, as stated

by a district engineer of the U.S. Geological Survey, was more than $2\frac{1}{2}$ feet above that of 1935 but was still about $8\frac{1}{2}$ feet below the level of 1925. The salt flats of Utah—level stretches with a smooth salt surface—had meanwhile come into use as a perfect natural course for automobiles trying for the world's record for speed over short distances.

Elections. U.S. Senator Elbert D. Thomas (Dem.) was re-elected, defeating Franklin S. Harris (Rep.). Two Republican Representatives were re-elected.

Officers. Utah's chief officers, serving in 1938, were: Governor, Henry H. Blood (Dem.); Secretary of State, E. E. Monson; Auditor, John W. Guy; Treasurer, Reese M. Reese; Attorney-General, Joseph Chez; Superintendent of Public Instruction, Charles H. Skidmore.

Judiciary. Supreme Court: Chief Justice, William H. Folland; Associate Justices, Ephraim Hansen, David W. Moffat, James H. Wolfe, Martin M. Larson.

UTAH, UNIVERSITY OF. A State institution of higher education in Salt Lake City, founded in 1850. The enrollment for the autumn quarter of 1938 was 4023. The 1938 summer session had an attendance of 1278. In extension courses, 2250 students were enrolled. The faculty numbered 227. The income for 1937-38 was \$1,211,501. The library contained 137,336 volumes and 35,049 pamphlets. Carlson Hall, new residence hall for women, and a new biological laboratory and greenhouse were opened in the fall of 1938. President, George Thomas, Ph.D.

UZBEK SOVIET SOCIALIST REPUBLIC. One of the 11 constituent republics of the U.S.S.R., according to the constitution adopted Dec. 5, 1936. It includes the Kara-Kalpak Autonomous Soviet Socialist Republic. Area, 66,392 square miles; population (Jan. 1, 1933), 5,044,300. Tashkent, the capital, had 565,000 inhabitants on Jan. 1, 1936. Other important cities are: Samarkand, 154,600 inhabitants; Andijan, 97,700 inhabitants; Kokand, 84,700 inhabitants; Bokhara; Khiva; Namangan.

Production, etc. Chief products are cotton, fruit, wool, silk, oil, sulphur, coal, leather, and cement. In 1938 there were 43,345 acres of spring sowing, by collectives, of chief grain crops. There is a well-developed air line which serves all of Central Asia. See SOVIET CENTRAL ASIA; UNION OF SOVIET SOCIALIST REPUBLICS.

VALDÉS, ARMANDO PALACIO. See PALACIO VALDÉS, ARMANDO.

VANDERBILT UNIVERSITY. A nonsectarian institution of higher learning for men and women, in Nashville, Tenn., founded in 1872. The enrollment for the autumn term of 1938 was 1700. The faculty numbered 416. The amount of endowment was \$22,770,000; the annual income, \$1,600,000. Volumes in the library numbered 209,462. Chancellor, since July 1, 1937, Oliver C. Carmichael, B.Sc. (Oxon.).

VANDERVELDE, van'dēr-vēl'de, EMILE. A Belgian Socialist, died in Brussels, Dec. 27, 1938. Born at Ixelles, Jan. 25, 1866, he was educated at the University of Brussels where he later became professor of law, and in 1924 professor of political economy. Upon graduation he joined the Socialist Party and was elected a deputy in 1894. During the World War he served as a member of the Patriotic Service Committee, and subsequently was a member of the War Committee (1917-18), minister of civil and military provisioning (1918), and minis-

ter of justice (1919-21). He was an ardent supporter of reduction in military expenditures and armaments, and fought for universal suffrage and reforms in the prison system. Asked to form a cabinet in the spring of 1925, he refused, but on June 17 became minister of foreign affairs in a coalition cabinet, which post he held until Nov. 31, 1927. On June 14, 1936, he became minister of public health, but resigned in January, 1937, because the Government failed to support the Loyalist Government in the Spanish War. Vandervelde was Belgian delegate to the Paris Peace Conference (1919), and played an important part at the Lorcarno Conference (1925).

He was the author of many historical and economic works, among which may be mentioned *L'Evolution industrielle et le collectivisme* (1896; Eng. trans., *Collectivism and Industrial Revolution* 1901); *La Régime Socialiste* (1906); *La Socialisme et la Religion* (1907); *La Belgique et le Congo* (1911); *Le Socialisme contre l'État* (1918); *Le Parti Ouvrier Belge 1885-1925* (1925); *Le Marxisme a-t-il fait faillite* (1928), and, with his wife, *Le Pays d'Israel* (1929).

VASSAR COLLEGE. A nonsectarian institution for the higher education of women in Poughkeepsie, N. Y., founded in 1861. The enrollment for the autumn of 1938 was 1246. The faculty numbered 185. The endowment amounted to \$9,400,000; the income from funds was approximately \$400,000; endowments and trust funds for scholarship aid, including fellowships, amounted to \$1,300,000, yielding an income of approximately \$45,000. The library contained 208,400 volumes. The trend in instruction was toward smaller classes, individual conferences, and independent study by the students.

An interdepartmental major field in drama was set up under the administration of a Division of Drama separate from the Department of English. The Vassar Brothers Laboratory, which had become unsuitable for further use without costly repairs and alterations, was demolished. The Department of Psychology and certain courses in Botany and Sociology, previously taught in this building, were transferred to Blodgett Hall of Euthenics, thus completing the fulfillment of its donor's hopes for bringing together under one roof all the courses particularly concerned with the science and art of living well.

Jean C. Palmer House, named for an alumna and former warden of the college, was opened as a home for a group of self-help students engaged in a co-operative housekeeping project formerly housed in Blodgett Hall.

Through the generosity of Mrs. Charles M. Pratt the art gallery in Taylor was reconstructed to provide greater exhibition space and better lighting for both the permanent collection of paintings and loan collections and her gift of more than 600 pieces of rare Oriental pottery was placed on display in a room especially designed for it. The Classical Museum in Avery Hall was also entirely remodeled and equipped with modern cases and modern lighting to further the enjoyment and study of the college's valuable collection of classical antiquities. President, Henry Noble MacCracken, Ph.D., LL.D., L.H.D.

VATICAN CITY. A sovereign State, officially known as the State of Vatican City, established within the city of Rome as the seat of the Papacy on June 10, 1929, in accordance with the Italo-Vatican (Lateran) Treaty of Feb. 11, 1929 (see 1929 YEAR BOOK, p. 417). Sovereign in 1938, Pope

Pius XI (Achille Ratti), born May 31, 1857, and elected Supreme Pontiff Feb. 6, 1922.

The area of Vatican City is 108.7 acres, including St. Peter's Square, and in addition 13 ecclesiastical buildings outside of its limits enjoy extraterritorial rights. It has its own coinage, import duties, railway station, and its postal, telegraph, and radio facilities. The census of Dec. 31, 1932, showed 1025 inhabitants, including 853 Italians and 121 Swiss, the latter mostly members of the papal gendarmery. Under the Constitution of June 7, 1929, the Pope exercises full legal, judicial, and executive powers. Executive authority is delegated by the Pope to a governor. Governor in 1938, Marquis Camillo Serafini. He is assisted by a Counselor General, a General Council of Government, and other officers. The legal system is based on canon law and ecclesiastical rules. The cardinals serve as the Pope's chief advisors and they elect his successor upon his death. They are appointed by the Pope as vacancies occur. Foreign relations are conducted by the Secretary of State (Eugenio Cardinal Pacelli in 1938). The Holy See maintains diplomatic relations with 40 foreign governments and has unofficial relations by means of Apostolic Delegates with a number of other countries, including the United States.

See ROMAN CATHOLIC CHURCH; AUSTRIA, GERMANY, ITALY, SPAIN, and YUGOSLAVIA under *History*.

VENEZUELA, vèn'è-zwě'là; *Amer. Sp. pron.*, vā'nā-swā'lā. A Republic of South America, consisting of a Federal District, 20 States, and two Territories. Capital, Caracas.

Area and Population. The area is 352,143 square miles and the population at the census of 1937 was 3,451,677, including 100,670 Indians (aboriginals) and 23,254 Venezuelans living abroad. The population is composed of whites, Indians, Negroes, and mixtures of all three races. Living births in 1936 numbered 106,690 (32.7 per 1000); deaths, 58,261 (17.9 per 1000). The populations of the Federal and five largest State capitals in 1937 were: Caracas (Federal District), 203,342; Maracaibo (State of Zulia), 110,010; Barquisimeto (Lara), 50,774; Valencia (Carabobo), 49,963; Maracay (Aragua), 29,255; and San Cristóbal (Táchira), 22,058.

Education and Religion. At the 1926 census about 57 per cent of the adult population was illiterate. The school enrollment in 1937 was 204,450 (elementary, 202,179) and the average attendance was 150,868. In his message to Congress of Apr. 29, 1938, President Eleazar López Contreras reported that 10 rural missions were laying foundations for rural normal schools and farm schools in various parts of the republic. He also announced the establishment of the first camp for undernourished school children, a school for nurses, the Artigas experimental school, the Audio-Visual Institute of Education, the Polytechnic Institute combining the Institute of Tropical Medicine and Experimental Surgery with the pedagogical extension service, and the Institute of Geology. An advanced school of agriculture, a school of veterinary science, several schools for farm overseers, an experiment station for rice culture, and seven cattle-raising experiment stations also were inaugurated during the previous year (also see *History*). Roman Catholicism is the prevailing religion, but other religions are granted freedom of worship.

Production. The principal industries are agriculture, stock raising, petroleum mining, manufacturing, pearl fishing, and the exploitation of forests. Estimated production of the chief crops was:

Coffee, 67,000 metric tons in 1937-38 (71,600 in 1936-37); cacao, 36,671,000 lb. in 1936-37; cane sugar, 24,500 metric tons in 1937-38 (25,000 in 1936-37). Other crops are tobacco, cotton, corn, beans, fruits (especially bananas), potatoes, coconuts, rice, and wheat. Livestock estimates for 1936-37 showed 3,091,000 cattle, 356,000 swine, 62,000 sheep, 194,000 horses, mules, and burros, and 615,000 goats. Mineral production for 1937 included 199,407,000 bbl. of petroleum (164,977,000 in 1936), 116,512 fine oz. of gold, 6585 metric tons of coal, and 26,299 metric tons of salt. Petroleum refining is the only large-scale manufacturing industry. Caracas has a cotton mill, cement plant, and glass factory and there are cotton mills at Valencia, Maracay, and Cumaná. There were 935 industrial establishments with 12,861 employees and an invested capital of 128,221,190 bolívares in the Federal District (including Caracas and La Guaira) in 1936.

Foreign Trade. Including bullion and specie, general imports in 1937 totaled 304,634,000 bolívares (211,590,000 in 1936) and general exports 871,463,000 bolívares (768,463,000). The chief imports in 1937 were cotton fabrics, automobiles, trucks and accessories, iron and steel and their manufactures, and wheat flour. The value of the chief exports was (in U.S. currency): Crude petroleum, \$164,647,000; green coffee, \$10,122,000; fuel oil, \$6,314,000; gold (excluding coin), \$3,753,000; cacao beans, \$2,921,000. The United States in 1937 supplied 52.8 per cent of the imports by value (47.4 in 1936); Germany, 13.6 (15.2); United Kingdom, 9.3 (10.1). Of the 1937 exports, 39.6 per cent (petroleum for refining) went to Aruba, 32.6 per cent (petroleum) to Curaçao, 13.7 per cent to the United States, and 5.4 per cent to the United Kingdom. United States trade figures for 1938 showed imports from Venezuela of \$20,034,983 (\$22,769,879 in 1937) and exports to Venezuela of \$52,277,887 (\$46,444,651 in 1937).

Finance. For the calendar year 1937 actual revenues totaled 312,101,000 bolívares (220,792,000 in 1936) and expenditures 304,875,000 bolívares (257,378,000). The 1937 surplus of 7,226,000 bolívares was added to the treasury reserve, which totaled 65,587,000 bolívares on Apr. 15, 1938, exclusive of about 15,000,000 bolívares held in special account from oil concessions. The budget estimates for the fiscal year ended June 30, 1939, balanced at 335,261,000 bolívares (254,632,000 for 1937-38). The internal public debt on Dec. 31, 1937, was 2,685,000 bolívares. Sufficient funds had been deposited abroad to cancel the 122,000 bolívares of unredeemed foreign debt. The average bank rate for the bolívar was 3.19 to the U.S. dollar in 1938 (3.42 in 1937) and the average open market rate was 3.26 in 1938 (3.56 in 1937). Par value of the bolívar, \$0.3267.

Transportation. Exclusive of industrial railways, Venezuela has 589 miles of railway line (government, 119 miles). Roads and highways extended 5667 miles in 1937 (number of automobiles, 21,350). An all-weather oiled road and pipeline over 125 miles long was under construction by an oil company in 1938 from El Tigre (Oficina) to Puerta La Cruz-Guanta, which was expected to prove of great economic benefit to eastern Venezuela. In 1938 there were 2197 miles of airlines under the national flag. In 1937 the government-owned Línea Aeropostal system reported 1309 flights totaling 1607 hours. The Pan American Airways planes touch at Caripito, Guanta, La Guaira, Coro, and Maracaibo. Dutch Airways (K.L.T.) provides a service between La Guaira, Aruba, and

Curaçao. Modernization of the ports of La Guaira and Puerto Cabello was virtually completed in 1938. See *History*.

Government. A constitution adopted on July 11, 1936, is the basis of the government. The President is elected by the Congress, to serve a term of five years; he cannot succeed himself. The Congress consists of a Senate of 40 members and a Chamber of Deputies, having 85 members. Each of the States of Venezuela elects two members of the Senate; the two are chosen by the State Legislature. Members of the Chamber of Deputies are elected by municipal councils' popular vote, on the approximate basis of one for every 35,000 of the population, but a State having fewer than 35,000 inhabitants is entitled to one Deputy. The popular vote, cast by literate males 21 or more years old, elects the State legislatures and the municipal councils. The constitution prohibits communism and anarchism. President, Gen. Eleazar López Contreras (elected by Congress, Apr. 25, 1936, after having served a short while as provisional President).

History. President López Contreras had little worry from his political opponents in 1938 and devoted his attention to bringing into play bold plans for the social and economic upbuilding of Venezuela by concerted application of public authority in many related directions. These projects were grouped as a three-year plan, treated below. With regard to the violent political conflict that had preceded the President's establishment in power, it was faintly echoed in 1938 by occasional incidents—the arrest of nine persons, including one Senator, in February, for acts or expressions of disrespect for the public authorities; the extension for a year of the decree of exile for Communists, originally issued in 1937; the suspension, in May, of the journal *Diario del Pueblo*, for statements deemed subversive to the social order; and the granting, in November, of 2,397,000 bolívares, to meet additional payments of indemnity for the damage done at Maracaibo during the civil violence of Dec. 21, 1935.

The Three-Year Plan. President López Contreras announced in a New Year's address his intention to set up for Venezuela a plan of national tasks to be performed in the remaining three years of his administration, to start with July, 1938. The purpose of these tasks was to improve the nation's wellbeing; the proposed ways to this end were largely or mainly through material development, but also through social activities, diplomacy, and organized governmental study. Changes in commercial treaties were to improve foreign trade; lower marine freight rates and improved services for shipping were to stimulate it; study of immigration and of the development of scantily inhabited regions, combined with governmental co-operation with immigrants, were to give the country a more numerous and productive population; hotels and other facilities were to bring tourists, desired as a source of additional revenue; more schools, sanitary works, nurses, and hospitals were to improve the health and education of the industrial employee and the farmer.

On May 7 López Contreras presented the three-year plan in greater detail to the Congress, which promptly accepted the proposal in principle and thereafter passed a number of acts providing for certain of its features. Details of the plan as stated May 7 included a declared purpose to lower the cost of economic production of the necessities of life; the creation of a system of visiting nurses, school nurses, and rural sanitation brigades as an imple-

ment for rendering the population healthy; to the same end, the building of waterworks for 100 cities and towns, of sewers for Caracas and 15 other cities, and the construction of health centers and hospitals, and a national factory for preparing serums and medical compounds; for the comfort of the poorer inhabitants, the continued building of cheap and improved housing; to promote immigration, the creation of an Institute of Immigration and Colonization, equipped with a grant of 12,000,000 bolívares; for education, 300 more rural schools; for agriculture, experimental and demonstrating stations and a number of works of irrigation; for internal transportation, measures to lower cost and appropriations for the construction or improvement of 23 airports; for transportation by water, aid to the Venezuelan Navigation Company and grants for completing works at Puerto Cabello and for dredging in the Rio Urihante. The prospective cost of the three-year plan approximated 1,210,148,000 bolívares. The estimate for the budget of 1938–39 put expenditure, inclusive of the year's part of the three-year plan, at 364,515,722 bolívares, of which about 55 per cent, the excess over anticipated revenue, must come out of Federal borrowing. One of the earliest novel features of the plan to go into effect was the construction of two manufacturing plants of cement (at San Cristóbal and on the Island of Taos), designed to provide for the needs of the program of building.

Government-Built Housing. The government had brought its project of building houses for the poor into effect in advance of the three-year plan but gave it place in the general scheme. A decree of March 11 lent the Banco Obrero 3,500,000 bolívares for the cost of quarters under construction in Caracas, Maracaibo, San Cristóbal, Carúpano, and Cumaná; and in the summer this bank, the government's agent in such construction, opened for occupancy 186 houses at Caracas and 200 elsewhere. The kindred though different public enterprise of colonizing immigrants was carried on by the Institute of Immigration and Colonization; established by a decree of September 15, this agency had power to expropriate private property where necessary; but the relative abundance of public lands limited the likelihood of sweeping resort to that process. In advance of the creation of the new agency a group of Danish families set out in June from their native country to start a colony in the State of Carabobo.

Economic Policy. As to the expenses imposed by the early stage of the three-year plan, the government fortunately had current income to cover at least a considerable part. The revenue was estimated in September as currently exceeding that of the year before by 32 per cent. Nevertheless, a bad agricultural season marked by destructive rains tended to cut down agricultural exports about the end of 1938 and to thrust the cost of living sharply upward. Under these conditions the government had to rely more than ever on the great revenue that it derived from the companies taking petroleum from Venezuelan territory. These companies, unusually active, were reported to have paid the government the equivalent of \$47,820,000 in the first 8 months of 1938, or nearly as much as in all 12 months of 1937. For new concessions to take petroleum the government stiffened the price that it exacted in percentage of the production. An active foreign demand for the Venezuelan product was expected to give the producers a sufficient incentive even under the higher handicap.

As to general foreign trade Venezuela definitely

joined the list of countries limiting foreign commerce by the system of quotas. A decree of April 12 established the restriction of imports to specified quotas, in the cases of individual countries; the measure was reportedly for retaliation upon countries so restricting their own importations from Venezuela. Later a decree of October 2 granted subsidies for exports of the chief agricultural products; these ran at 22 bolivares for 46 kilograms of coffee, 15 for 50 kilograms of cacao, 10 for the quintal of sugar, and at ad-valorem rates for many other products.

Negotiators for Venezuela and the United States agreed, May 12, that the two should stand in the mutual relation of most-favored nation in a new commercial agreement yet to be concluded. In December the U.S. Legation at Caracas was elevated to the rank of Embassy; Frank P. Corrigan, Minister to Panama, was made Ambassador to Venezuela. To settle the question of the Brazilian boundary Venezuela named in May its members of a joint commission. On December 7 Venezuela and Brazil signed two treaties—one of conciliation and nonaggression, the other for extradition. See BRAZIL.

VERMONT. Area and Population. Area, 9564 square miles; included (1930) water, 440 square miles. Population: Census of Apr. 1, 1930, 359,611; Federal estimate for July 1, 1937, 383,000; census of 1920, 352,428. Burlington had (1930) 24,789 inhabitants; Montpelier, the capital, 7837.

Agriculture. Acreage, production, and value of the chief crops of Vermont, for 1938 and 1937, appear in the accompanying table.

Crop	Year	Acreage	Prod. Bu.	Value
Hay (tame)	1938	927,000	1,096,000 *	\$10,083,000
	1937	949,000	1,147,000 *	10,552,000 *
Corn	1938	78,000	3,120,000	2,246,000
	1937	74,000	2,960,000	2,427,000
Potatoes	1938	15,700	1,884,000	1,507,000
	1937	16,500	2,194,000	1,382,000
Oats	1938	56,000	1,736,000	764,000
	1937	55,000	1,540,000	724,000
Apples	1938	.....	475,000	522,000
	1937	.....	1,175,000	1,152,000

* Tons.

Education. Enrollments of pupils in the public high schools for the academic year 1937-38 numbered 16,048. Those in the lower schools numbered 51,883. Despite evidences of a falling tendency in the number of pupils—a change common among the States—expenditure for public-school education in Vermont continued upward; it attained, for the year 1937-38, \$5,353,523. Teachers' salaries as fixed for the year averaged \$951.74. Guidance programs were started in the high schools.

Among developments in 1938, noted by the *Journal* of the National Education Association in Vermont's educational system, were the initiation of a program for the promotion of health, and the increase in the time of required preliminary training to four years for teachers of music and five for high-school principals.

Political and Other Events. The Rutland Railroad, chief carrier west of the Green Mountains, from Bennington to the Canadian border, was put under a Federal receiver in May. Trustees for its bondholders, understanding that the continued operation of the line was going on at a loss of \$2400 a day, proceeded in July for a foreclosure, with the design of abandoning the line. Court and receiver having failed to bring the unionized employees of the line to consent to reduced pay and

money for further operation being nearly gone, the affected area learned with alarm that it might soon lose the railroad's service. A public agitation was carried on in the Rutland's area in the autumn in the effort to win for the line some sort of assistance sufficient to keep up operation.

The New England hurricane passed northward through the western part of the State on the night of September 21, killing eight persons. It threw down much standing timber suitable for lumbering, blew the partly ripe crop of apples from the trees in many orchards, and broke or uprooted so many of the bearing sugar maples that a cut of 40 per cent in the commercially important yield of syrup and sugar was feared. A co-operative association was formed, to promote the lumbering of fallen timber and its storage while awaiting a market.

See CHILD LABOR.

Elections. Despite disquiet and hardship in many localities, brought on by the Rutland Railroad's situation and the hurricane, the State remained firmly Republican and anti-New Deal. Gov. George D. Aiken (Rep.) was re-elected by a vote about twice that for Fred C. Martin (Dem.), who had made a campaign promise of old-age assistance at \$30 a month as the minimum. Ernest W. Gibson (Rep.), re-elected U.S. Senator, defeated John McGrath (Dem.). The Republican U.S. Representative, Charles A. Plumley, was re-elected.

Officers. The chief officers of Vermont, serving in 1937, were: Governor, George D. Aiken (Rep.); Lieutenant-Governor, William H. Wills; Treasurer, Thomas H. Cave; Secretary of State, Rawson C. Myrick; Auditor, Benjamin Gates; Attorney-General, Lawrence C. Jones; Commissioner of Education, Francis Bailey.

Judiciary. Supreme Court: Chief Justice, George M. Powers; Associate Justices, Leighton P. Slack, Sherman R. Moulton, John C. Sherburne, John S. Buttles.

VERMONT, UNIVERSITY OF, AND STATE AGRICULTURAL COLLEGE. An institution of higher education in Burlington, Vt. The University of Vermont, founded in 1791, and the Vermont Agricultural College, founded in 1864, were combined in 1865 as the University of Vermont and State Agricultural College. The 1938 autumn enrollment was 1431; the summer school enrollment, 949. The faculty numbered 222. The endowment amounted to \$3,411,470, while the income for the year was \$973,195. The library contained 147,700 volumes. President, Guy W. Bailey, LL.D.

VETERANS OF FOREIGN WARS OF THE UNITED STATES. An organization chartered by Congress in 1936, composed of American citizens who have served honorably in the Army, Navy, Marine Corps, or Coast Guard of the United States, in hostile waters or on foreign soil during any foreign war, insurrections, or expeditions, in such service as the United States has officially designated as campaign service and for which it has authorized a campaign badge. (For further details of the organization, see the *NEW INTERNATIONAL YEAR BOOK*, 1937.)

There are 50 charters of state departments located in each of the 48 states, in the District of Columbia, and in the Canal Zone. Local posts exist in every state, the District of Columbia, the Canal Zone, Hawaiian Islands, Alaska, Philippine Islands, and in France and China. The "Ladies' Auxiliary, Veterans of Foreign Wars of the United States" is a subsidiary organization, with a National Headquarters, with state departments, and with more than 2000 local units. The member-

ship eligibility to the Ladies' Auxiliary is limited to the mothers, wives, widows, sisters, daughters, and foster daughters, not less than 16 years of age, of those deceased veterans whose military service would have made them eligible for membership, and of those living veterans whose service makes them eligible for membership.

Among the major activities of the V.F.W. during the year 1937-38 was its sponsorship, in the 75th Congress, of S.3912, a proposal to take the profits out of war by taxing the profits out of war. S.3912 was introduced in Congress on Apr. 27, 1938, V.F.W. Americanization Day, by 27 Senators, representing every political group in that body. Only one bill, the Cancer Clinic bill of 1937, ever was introduced in the Senate with a larger number of joint authors.

Simultaneously with the introduction of S.3912, the V.F.W. presented to Congress, in ceremonies on the steps of the Capitol at Washington, D. C., a "Keep America out of war" petition, signed by more than four million American citizens in a nationwide campaign sponsored through the 3700 local posts of the V.F.W. The petition called upon Congress to adopt policies which would preserve peace for America, supported by a strong national defense.

Continuance of its campaign to find suitable, gainful employment for all employable war veterans also marked 1937-38 in V.F.W. activities. The organization co-operated with the Veterans' Administration, the United States Employment Service, and other agencies in a veteran unemployment registration throughout the country, designed to check unemployed veterans, their disabilities, if any, their training and experience, and other data necessary to their placement in industry. Largely through the efforts of the Veterans of Foreign Wars of the United States, the co-operation of the National Association of Manufacturers was obtained among its respective membership, to stress the economic importance of retaining in employment men over 40 years of age.

Gratifying progress also was made in the V.F.W. efforts to liberalize certain existing veteran welfare laws, and to equalize others. *Public 514* extended the eligibility for pensions to certain World War widows and orphans; the V.F.W. resolution of many years' standing, to have November 11 of each year, Armistice Day, established as a national legal holiday dedicated to the cause of world peace, became *Public No. 510*, and *Public No. 541*, also obtained with V.F.W. co-operation, liberalized the provisions of existing laws concerning pensions for Spanish-War veterans.

The 1938-39 program of objectives of the Veterans of Foreign Wars of the United States includes: Adequate provision for America's disabled veterans; pensions for needy widows and orphans of all war veterans; jobs or pensions for all war veterans; unalterable opposition to Communism, Fascism, or Nazism in the United States; maintenance of our Constitutional rights of free speech, a free press, religious freedom, and rights of petition and assembly; a national defense that will guarantee security for America; enactment of a measure to take the profits out of war; and neutrality for the United States in disputes between other nations.

At the annual National Encampment held at Columbus, Ohio, in August, 1938, Eugene I. Van Antwerp, Detroit, Mich., was elected Commander-in-Chief for the ensuing year. Other officers were: Otis N. Brown, Greensboro, N. C., Senior Vice

Commander-in-Chief; Dr. Joseph C. Menendez, New Orleans, Junior Vice Commander-in-Chief; R. B. Handy, Jr., Kansas City, Mo., Quartermaster General; Wilbur J. Bernard, Newark, N. J., Judge Advocate General; Dr. John L. DeMayo, Washington, D. C., Surgeon General, and the Rev. J. H. Deemer, Lorain, Ohio, National Chaplain. The National Headquarters of the organization is located at Kansas City, Mo., and the official publication is *Foreign Service*.

VETERINARY MEDICINE. The continued exclusion of epizootic diseases of livestock that threaten to invade the United States and deplete its herds; the progress made in eradication of the cattle tick, tuberculosis, and Bang's disease of cattle, and of scabies of livestock; and the advance in therapeutic measures, were outstanding in 1938 in the field of comparative medicine. The year saw the establishment of a Poultry Regional Research Laboratory at East Lansing, Mich., in the work of which the Federal Department of Agriculture and the Agricultural Experiment Stations of 25 North Central and Northeastern States are co-operating. This was of particular importance since the development of effective control measures for fowl paralysis, a disease widely distributed, which has been estimated to cause about one-half of the \$100,000,000 annual loss from poultry diseases in these States, is one of the first projects to be investigated.

Bang's Disease Eradication. In the fifth year of the eradication campaign against infectious abortion of cattle agglutination blood tests were applied to more than 7,800,000 animals in some 671,300 herds in 48 States and Puerto Rico, of which 4.1 per cent reacted, indicating the presence of the disease. There was an increase over the preceding fiscal year ended June 30 of about 43 per cent in the number of herds and about 22 per cent in the number of cattle placed under supervision. By November 18 per cent of the breeding cattle in the United States over six months of age were under supervision in this project. During the 54 months from July 1, 1934, when the co-operative work to control the disease was commenced, to Dec. 30, 1938, a total of 28,936,869 animals in 2,283,216 herds had been blood tested of which 6 per cent reacted. A map issued in June by the U.S. Department of Agriculture revealed Virginia in the lead on May 1 in the control work with 78.9 per cent of the breeding cattle of the State over six months of age under supervision, closely followed by Oregon with 75.5 per cent and Washington (State) with 70.7 per cent.

Bighead of Sheep. A disease of sheep that has caused large losses on the range in the Intermountain States, known as bighead, has been shown to be caused principally by feeding on little-leaf horsebrush (*Tetradymia glabrata*) and spineless horsebrush (*T. canescens* and *T. canescens inermis*). While these range plants are unpalatable they are eaten when more desirable forage plants are lacking and death results from consumption of relatively small quantities.

Encephalomyelitis, EQUINE. The year was marked by the appearance of the sleeping sickness of the horse and mule known as encephalomyelitis in epizootic proportions over extensive areas from which it had not hitherto been reported. A record of reported cases in the United States kept by the Federal Department of Agriculture has revealed the occurrence of 23,000 in 1935; 4000 in 1936; 170,000 in 1937 in 30 States; and over 100,000 cases in 1938 in 39 States. In the first three of these years the mortality was 25 per cent; in 1938 it was 21 per cent. The usefulness of the animals that survive

has been greatly impaired. Thus far only the eastern type of the virus has been found in nine Atlantic seaboard States and only the western type of the virus west of the Appalachian and Blue Ridge Mountains. The mortality from the eastern type of the disease is very high, that from the western type relatively low. In addition to the outbreaks of this disease in the United States simultaneous epizootics of the disease have occurred in three provinces of Canada, several South American countries, Russia, India, and Japan. Horses in Argentina were attacked by the western type. Viruses identical with both the eastern strain and the western strain were isolated from cases of the disease in man. The disease, normally at its height during the late summer and early fall, is known to be transmitted by several species of mosquito and possibly by other blood-sucking insects. The work of the year indicated that the horse may be a reservoir for the virus. The finding that the virus had caused a fatal disease among pigeons in Massachusetts in the area where it was prevalent among horses, and also in the ring-necked pheasant in Connecticut, has complicated the problem of control in that such fowl and even migratory birds may be shown to act as disseminators of the virus. An advance was made toward control of the disease through the development of the new chick embryo vaccine, the immunizing properties of which are far superior to those of the old brain tissue vaccine. It was reported in September that the Massachusetts State Division of Livestock Disease Control was planning to push the immunization of horses with the hope of having every horse in the State immunized by June 1, 1939. The revelation that the causative virus of this disease of the horse and mule, as represented by both types, is transmitted to man was perhaps the most startling development in this field. During the course of an outbreak among horses in southeastern Massachusetts cases of encephalomyelitis appeared among children which upon investigation was conclusively shown to be due to the same virus. This finding has been confirmed by other investigators and reports have also revealed the pathogenicity of the virus for man in several other States, including Minnesota and California.

Foot and Mouth Disease and Rinderpest. The United States continued free from what are probably the two most important livestock plagues of the world, namely, foot and mouth disease and rinderpest. The devastating outbreak of foot and mouth disease, which has raged over Western and Central Europe among cattle, sheep, and swine, subsided somewhat in places but it took in new territory and increased in other areas. It has added to the demand for a practical means of protection through vaccination. Work leading to this end that has been under way in Denmark and in Germany has given promising results. Five of the countries in northern Europe continued free at the end of June. All of Africa, aside from South Africa where there was a small outbreak in December, was infected with foot and mouth disease or rinderpest. In South America, Colombia, Venezuela, and the Guianas only, continued free from foot and mouth disease. Most of Asia was infected with one or both of these diseases.

Leucosis of the Fowl. Fowl leucosis, the term used most commonly to include leukemia and leukemia-like diseases, occurs in several different types some of which have been shown to be transmissible. With the mounting loss from this source increased attention has been given to its investigation. Through a careful program of culling, sani-

tation, and breeding for resistance carried out in 35 flocks under supervision in Iowa, the incidence of fowl leucosis with its various manifestations was reduced in five years from about 25 to 1 per cent.

Pullorum Disease of Poultry. In the control work with pullorum disease conducted by the various States through testing the blood to detect the infection, New Hampshire, where the work began in 1918, led with 547,000 birds, or nearly one-half of the entire poultry population of the State, examined. Of these only .06 per cent were found infected. In New Hampshire, where the State Department of Agriculture co-operates with the State Agricultural Experiment Station, experienced men collect from 1200 to 1500 blood samples per day. These are received at the testing laboratory within 12 hours where as many as 8000 are tested daily.

Scabies Eradication. In the course of control work with sheep-scabies, 14,767,490 inspections were made and 1,235,022 dippings supervised. Flocks in which infection was found included 50,000 sheep, a slight increase over the preceding year. Except for the reappearance of the disease in northern New Mexico and western South Dakota, all the range areas remained free. Many cases continued to appear in the midwestern farm region, particularly in Iowa and eastern South Dakota. In the co-operative cattle-scabies eradication work, considerable progress was made in Nebraska where the greater part of the remaining infection exists. Outbreaks in Oklahoma and Colorado were promptly eradicated. It is believed that scabies of horses formerly present in Montana has been entirely eliminated.

Shock Disease of the Hare. An affection that occurs about every 10 years and has caused a high mortality among the snowshoe hare population of Minnesota and neighboring States to which the name "shock disease" is given, was shown to be hypoglycemic in character with death usually due to an abnormally low blood sugar content. Hares suffering from this disease appear perfectly normal until they are suddenly stricken with convulsions and die in the seizures or abruptly sink into a fatal coma. So far as has been determined a degeneration of the liver is the basis of the disease.

Therapeutics, VETERINARY. The new drug sulfanilamide (Prontylin, Prontosil), the use of which in the last three years has resulted in marvelous recoveries from some of the most serious afflictions to which man is subject, especially those due to the Beta hemolytic streptococci, and micrococci, has been employed in the treatment of diseases of the domestic animals. It has been found to be of value in the treatment of mastitis of cattle and swine; metritis of cattle and equines; pneumonia of calves and Bang's disease of cattle; polyarthritis, septicemia, and omphalophlebitis (navel-ill) of foals; fistulous withers, poll evil, influenza, and purpura hemorrhagica of the horse; infectious abortion of swine; distemper of the dog and cat; otitis media of the dog; and pseudomembranous enteritis, cystitis, endometritis, acne, articular wounds and laryngitis of the cat.

Tick Fever and Cattle Tick Eradication. Continued progress was made in the eradication campaign against the cattle tick with 25,128,317 inspections or dippings of cattle and 2,897,082 inspections or dippings of horses and mules made during the fiscal year ended June 30. In Puerto Rico, where the tropical variety of the cattle tick is prevalent, it was also necessary to treat the sheep and goats on infested premises and 571,973 inspections or dippings of these animals were conducted.

During the fiscal year all or parts of 3 counties in Florida and 12 counties in Texas were released from Federal quarantine. The aggregate of the released area was 12,088 square miles. As an offset parts of 3 counties in Florida with a total area of 2248 square miles were requarantined. Satisfactory headway was made in removing ticky deer from game preserves in 4 of the 6 counties of Florida in which they are located with good prospects for the early completion of tick eradication on these preserves. At the end of the fiscal year the area remaining under Federal quarantine in continental United States had been reduced from 985 counties to 27 counties or 4 per cent of its original size and is now confined to Florida and Texas. The work in Florida and Puerto Rico was accelerated through assistance received in the allotment of funds from the Works Progress Administration and the Puerto Rico Reconstruction Administration and on December 1 the Federal quarantine was withdrawn from 9552 square miles of territory in Florida, Texas, and Puerto Rico. This included part of 1 county in Florida, 8 whole counties and parts of 6 counties in Texas, and the western one-third of Puerto Rico where 300 dipping vats had been constructed the preceding fiscal year. This represents the first gain made in tick eradication in Puerto Rico.

Tuberculosis, AVIAN. The control of avian tuberculosis conducted as a separate project additional to that of tuberculosis in cattle progressed in the Midwestern and North Central States where it is most prevalent. In the course of the survey of farm poultry flocks containing 14,838,911 birds in 11 States, about 6000 farms were found infected. The actual number of birds dying of tuberculosis on farms usually is not very great, however, since they are disposed of before the losses occur. This loss is not limited to the fowl alone for approximately 85 per cent of tuberculosis in swine in the United States results from the avian infection. In addition to the mortality, loss results from a reduced egg production and the lower price received for fowl when disposed of for meat.

Tuberculosis Eradication, BOVINE. The work of eradicating tuberculosis from livestock in the United States commenced in 1917 was continued by the Federal Department of Agriculture in co-operation with State and county officials and livestock owners. With the addition of South Dakota to the modified accredited area on July 1 California alone remained to attain this goal and at the close of December but 10 counties in that State remained that had not been placed in the modified accredited area. Retesting was under way in all of the 47 free States to prevent any possible cases from spreading the infection to healthy cattle. Altogether 14,108,871 tuberculin tests were applied to cattle during the fiscal year ended June 30 and only 89,000 or 0.6 per cent found to react, nearly one-half of which were in California. The regular Federal appropriation for tuberculosis work was \$1,603,000; emergency funds for the work amounted to about \$1,775,000. The combined State, Territorial, and county appropriations amounted to about \$4,000,000. At the close of 1938 both Puerto Rico and the Virgin Islands were ready for official designation as modified accredited areas—having less than 1/2 of 1 per cent of infection among the cattle. The tuberculin testing in Puerto Rico covered 77 municipalities with more than 500,000 head of cattle. In the Virgin Islands 12,000 animals were tuberculin tested and not a single reactor was found.

Bibliography. Among the works published were: E. H. Barger and L. E. Card, *Diseases and*

Parasites of Poultry (Philadelphia, 1938, 2 ed. rev.); O. V. Brumley, *A Textbook of the Diseases of the Small Domestic Animals* (Philadelphia, 1938, 3 ed. rev.); J. Drabble, *Textbook of Meat Inspection* (Sydney and London, 1938, 2 ed. rev.); S. H. Gaiger and G. O. Davies, *Veterinary Pathology and Bacteriology* (London and Chicago, 1938, 2 ed. edit. by G. O. Davies); R. J. Garbutt, *Diseases and Surgery of the Dog* (New York, 1938); F. Hutyra, J. Marek, and R. Manninger, *Special Pathology and Therapeutics of the Diseases of Domestic Animals* (London, 1938, 4th Eng. ed. rev., vols. 3, edited by J. R. Greig with collab. of J. R. Mohler and A. Eichhorn); R. A. Kelsner, *Manual of Veterinary Bacteriology* (Baltimore, 1938, 3 ed. rev.); G. Lapage, *Nematodes Parasitic in Animals* (Cambridge, Eng., and New York, 1938); H. O. Mönnig, *Veterinary Helminthology and Entomology* (London, 1938, 2 ed. rev.); J. J. O'Connor, *Dollar's Veterinary Surgery* (London, 1938, 3 ed. rev.); L. Panisset, *Traité des Maladies Infectieuses des Animaux Domestiques* (Paris, 1938); R. A. Runnells, *Animal Pathology* (Ames, Iowa, 1938); S. Sisson, *The Anatomy of the Domestic Animals* (Philadelphia, 1938, 3 ed., rev., edit., J. Grossman).

VICTORIA. An Australian State. Area, 87,884 square miles; population, exclusive of full-blood aboriginals, 1,865,957 (Mar. 31, 1938, estimate), as compared with 1,820,261 (1933 census). During 1937 there were 29,731 births, 18,613 deaths, and 16,226 marriages. The capital city of Melbourne had 1,024,000 inhabitants on Dec. 31, 1937. Other important cities (with 1936 estimated populations) are Geelong, 39,730; Ballarat, 38,160; Bendigo, 29,770; Warrnambool, 9050; Mildura, 6900. At Dec. 31, 1935, there were 2606 State primary schools with a total enrollment of 256,564 scholars, 148 State intermediate and secondary schools with a total enrollment of 32,595 pupils, and 28 senior technical schools with a total enrollment of 20,008 pupils. Trinity, Ormond, Queen's, and Newman Colleges are affiliated with the University of Melbourne. In 1936, 670 students matriculated, and 3451 students attended lectures.

Production. Wheat (1937-38 estimated production, 48,173,000 bu.), oats, barley, potatoes, hay, and grapes are the chief agricultural products. The principal dairy products for 1936-37 were butter, 154,769,391 lb.; cheese, 13,350,124 lb.; bacon and ham, 17,571,792 lb. Livestock in the State (Mar. 31, 1938, estimate): 18,863,467 sheep, 1,880,429 cattle, 359,106 horses, and 285,259 pigs. Wool (greasy) produced 1937-38 was estimated to total 179,400,000 lb.

The estimated value of mineral production for 1937 was 1,832,019 Australian pounds, of which gold accounted for £A1,266,507, and coal for £A497,319. In 1936-37, from the 9165 factories, with 191,383 employees (including working proprietors), the estimated net value of production was £A58,712,281 (Australian £ averaged \$3.9594 for 1936; \$3.9394 for 1937).

Government. For the year ended June 30, 1938, revenue totaled £A27,617,000; expenditure, £A27,587,000; public debt, £A177,228,000. Budget (1938-39): Revenue, £A26,069,000; expenditure, £A26,057,000. Due to the serious conditions brought about by the drought in 1938, the receipts from settlers and railways caused an estimated deficit of £A825,000 in the 1938-39 budget. The Government was forced to apply to the Loan Council for an addition of £A825,000 to its loan program. The executive authority is vested in a governor, assisted by a responsible ministry. Parliament consists of a

legislative council of 34 members elected for 6 years (17 elected every three years) and a legislative assembly of 65 members who are elected for 3 years by universal adult suffrage. The legislative assembly, elected on Oct. 2, 1937, is made up of the following parties: United Australia, 21; Labor, 21; United Country, 20; Independents, 3. Governor, Capt. Lord Huntingfield (assumed office, May, 1934); Premier, A. A. Dunstan. See AUSTRALIA.

VIRGINIA. Area and Population. Area, 42,627 square miles; included (1930) water, 2365 square miles. Population, Apr. 1, 1930 (census), 2,421,851; July 1, 1937 (Federal estimate), 2,706,000; 1920 (census), 2,309,187. Richmond, the capital, had (1930) 182,929 inhabitants; Norfolk, 129,710.

Agriculture. Acreage, production, and value of the chief crops of Virginia, for 1938 and 1937, appear in the accompanying table.

Crop	Year	Acreage	Prod. Bu.	Value
Corn	1938	1,391,000	34,775,000	\$21,213,000
	1937	1,480,000	37,740,000	25,663,000
Tobacco	1938	130,600	105,459,000 ^a	20,364,000
	1937	142,000	109,769,000 ^a	21,252,000
Hay (tame)	1938	1,052,000	1,138,000 ^b	12,859,000
	1937	1,060,000	1,206,000 ^b	14,954,000
Apples	1938	.....	10,080,000	7,056,000
	1937	.....	18,000,000	9,380,000
Wheat	1938	609,000	8,526,000	5,968,000
	1937	648,000	9,720,000	10,303,000
Potatoes	1938	79,000	10,349,000	6,209,000
	1937	91,000	10,920,000	6,334,000
Peanuts	1938	157,000	146,010,000 ^a	5,110,000
	1937	151,000	183,465,000 ^a	6,054,000
Sweet potatoes	1938	34,000	3,570,000	2,142,000
	1937	39,000	5,070,000	3,042,000
Cotton	1938	40,000	15,000 ^c	645,000
	1937	66,000	43,000 ^c	1,800,000

^a Pounds. ^b Tons. ^c Bales.

Mineral Production. Of Virginia's total yearly value of the production of native minerals, \$37,499,991 for 1936, coal supplied the greater part. The output of coal rose to 13,558,000 net tons for 1937, from 11,661,636 (value, \$20,278,000) for 1936. Zinc was mined; the yearly total figure of its production was combined with that for Tennessee (q.v.).

Education. For the academic year 1937-38 the number of inhabitants of school age was reported as 731,043. The year's enrollments in public schools numbered 583,556; this comprised 468,168 in elementary study and 115,388 in high schools. Expenditures for public-school education totaled \$26,586,570. Teachers numbered 17,249. The teaching salaries averaged, for the year, \$792; the salaries of teachers, principals, and supervisors, taken as one group, averaged \$886.

Completing the expenditure of \$5,000,000 in the construction of school buildings, Virginia started in 1938 on a program for the expenditure of \$11,000,000 more in the same manner in the next two years.

Legislation. The General Assembly met in regular session in January and adjourned on March 13. It voted a general appropriation bill that carried about \$160,000,000 for the needs of the State government through the ensuing two years. There was enacted a measure providing somewhat over \$3,000,000 to be dispensed by the State as assistance to dependents of divers classes, the aged poor included. Before this appropriation, the State had been the only one in the Union having no State pensions to support the aged poor. The permissible working hours for women in industrial employment were shortened. The members of the bar were put under the regulation of the Supreme Court of Appeals. The pay of the judiciary was increased.

Railroads and steamship companies were allowed to own and operate motor vehicles and lines of airplanes. The prohibition of sales of wine and beer on Sunday was made a subject of local option. The minimum sentence of one month in prison was required as the penalty for illegal sale of liquor. Its sale to persons under 21 years of age was prohibited. The sum of \$2,000,000 was provided for distribution among the eight highway districts in proportion to their respective unfinished mileages of previously planned primary highways.

Political and Other Events. Nine Democrats were elected U.S. Representatives at the general election on November 8; all but two were the actual incumbents. The State officers in general did not come up for election. See LYNCHINGS.

Officers. Virginia's chief officers, serving in 1938, were: Governor, James H. Price (Dem.); Lieutenant-Governor, Saxon W. Holt; Secretary of the Commonwealth, R. S. Jackson; Treasurer, Edwin B. Jones; Auditor, S. McCarthy Downs; Attorney-General, Abram P. Staples; Superintendent of Public Instruction, Dr. Sidney B. Hall.

Judiciary. Supreme Court of Appeals: President, Preston W. Campbell; Associate Justices, John W. Eggleston, H. W. Holt, E. W. Hudgins, H. B. Gregory, George L. Browning, C. Vernon Spratley.

VIRGINIA, UNIVERSITY OF. A nonsectarian institution of higher education at Charlottesville, Va., founded in 1819. The enrollment for the autumn session of 1938 was 2854. In the extension division were 1204 students. The 1938 summer session had an attendance of 1335. The faculty numbered 177. The productive endowment amounted to \$10,000,000 and the income for the year, \$2,300,000. The library contained approximately 303,502 books. President, John Lloyd Newcomb, B.A., C.E., LL.D., Sc.D.

VIRGIN ISLANDS. An insular possession of the United States; situated about 60 miles east of Puerto Rico, these islands are bordered by the Caribbean Sea on the south and the Atlantic Ocean on the north. While the Virgin Islands, in American designation, include only the part of the group held by the United States, the name is elsewhere understood to include also adjacent islands under the British flag. The American Virgin Islands have an area of 132 square miles and a population (1930) of 22,012; the chief of these islands are St. Thomas (area, 28 sq. m.; population, 9834 in 1930); St. Croix (area, 84 sq. m.; population, 11,413 in 1930); and St. John (area, 20 sq. m.; population, 765 in 1930). The population of the islands was, in 1930, 78 per cent Negro, 12 per cent of mixed race, and 9 per cent white. The capital is Charlotte Amalie, which for a time prior to Mar. 1, 1937, bore the name of St. Thomas.

Production, etc. The island of St. Croix suffered the failure of half of its expected crop of sugar cane in 1938 by reason of a prolonged drought. Unfavorable conditions, chiefly on St. Croix, reduced the annual total of the production of sugar in the islands to 4362 tons, for 1938, from 8211 tons for 1937. By reason of a lower average price the production of 1938 brought only about 40 per cent of the total value of that of 1937. Deficiency in production caused the exports of cane sugar to the United States to drop to some 3900 tons, for 1938, from 7800 tons for 1937; by value, the total fell to \$236,016, from \$545,600. The shipments of rum, which had begun, in 1937, from the first matured stock of the governmental distillery (Virgin Islands Company), declined to 127,322

gallons for 1938, from 163,693 for 1937; by value of the yearly export, to \$224,789, from \$329,541. The aggregate value of all exports of products of the Islands decreased to \$821,708 for 1938, from \$1,002,887 for 1937. There was in either year a considerable additional exportation listed as United States' products returned; for 1938 it amounted to \$398,798, a sum nearly half as great as that year's exports of native products to the United States. The total value of yearly imports from the United States diminished to \$2,358,548 for 1938, from \$2,976,146 for 1937. Foods and fuels accounted for about \$1,000,000 of the total for 1938. The obvious disparity between exports and imports afforded an indication that the efforts of the United States Government to raise the islands' productivity to a level with their economic needs had not yet reached the goal. The Governor's report for 1938 made note, in this connection, that while the Federal sugar act of 1937 had augmented the islands' allowable shipments of sugar to the Union, to some 9200 tons a year, from 5400, an export tax of \$6 a ton was still imposed on the islands' sugar, and the islands did not participate in the benefit payments that the sugar act provided to other growers of sugar under the American flag.

Government. Governor, Lawrence W. Cramer. The existing system of government in the Virgin Islands rests mainly upon the Organic Act of 1936. Executive authority is held by a governor appointed by the President of the United States, who also appoints a Federal district judge and a district attorney. A Legislative Assembly, composed of the municipal council of St. Thomas and St. John and that of St. Croix, has authority to make laws on subjects particular to the islands. Each of the two municipal councils has authority in its own area. The members are elected by popular vote. Suffrage was bestowed on adults in general by the act of 1936, in a provision that went into effect on Jan. 1, 1938; by earlier enactment (1927) all the population of the islands were made citizens of the United States.

The public finances of the islands included a relatively small revenue and expenditure of the central government, and the separately kept revenues and expenditures of the municipality of St. Thomas and St. John and that of St. Croix. The Federal Government, in addition to making appropriations toward all these agencies' expenses, spent money in the Islands in its own name, through the WPA. The municipality of St. Thomas and St. John collected (fiscal year 1938) revenues of \$213,982, largely in income taxes; expended \$276,793; and received from the United States an appropriation of \$60,000, about covering its deficit. St. Croix collected revenues of \$191,816; expended \$264,033; and received from the United States an appropriation of \$50,000 to cover part of its deficit. The islands lacked in 1938 a system of taxation toward the support of the operations of their central government. Congress appropriated for such operations, to cover the fiscal year 1938, \$151,000, of which \$116,000 was for the central administration and \$35,000 to support an agricultural experiment station and vocational school. The WPA expended, in the year, \$392,800, mainly in building or improving roads, streets, and sewers.

The enrollments of pupils in public schools totaled 3374 in 1938; the governor advocated the modernization of the school laws.

History. The serious political difficulty that arose at the end of 1937, from the Legislative Assembly's refusal to let the Governor introduce bills

for its consideration, remained unsettled through 1938. The Assembly, before adjourning, voted an appropriation to pay salaries to the members for their attendance at the session. Governor Cramer, vetoing this appropriation, declared (Jan. 19, 1938) that the Assembly had done nothing to provide for the essential requirements of the public services, and he severely characterized the legislators' bestirring themselves for the sole purpose of rewarding their own services. Another view, expressed in March by Charles W. Taussig, noted that the Assembly had followed the principle of "representation without taxation"; that members had been elected on a pledge that they would not impose any tax laws, and that they had kept their promise to the voters. It was not, of course, strictly the case that the voters were for no taxation at all; taxation by the two municipalities was a well established actuality, and the issue was as to whether there should arise in addition a system of taxation for the needs of the central administration. As an incident to the legislative deadlock, the old and reportedly antiquated school laws remained unaltered.

In addition to the WPA, already mentioned, several Federal agencies engaged in operations for the benefit of the people of the islands. The Civilian Conservation Corps completed the drainage of areas of swamp near Frederikstad, a former source of malaria; it also started the planting of several forests: At Calabashboom, hardwoods; at Sandy Point, coconut palms; at the eastern end of St. Croix, mahogany. The Soil Conservation Service made a study, prompted by the St. Croix drought, of possible means of conserving water for the land. The Federal enterprise of agrarian resettlement of part of the population remained restricted to some 400 homesteaders who had previously been established, largely as sugar-cane growers, on St. Croix. The U.S. Housing Authority delegated to the insular government the administration of its three completed small groups of living-quarters for rent at low cost.

VITAL STATISTICS. According to provisional tabulations made by the U.S. Bureau of Census, there were 2,201,609 registered births for the year 1937, in the United States. This figure is an increase of 56,819 over the 2,144,790 reported for 1936. The increase in the number of births produces a corresponding increase in the birth rate from 16.7 to 17.0. This provisional rate for 1937 is slightly higher than the lowest birth rate recorded in the history of the Bureau of Census birth registration area, a rate of 16.5 for 1933. The increase for the whole United States is reflected in the individual states. Thirty-two states and the District of Columbia showed an increase in rates, 14 states showed a decrease, and in 2 states there was no change. Greatest increases were in Nevada, Arizona, California, Oregon, Colorado, and Mississippi. Highest birth rates are: New Mexico, 31.4; Mississippi, 25.8; Arkansas, 25.5; Utah, 24.5, and West Virginia, 22.7. Lowest birth rates are: New Jersey, 12.6; Delaware, 13.1; Massachusetts, 14.0; Missouri, 14.3; New York, 14.4.

There were 1,450,715 registered deaths during 1937 in the United States. This figure is a decrease of 28,513 from the 1,479,228 reported in 1936. The 1937 provisional crude death rate is 11.2, which is a decrease from the rate of 11.5 for 1936. Although the 1937 rate is a decrease from 1936, it is still appreciably higher than the lowest death rate recorded for the United States registration area, a rate of 10.7 for 1933. Thirty-three states and the

District of Columbia showed decreases, six states showed no change, and nine states showed an increase in rate. Greatest decreases for 1937 occurred in Nevada, Kansas, Georgia, and Tennessee, but in all of these states the 1936 rates were higher than usual. Highest death rates are: Arizona, 16.8; New Mexico, 15.2; District of Columbia, 13.9; and Maine, 13.4. Lowest rates are: North Carolina, 7.7; Oklahoma, 8.4; South Dakota, 8.6; and Arkansas, 9.0.

NUMBER OF DEATHS (EXCLUSIVE OF STILLBIRTHS) FROM SELECTED CAUSES, AND DEATH RATES: UNITED STATES, 1935-37

[Number and rate for 1937 are provisional]

Causes of death	Number of deaths			Rate per 100,000 estimated population		
	1937	1936	1935	1937	1936	1935
Total deaths	1,450,427	1,479,228	1,392,752	1,122.1	1,151.8	1,092.2
Typhoid and paratyphoid fever	2,743	3,182	3,531	2.1	2.5	2.8
Measles	1,501	1,267	3,907	1.2	1.0	3.1
Scarlet fever	1,824	2,493	2,718	1.4	1.9	2.1
Whooping-cough	4,981	2,666	4,753	3.9	2.1	3.7
Diphtheria	2,637	3,065	3,901	2.0	2.4	3.1
Influenza	38,005	33,811	28,230	29.4	26.3	22.1
Dysentery	2,974	3,122	2,436	2.3	2.4	1.9
Erysipelas	1,246	2,006	2,106	1.0	1.6	1.7
Acute-poliomyelitis and acute poliomyelitis	1,461	780	1,040	1.1	0.6	0.8
Epidemic cerebrospinal meningitis	2,208	3,020	2,657	1.7	2.4	2.1
Tuberculosis of the respiratory system	63,330	65,043	63,488	49.0	50.6	49.8
Tuberculosis (all other forms)	5,994	6,484	6,592	4.6	5.0	5.2
Syphilis	13,221	12,612	11,590	10.2	9.8	9.1
Malaria	2,729	3,943	4,435	2.1	3.1	3.5
Cancer and other malignant tumors	144,774	142,613	137,649	112.0	111.0	108.0
Rheumatism and gout	3,706	4,004	3,959	2.9	3.1	3.1
Diabetes mellitus	30,587	30,406	28,364	23.7	23.7	22.2
Pellagra	3,258	3,740	3,543	2.5	2.9	2.8
Alcoholism (acute or chronic)	3,305	3,714	3,349	2.6	2.9	2.6
Progressive locomotor ataxia, general paralysis of insane	5,055	5,453	5,530	3.9	4.2	4.3
Cerebral hemorrhage, cerebral embolism and thrombosis	111,753	116,562	109,058	86.5	90.8	85.5
Diseases of the heart	346,401	341,350	312,333	268.1	265.8	244.9
Arteriosclerosis (except coronary), idiopathic anomalies of blood-pressure	23,059	23,893	22,327	17.8	18.6	17.5
Pneumonia (all forms)	110,009	119,378	104,395	85.1	93.0	81.9
Ulcer of stomach and duodenum	8,765	8,566	8,430	6.8	6.7	6.6
Diarrhea and enteritis (under 2 years)	14,406	15,612	13,204	11.1	12.2	10.4
Diarrhea and enteritis (2 years and over)	4,519	5,339	4,760	3.5	4.2	3.7
Appendicitis	15,340	16,480	16,142	11.9	12.8	12.7
Hernia, intestinal obstruction	13,111	13,433	13,161	10.1	10.5	10.3
Cirrhosis of the liver	10,960	10,587	10,083	8.5	8.2	7.9
Biliary calculi and other diseases of the gall-bladder and biliary passages	8,636	8,863	8,577	6.7	6.9	6.7
Nephritis	102,877	106,865	103,516	79.6	83.2	81.2
Puerperal septicemia	3,727	4,606	5,174	2.9	3.6	4.1
Other puerperal causes	7,042	7,576	7,370	5.4	5.9	5.7
Congenital malformations	11,842	12,093	11,840	9.2	9.4	9.3
Suicide	19,294	18,294	18,214	14.9	14.2	14.3
Homicide	9,811	10,232	10,587	7.6	8.0	8.3
Automobile accidents (primary)	37,205	35,761	34,183	28.8	27.8	26.8
Other motor vehicle accidents	2,438	2,328	2,186	1.9	1.8	1.7
Other accidents	65,562	71,963	63,404	50.7	56.0	49.7
All other causes	188,131	196,023	190,030	145.5	152.6	149.0

VITAMINS. See BIOLOGICAL CHEMISTRY; MEDICINE AND SURGERY.

VIZETELLY, viz'e-tél'y, FRANK (FRANCIS) H (ORACE). An American lexicographer and editor, died in New York, Dec. 20, 1938. Born in London on Apr. 2, 1864, the son of Henry Richard Vizetelly, he was educated at the Lycée Baudard, Nogent-sur-Marne, France, and at Arnold College, Eastbourne, England. Entering the firm of Vizetelly & Co., publishers, in 1883, he was associated with them until 1891, when he left for the United States. Soon after his arrival he joined Funk & Wagnalls Co., publishers, and for 47 years he was associated with the *Standard Dictionary*, as associate editor (1891-1903), managing editor (1905), and the *New Standard Dictionary*, managing editor (1908-13) and editor, 1913 to his death.

As a member of the Funk & Wagnalls editorial staff from 1891, Dr. Vizetelly edited many miscellaneous publications on English, mental efficiency, history, travel, etc.; was one of the editors of *Hoyt's Cyclopædia of Practical Quotations* and of

the *New Schaff-Herszog Encyclopædia of Religious Knowledge* (12 vols., 1905-12); was manager of the editorial department and corresponding and recording secretary of the *Jewish Encyclopædia* Editorial Board and contributor to it (1899-1905); editor of "The Lexicographer's Easy Chair" for *The Literary Digest* (1904-10; 1912-36); *A Desk Standard Dictionary* (1915); office editor of the *Literary Digest History of the World War* (10 vols., 1919); editor, *Mental Efficiency Series* (10 vols.,

1916); *A Practical Standard Dictionary* (1922); *The New Standard Encyclopedia of Universal Knowledge* (25 vols., 1931; 1935); *The New Standard Encyclopedia Course of Study and Index* (1936); *A Daily Guide to Knowledge* (1936); *The New Comprehensive Standard Dictionary* (1937); and the NEW INTERNATIONAL YEAR BOOK and *New Standard Year Book* from 1932.

Interested in radiobroadcasting, he made his first appearance on the air in 1924, speaking over Station WOR. Thereafter he was heard on WNYC (1926-29), WEAF and WJZ (1929-30), and WABC (1930-31). A frequent contributor to newspapers and magazines, Dr. Vizetelly was an associate editor in the compilation of *Merck's Index of Chemicals and Drugs* (1895, 1906), revising editor of the *Columbian Encyclopædia* (40 vols., 1897) and of the *Cyclopædia of Classified Dates* (1899), and associate editor of *Better English* (1938). His own works, which dealt mostly with the use of English, included *The Preparation of Manuscripts for the Printer* (1905); *Desk-Book*

of *Errors in English* (1906; 1920); *The Development of the Dictionary of the English Language* (1915); *A Dictionary of Simplified Spelling* (1915); *Essentials of English Speech and Literature* (1914; 1917); *Desk-Book of 25,000 Words Frequently Mispronounced* (1917; 1929); *Idioms and Idiomatic Phrases* (1921); *How to Use English* (1932); *How to Speak English Effectively* (1933), and *Our Color-Box of Speech* (1933).

Dr. Vizetelly became a citizen of the United States in 1926, was a fellow of the American Geographical Society, and received the honorary degree of LL.D. from St. John's College, Annapolis, Md. For an appreciation of his work in the field of philology, see PHILOLOGY, MODERN.

VLADECK, B(ARUCH) CHARNEY. An American journalist and politician, died in New York City, Oct. 30, 1938. Born Baruch Charney in Dukor, Minsk, Russia, Jan. 13, 1886, he was educated in Jewish schools and early became identified with revolutionary activities and in 1904 and 1905 was imprisoned. Again arrested and jailed, he was released when he went on a hunger strike, and in 1908 he left Russia for the United States, where for four years he lectured on social, political, and economic subjects. In 1912 he joined the staff of the *Jewish Daily Forward* as branch manager of the Philadelphia office, and while there studied at Teachers College, University of Pennsylvania. In 1916 he was transferred to the New York office as city editor of the paper and in 1918 he was made general manager.

Becoming a naturalized citizen of the United States in 1915, it was natural that he should turn to politics, and in 1917 he was elected to the New York City Board of Aldermen as a Socialist. Re-elected in 1919, he was defeated in 1921. During his membership in that body he opposed a resolution urging the support of war savings stamps and introduced a resolution for the revision of the City Charter. Mr. Vladeck ran for Congress several times but failed of election. With the formation of the American Labor Party in 1935 he became one of its sponsors, and in 1937 he sought a seat, as the candidate of that Party, in the newly formed City Council under the revised Charter. Upon election he became the spokesman of a coalition bloc in the Council composed of Fusion and American Labor Party members and when this group lost control of the Council, he voluntarily relinquished this post. His term was to end Dec. 31, 1939.

An advocate of proportional representation, under which plan he was elected to the Council, and long a leader in promoting social justice, Mr. Vladeck was primarily interested in low-cost housing and in 1934 Mayor La Guardia appointed him a member of the New York City Housing Authority, from which he resigned upon his election to the Council. He was a director of the Amalgamated Dwellings Corporation and of radio station WEVD, and vice-president of the Amalgamated Housing Corporation, an affiliate of the Amalgamated Clothing Workers of America. Other of his interests were the American Ort Federation, of which he was elected president in 1932; the Jewish Labor Committee, of which he was chairman from 1934; the American Civil Liberties Union, the HIAS Immigrant Bank, and the Labor Chest for the Relief and Liberation of Workers of Europe.

In 1915 Mr. Vladeck edited a two-volume "social anthology" of poetry entitled *From the Depths of the Heart*, and a collection of his essays was published in 1936.

VOCATIONAL PSYCHOLOGY. See PSYCHOLOGY.

VOLGA-GERMAN AUTONOMOUS SOVIET SOCIALIST REPUBLIC. See RUSSIAN SOVIET FEDERATED SOCIALIST REPUBLIC.

VON OSSIETZKY, CARL. See OSSIETZKY, CARL VON.

VORARLBERG. See AUSTRIA.

WAGES AND HOURS ACT. See UNITED STATES under Congress; FIRE PROTECTION; LABOR LEGISLATION; MINIMUM WAGE; TEXTILES.

WAGNER ACT. See LABOR ARBITRATION.

WAKE ISLAND. An island in the North Pacific (19° N. and 166° 20' E.), 2130 miles west of Hawaii, annexed by the United States in 1898. Area, about 2600 acres; the population consists of a few men in charge of the airport. Wake is a typical coral atoll, with a shallow, enclosed lagoon. During 1935 the island became a base for the trans-Pacific air service of Pan American Airways. The U.S. Dept. of the Navy exercises jurisdiction over the island.

WALES. See GREAT BRITAIN.

WALLIS ARCHIPELAGO. See NEW CALEDONIA.

WALSH-HEALEY ACT. See LABOR UNIONS.

WAR. See AFGHANISTAN, CHINA, JAPAN, PALESTINE, SPAIN; MILITARY PROGRESS; NAVAL PROGRESS.

WAR DEBTS. see REPARATIONS AND WAR DEBTS.

WARREN, GEORGE FREDERICK. An American economist, died at Ithaca, N. Y., May 24, 1938. Born in Harvard, Neb., Feb. 16, 1874, he was educated at the University of Nebraska (B.Sc., 1897) and after five years of educational work, he entered Cornell University for post-graduate studies (B.A.S., 1903, M.S.A., 1904, Ph.D., 1905).

After taking his doctorate, he joined the New Jersey Experiment Station as a horticulturist, and in the following year returned to Cornell to become assistant professor of agronomy. Thereafter he was assistant professor of farm crops, 1907-09; professor of farm crops and farm management, 1909-11; professor of farm management, 1911-20, and professor of agricultural economics and farm management and head of the Department of Agricultural Economics and Farm Management in the New York State College of Agriculture, Cornell, from 1922 until his death. He had intended to retire as administrative head of the Department on June 1, 1938.

For Cornell University Agricultural Experiment Station, Dr. Warren conducted surveys on the apple orchards in Wayne County (1905) and on agricultural conditions in Tompkins County (1911), the latter being published under the title *An Agricultural Survey, Townships of Ithaca, Dryden, Danby, and Lansing, Tompkins County, New York* (1911). In 1922 he took a leave of absence from the University to reorganize the Bureau of Markets and Crop Estimates of the U.S. Department of Agriculture, and subsequently he served the State of New York by membership on the reforestation commission and on the state agricultural advisory commission.

A specialist in agricultural education and farm management, at first Dr. Warren was interested only in aiding the farmer to raise better crops and breed better stock, but later he turned to the study of the economical factors involved in agriculture, and he became known for his studies on the relationship between the price of gold and economic conditions. During the early New Deal days, he

played an important role in shaping the Administration's monetary policy and he was partly responsible for the gold-buying policy adopted in October, 1933. He advocated the devaluation of the dollar, and appearing before the Senate Banking and Currency Committee (December, 1933), he said in defense of this program,

By cutting the gold content of the dollar we raise prices. By raising prices it becomes easier for men to pay their debts. By raising prices, business starts and profits accrue. It becomes easier to pay taxes. Raising prices, since it starts business, starts employment. Everyone, in consequence, would benefit: home owners, farmers, all debtors, holders of life insurance.

A member of the leading scientific societies, including fellowships in the American Statistical Association and the American Association for the Advancement of Science, Dr. Warren was the author of many books on agricultural economics, among the more important being, *Elements of Agriculture* (1909); *Laboratory Exercises in Farm Management* (1910); *Farm Management* (1913), and in collaboration, *Dairy Farming* (1916); *The Agricultural Situation* (1924); *Inter-relationships of Supply and Price* (1928); *The Physical Volume of Production in the United States* (1932); *Prices* (1933), and *Gold and Prices* (1935).

WASHBURN COLLEGE. A coeducational institution in Topeka, Kans., founded in 1865. Enrollment for the autumn session of 1938 was: Liberal arts and fine arts, 592; law, 125; music, 70. The faculty numbered 53 full-time members and 30 part-time. The endowment was \$1,156,484, and the plant assets, \$1,934,890. The library contained 35,520 volumes. President, Philip C. King, A.M., D.D.

WASHINGTON. Area and Population. Area, 69,127 square miles, exclusive of State's waters in Gulf of Georgia and Strait of Juan de Fuca, but including (1930) other water, 2291 square miles. Population: Apr. 1, 1930 (census), 1,563,396; July 1, 1937 (Federal estimate), 1,658,000; 1920 (census), 1,356,621. Seattle had (1930) 365,583; Spokane, 115,514; Tacoma, 106,817; Olympia, the capital, 11,733.

Agriculture. Acreage, production, and value of the chief crops of Washington, for 1938 and 1937, appear in the accompanying table.

Crop	Year	Acreage	Prod. Bu.	Value
Wheat	1938	2,188,000	51,643,000	\$23,756,000
	1937	2,317,000	50,824,000	38,118,000
Apples	1938	.....	31,100,000	27,990,000
	1937	.....	30,450,000	18,694,000
Hay (tame) .	1938	940,000	1,707,000	14,851,000
	1937	919,000	1,735,000	15,962,000
Potatoes	1938	44,000	7,568,000	5,298,000
	1937	50,000	9,400,000	3,854,000
Oats	1938	158,000	6,715,000	2,283,000
	1937	155,000	8,060,000	2,902,000
Dry peas	1938	90,000	1,530,000	1,300,000
	1937	129,000	3,354,000	2,683,000
Hops	1938	5,000	9,675,000	1,424,000
	1937	5,000	8,785,000	1,188,000
Barley	1938	64,000	2,080,000	832,000
	1937	61,000	2,074,000	1,161,000
Pears	1938	.....	6,278,000	2,825,000
	1937	.....	5,600,000	4,615,000

^a Tons. ^b Pounds.

Mineral Production. The yearly production, in Washington, of gold, silver, copper, lead, and zinc increased in value to \$5,414,000, approximately, for 1938, from \$2,253,054, for 1937. The rise occurred largely in the item of gold, to a total of \$2,569,000 for 1938, from \$1,270,850 for 1937. Increase of equipment at the Holden mine of the Howe Sound Co. and in mines of the Metaline

Falls area was said to have brought the greater production of the metals.

Finance. State expenditures of Washington in the year ended Mar. 31, 1937, as reported by the U.S. Bureau of the Census, were: For maintaining and operating governmental departments, \$54,576,-470 (of which \$12,580,386 was for highways, \$12,-794,092 was for charities, and \$15,355,151 was for local education); for interest on debt, \$678,923; for capital outlay, \$15,777,379. Revenues were \$74,740,244. Of these, property taxes furnished \$4,066,731; sales taxes, \$38,563,931 (including tax on gasoline, \$14,334,264); departmental earnings, \$3,515,764; sale of licenses, \$6,777,705; Federal or other grants-in-aid, \$14,374,742. Funded debt outstanding on Mar. 31, 1937, totaled \$14,588,000. Net of sinking-fund assets, the debt was \$12,546,893. On an assessed valuation of \$1,083,329,750 (made in 1935) the State levied for the fiscal year 1937 ad-valorem taxes of \$3,651,375.

The State's monopoly of alcoholic beverages, keeping separate accounts, expended in the year \$1,239,596 for operation and \$36,089 for outlays; made \$3,153,578 in gross earnings; and paid \$1,816,039 into the general revenue of the State.

Education. Enrollments of pupils in the public schools in the academic year 1937-38 numbered 339,977; this comprised 213,810 in elementary study, 93,259 in high schools, and 32,908 in junior high schools. As compared with the year before, elementary registration was lower, but the loss was more than offset by increase in the number passing into the high and junior high schools. The year's expenditures for public-school education totaled \$29,155,808. Teachers numbered 10,826. Their salaries for the year averaged \$1589.78.

More than three-fourths of the teachers in the public schools of Washington had by the end of 1938 become participants in the State's lately established system for their endowed support after retirement.

Political and Other Events. Antagonism between labor unions and some other strong groups in the State continued, and the rivalry of the C.I.O. and the A.F.L., among the unionized group, remained unsettled. Difficulties between unions interfered with maritime activity at the port of Seattle in January and later. In the spring the refusal of unions in the A.F.L. and the C.I.O. to co-operate caused the departure of vessels for the Alaska salmon fishery to be delayed until long after the usual time. A municipal election in Seattle (March 8) was won by Arthur B. Langlie, elected Mayor, who defeated Victor A. Meyers, Lieutenant-Governor and partisan of the C.I.O. A previous municipal nominating primary (February 21) had eliminated the candidacy of Mayor Dore, the A.F.L.'s candidate. Dore died shortly after the election and the city council elected Langlie Mayor for the brief remainder of Dore's term, thus putting him into office sooner by several weeks. Langlie's inauguration gave the city a government free from the domination of either group of unions. See STRIKES.

Meyers, defeated for Mayor of Seattle, remained Lieutenant-Governor. He sought to employ the powers of this office for the objects of his supporters. In April, when both he and Governor Martin were absent from the State, Meyers hurried back from California and issued a summons, as Acting Governor, for a special session of the Legislature. Governor Martin, however, had received warning of the move; he hastened home, taking a specially chartered airplane from Chicago, and re-entered the State at the time, within a few minutes, when

Meyers (April 20) delivered his proclamation at the office of the Secretary of State. Martin revoked the Meyers proclamation and directed the Legislature not to convene.

Elections. U.S. Senator Homer T. Bone (Dem.) was re-elected (November 8), defeating Ewing D. Colvin (Rep.). The six incumbent U.S. Representatives, all Democrats, were re-elected. An initiated measure to require an authorizing vote of unions' members and a lapse of 30 days before the declaration of a strike was defeated by unionists' opposition.

Officers. Washington's chief officers serving in 1938 were: Governor, Clarence D. Martin (Dem.); Lieutenant-Governor, Victor A. Meyers; Secretary of State, Ernest N. Hutchinson (died in office) and Belle Reeves (appointed successor); Auditor, Cliff Yelle; Treasurer, Phil H. Gallagher; Attorney-General, G. W. Hamilton; Director of Education, Stanley F. Atwood.

Judiciary. Supreme Court: Chief Justice, William J. Steinert; Associate Justices, Walter B. Beals, George B. Simpson, John F. Main, O. R. Holcomb, Bruce Blake, J. M. Geraghty, W. J. Millard, John S. Robinson.

WASHINGTON, THE STATE COLLEGE OF. A coeducational institution for higher learning at Pullman, Wash., founded in 1890. The enrollment for the autumn of 1938 was 3833. The 1938 summer session had an attendance of 862. There were 238 teaching faculty members. The land-grant endowment amounted to \$4,017,875, while the income for the year was \$2,142,060. The library contained approximately 360,000 volumes. A foundry building and four greenhouses have been added, as well as paving, cement sidewalks, and landscaping, totaling \$210,000. A new highway approach to the college is also being constructed at a cost of \$250,000. President, Ernest O. Holland.

WASHINGTON, UNIVERSITY OF. A State institution of higher education in Seattle, Wash., founded in 1861. The enrollment for the autumn of 1938 was 10,905. The 1938 summer session had an attendance of 4238. There were 539 members on the faculty (not including 204 teaching fellows, graduate, and undergraduate assistants, etc.) during the autumn of 1938. For the biennium 1937-39 the estimated amount of endowment and income combined is \$6,761,000 (comprising all estimated receipts including building funds).

The University library contains 340,919 volumes and the Law Library 82,694 volumes. President, Lee Paul Sieg, Ph.D.

WASHINGTON AND JEFFERSON COLLEGE. An institution for the higher education of men in Washington, Pa., which had its origin in the Washington Academy, founded in 1780 and chartered in 1787. The enrollment for the fall semester of 1938-39 totaled 544 undergraduates and 8 graduate students. The faculty numbered 44. The productive funds of the college amounted to \$1,624,000, and the income from all sources was approximately \$281,700.41. The library contained over 56,000 volumes. President, Ralph Cooper Hutchison, Ph.D., D.D.

WASHINGTON AND LEE UNIVERSITY. A nonsectarian institution for the higher education of men, in Lexington, Va., founded in 1749. The enrollment for the autumn of 1938 was 950. There were 60 members on the faculty. The productive funds of the university amounted to \$3,001,105, and the income for the year was \$402,632. The number of volumes in the library

was approximately 100,000. President, Francis Pendleton Gaines, Ph.D.

WASHINGTON CONFERENCE ON CAUSE AND CURE OF WAR. See PEACE.

WASHINGTON UNIVERSITY. An institution of higher learning for men and women, in St. Louis, Mo., founded in 1853. For the fall semester of 1938-39, the enrollment was 6780; for the summer session of 1938, 1338. Faculty, including emeriti and those on leave of absence, numbered 635. Mary Institute, a preparatory school for girls operated under the charter of Washington University, had an enrollment of 320 as of Nov. 1, 1938. Funds under the control of the University totaled \$37,250,773 as of June 30, 1938, including current funds, \$803,320, and endowment funds, \$21,930,020. Total expenditures during the budget year 1937-38 were \$2,361,551. Gifts reported at the June, 1938, convocation totaled \$259,101, including additions to endowments of \$104,341. The libraries contained 314,391 volumes. The University recently established the George Warren Brown Department of Social Work on a graduate basis, and in 1938 a grant from the Rockefeller Foundation made possible the establishment of a new department of neuropsychiatry in the School of Medicine. Chancellor, George R. Throop, Ph.D.

WATER POWER. During 1938 construction in the field of water power was confined principally to governmental projects. About 750,000 h.p. went into service, making the present total installed hydro-electric capacity in the United States, private and public, about 18 million h.p. of which over 1,600,000 h.p. is in Federal developments. In addition to this, equipment now on order for the Government totals around 1,400,000 h.p. The ultimate capacity of these public projects, according to present plans, will be about 8½ million h.p., which will then account for about one-third of the total hydro-electric capacity of the country, assuming that no private developments of appreciable magnitude are made in the interim. Private capacity added during the year was approximately 200,000 h.p.

Of the Federal projects, the largest at present is Boulder Dam, with 752,000 h.p. already installed, an additional 230,000 h.p. on order, and an ultimate capacity of 1,835,000 h.p. planned. The Grand Coulee development in the State of Washington is laid out for an ultimate capacity of 2,742,000 h.p., of which 478,000 h.p. is now on order, but the lack of a market for additional power in that region may defer for some time its full development.

The seven plants of the TVA will account for an ultimate capacity of 1,882,000 h.p. of which 592,000 h.p. is installed and 290,000 h.p. on order. Among numerous other governmental projects now under construction, the more important are Bonneville of 665,000 h.p. ultimate capacity with 285,000 h.p. installed or on order, the Shasta Dam in Northern California of 500,000 h.p. planned capacity, the Santee-Cooper development in South Carolina, projected for 200,000 h.p., the Colorado-Big Thompson project of 135,000 h.p., the Fort Peck Dam in Montana of 100,000 h.p., and the Pensacola Dam in Oklahoma of 100,000 h.p. Several others are under 65,000 h.p. each.

Despite this activity in hydro-electric construction by the Government, the kilowatt-hours generated by water power has maintained about the same relation to total power generated during the last 18 years, namely, between 35 and 40 per cent, the remainder being generated by steam and a small amount by internal-combustion engines. An

important factor having bearing on this is that steam-plant efficiency has increased during recent years and unit-installation costs decreased to an extent that challenges the economics of hydroelectric power in many localities. This is illustrated by the present construction of a large high-pressure steam plant at Oswego, N. Y., in a region largely served by water power where the company controls several water-power sites that could be developed. Several similar examples could be noted.

WATERWORKS AND WATER PURIFICATION. The Six-Year Water Control Plan of the Water Resources Committee of the National Resources Committee transmitted to President Roosevelt early in the year, calls for the execution of 2678 water-supply projects costing \$567,000,000. The average annual cost would compare with \$161,000,000 a year, expended in 1925-36. It was proposed that most of this expenditure should be met locally. In addition, \$33,495,000 for rural water supply was proposed, to be carried out as Federal projects. PWA water supply projects, in 1938, according to official records, numbered 573, costing \$105,200,000, including filtration plants. Corresponding figures for the years 1933-38 were 2353 projects costing \$302,000,000. The number of plants treating water for municipal supply early in 1938, according to a privately made summary published in April, was 2120, with a combined normal capacity of $7\frac{1}{2}$ billion gallons. Only 17 of these plants were of the slow sand or English type. Of 141 plants built in 1937, with a total capacity of 205 million gallons, half in number and over half in combined capacity were for filtering surface water, 30 for softening, 12 for softening and iron removal, and 29 for iron removal only. Of the 30 softening plants, 19 used the lime-and-soda process and 11 the zeolite process. (See *Engineering News-Record* [New York], Feb. 10 and Apr. 21, 1938.)

Technical Advances. For the transmission and distribution of water, cast-iron pipe still dominates, except that for large conduits steel or either plain or reinforced concrete are largely used. Distributing mains of moderate size are chiefly of either old-style pit cast iron, the tensile strength and flexibility of which has been increased, or else of centrifugally cast or spun iron. The latter is now made in diameters of 4 to 30 in. and in lengths up to 20 ft. Its high tensile strength makes thinness of shell practicable, diminishing tonnage, breakability, and the number and cost of joints. Asbestos-cement pipe, very light and highly resistant to acid soils, is gaining in use. Remote control of pumps by changes in water level or pressure is gaining. So is automatic control for filters of the pressure type and for water softeners using zeolite. Gravity filter operations are being made partly automatic. For disinfection, both of filtered and unfiltered water, chlorine gas still leads and its use is being continually extended. Following pioneer work at Springfield, Ill., in the precipitation of carbonates by the upward flow of treated water through a "sludge cloud," this practice will be used at the 120-million gallon water softening plant being constructed for Minneapolis. Purification of the water supplies of cities on the Great Lakes is making unnecessary the construction of long intakes to reach clear water when new intakes are built to supply purification plants. Intakes reaching beyond gross pollution suffice—and sewage treatment is lessening pollution. The somewhat turbid water near shore is more easily coagulated than the cleaner water from distant intake cribs.

Major Projects. The Massachusetts Metropol-

itan District Water Supply Commission was preparing plans and letting contracts in mid-November for an aqueduct to connect the masonry portion of the Wachusett Aqueduct with the Metropolitan District, thus reinforcing existing aqueducts. The new aqueduct will be about 18 miles long. It is expected that three miles of it will be a 14-ft. tunnel, and the rest concrete pressure pipe, with 2 miles $12\frac{1}{2}$ ft. and 13 miles $11\frac{1}{2}$ ft. in diameter. The whole length must be completed by June 30, 1940. It is expected that the 415-billion gallon Quabbin Reservoir will be ready to store the waters of Ware and Swift Rivers by late 1939. Water from the Ware and Swift is already being delivered to Boston and vicinity. Lawrence, Mass., completed a purification plant late in the year, noteworthy because it will give pre-treatment to the polluted water of the Merrimack River before it goes to the slow sand filters built 35 years ago. The pre-treatment will consist of coagulation, sedimentation, and rapid filtration. Chlorination will be continued. Progress is being made on the Delaware River Aqueduct, to bring to New York City 540 million gallons a day to supplement existing supplies. A 20-million gallon filtration plant has been planned for Atlantic City, N. J. It will treat the present supply of surface and ground water, mixed. The water will be coagulated in two-story basins before rapid filtration. The chief object of the plant is reduction of color, taste, and odor in the surface supply and iron in the well water. At Baltimore a 12-ft. pressure tunnel, $6\frac{1}{2}$ miles long, is being built to convey impounded surface water from the Loch Raven reservoir to the Montibello filters. The water-softening plant for Owensboro, Ky., constructed in 1910 and one of the earliest softening plants in the United States, is to be remodeled. Rehabilitation and enlargement of the Cincinnati water treatment plant has been completed. The original plant, completed in 1907, was one of the early rapid filtration plants designed in accordance with the teachings of extensive experiments there and at Louisville. The old plant had a nominal daily capacity of 112 million gallons, but it became necessary to use a higher rate. Ultimately, the rehabilitated plant will treat 200 million gallons a day. At Toledo, Ohio, the source of supply is being changed from the Maumee River to Lake Erie. The project, which will cost \$9,000,000, includes an intake and low-lift pumping station at the lake, a 13-mile pipe line to the city, a filtration plant, a main pumping station, and reinforcement of the distribution system. After long agitation and several years of experimentation and plan preparation, Chicago has started on a large unit of filtering and metering water supplied to the South Side. On August 3 the City Council accepted the terms set up by the PWA for a Federal grant of \$5,416,000 for partial installation of filters and meters estimated to cost \$20,935,000. The initial filter installation will have a daily capacity of 312 million gallons. A 200-million gallon filtration plant for Milwaukee was completed late in the year and was expected to be put in operation January 1. Notable features are two-story sedimentation basins and surface wash by jets from just above the filter beds, applied after the usual upward-flow wash has loosened and slightly lifted the sand bed. For Wichita, Kan., a ground-water supply is being developed some 35 miles north of the city for conveyance to the city at a cost of \$2,000,000. The city is doing the work but will sell the water wholesale to the local water company for delivery. A new supply for Little Rock, Ark., was put in opera-

tion early in the year, but the treatment plant had not been completed. Water is brought 35 miles by gravity. (See McDonnell, *Little Rock Enjoys Pure Soft Water*, in *Water Works Engineering* [New York], Mar. 30, 1938.) By raising the O'Shaughnessy Dam, at the head of San Francisco's Hetch Hetchy Aqueduct, to a total height of 430 ft., the storage capacity of the reservoir has been increased 154,000 acre-feet. The largest city water-supply project ever undertaken, the Colorado River Aqueduct system, was 90 per cent completed at the end of the year, according to official information from the engineering department of The Metropolitan Water District of Southern California, which is constructing the works for Los Angeles and nearby cities. Practically the whole length of the aqueduct was completed, except the 13-mile San Jacinto Tunnel, and that was already holed through. The Parker Reservoir on the Colorado River was nearly filled, two of the five pumping stations that lift the water by stages for 1600 ft. were in operation, and a third was ready for operation; two reservoirs were receiving the water pumped and a third was ready to store water; the terminal reservoir at the city end of the aqueduct and the main distribution conduits were under construction. Preparation of plans for a water-softening plant with an initial capacity of 100 million gallons daily, have been authorized. Delivery of water through the aqueduct into the Cajalco Reservoir by the middle of 1939 and to a number of cities by the end of the year was expected. The main aqueduct is 239 miles long and the various distributing mains have a total length of 80 miles. Ultimately the aqueduct system will supply one billion gallons daily. (For articles on many elements of the Colorado River Aqueduct, by its engineers and administrative officers, see *Engineering News-Record* [New York], Nov. 24, 1938.)

Bibliography. Municipal Finance Officers Association and American Water Works Association, *Manual of Water Works Accounting* (Chicago and New York); Steele, *Water Supply and Sewerage* (New York); Waterman, *Elements of Water Supply Engineering*, 2 ed. (New York).

WAZIRISTAN. See AFGHANISTAN and INDIA under *History*.

WEATHER. See AGRICULTURE; METEOROLOGY.

WELFARE WORK. See RELIEF.

WELLESLEY COLLEGE. A nonsectarian institution for the higher education of women in Wellesley, Mass., chartered in 1870. The enrollment for the academic year 1938-39 was 1526. The teaching staff numbered about 180. Permanent endowment funds for 1937-38 amounted to \$8,829,267. The income was \$1,164,434. The library contained approximately 184,000 volumes. President, Mildred H. McAfee, LL.D., L.H.D.

WELLS COLLEGE. An institution of higher learning for women in Aurora, N. Y., founded in 1868. The enrollment for the autumn of 1938 was 313. The faculty numbered 46 active members and 7 Emeriti. The endowment amounted to \$1,441,837, and the income for the year from invested funds, tuition, etc., was \$447,754. There were 85,684 volumes in the library. President, W. Ernest Weld, Ph.D.

WESLEYAN UNIVERSITY. A college of liberal arts for men located at Middletown, Conn., founded in 1831. The 1938 autumn enrollment was 765,738 undergraduate and 26 graduate students. The faculty numbered 79 active members. The productive funds of the university on June 30, 1938,

amounted to about \$7,940,000, and the total income for the year was \$811,057. Gifts amounting to \$180,000 were received, and Mr. and Mrs. George W. Davison donated their collection of etchings and engravings, valued at over a quarter of a million dollars. The library contained about 230,000 accessioned volumes. President, James L. McConaughy, Ph.D., L.H.D., LL.D.

WESTERN AUSTRALIA. An Australian State. Area, 975,920 square miles; population, exclusive of full-blood aboriginals, 458,453 (Mar. 31, 1938, estimate), compared with 438,852 (1933 census). During 1937 there were 8609 births, 4065 deaths, and 4169 marriages. The principal cities are Perth (capital) with 215,700 inhabitants on Dec. 31, 1937, including Fremantle (26,031 on Oct. 31, 1936) and other suburbs; Subiaco, 17,510 (1936); Kalgoorlie, 10,650 (1936); Boulder, 7250 (1936).

Production. Wheat (35,868,000 bu. estimated in 1937-38), oats, barley, hay, wine, raisins, apples, and potatoes are the main agricultural products. Livestock in the State (1937 estimate): 745,929 cattle, 150,156 horses, 64,062 pigs, and 8,717,780 sheep. The principal dairy products for 1936-37 were butter, 12,482,196 lb.; cheese, 1,032,077 lb.; bacon and ham, 4,098,448 lb. Wool (greasy) produced during 1937 was estimated to total 63,700,000 lb.

The estimated value of mineral production for 1937 was 9,171,372 Australian pounds, of which copper accounted for £A986; tin, £A12,421; coal, £A340,444; gold, £A8,688,921; silver and lead, £A27,844. In 1936-37, from the 2032 factories, with 22,711 employees (including working proprietors), the estimated net value of production was £A7,946,697 (Australian £ averaged \$3.9594 for 1936; \$3.9394 for 1937).

Government. For the year ended June 30, 1938, revenue totaled £A10,819,000; expenditure, £A10,830,000; public debt, £A93,712,000. Executive authority is vested in a governor, assisted by an executive council of responsible ministers. Parliament consists of a legislative council of 30 members elected for 6 years, and a legislative assembly of 50 members elected for 3 years by universal adult suffrage. Governor (vacant); Lieutenant-Governor, Sir James Mitchell (July, 1933); Premier, John Collings Willcock. See AUSTRALIA.

WESTERN RESERVE UNIVERSITY. A non-sectarian institution for the higher education of men and women in Cleveland, Ohio, chartered in 1826. There were enrolled in the 13 colleges and schools in 1938, 3297 full-time students and 6901 part-time students. The summer session (1938) had an attendance of 1148. The faculty numbered 714. The endowment was \$9,349,161, and the income for 1937-38, \$2,497,849. The library contained 510,000 volumes. The President was Winfred George Leutner, Ph.D., LL.D.

WESTOVER, MAJ. GEN. OSCAR, U.S.A. An American Army officer and Chief of the U.S. Army Air Corps, died in an airplane accident at Burbank, Calif., Sept. 21, 1938. Born in West Bay City, Mich., July 23, 1883, he was graduated from the local high school and enlisted in the U.S. Army as a private in 1901. He served until 1902 when he received appointment to the U.S. Military Academy, graduating with the rank of 2d lieutenant in 1906. After promotion through the ranks, he was transferred to the Signal Corps in September, 1917, with the temporary rank of Major and served (1917-18) at the Military Academy as assistant professor of drawing.

In March, 1918, he was placed in charge of the Signal Office at the Port of Embarkation at Hoboken, N. J., and in June was placed in charge of the Storage and Traffic Department, Bureau of Aircraft Production. Promoted to lieutenant colonel in the air service on Aug. 14, 1918, on November 19 he was named assistant executive in the Bureau of Aircraft Production in Washington, and then in the office of the Director of Air Service there. He received emergency promotion to colonel of the Air Service on May 24, 1919, and in the following July was named executive, Air Corps, Washington, D. C., and Chairman of the U. S. Claims Board, during which tour of duty he relinquished the wartime rank of colonel in the Air Service and reverted to his Regular Army status of major in the Aviation Section of the Signal Corps on July 1, 1920, and then, on Aug. 9, 1920, in the newly organized Regular Army Air Service. For his War services Westover received the Distinguished Service Medal, the citation reading in part, "His services were of inestimable value to the government in a position of great responsibility."

During 1921 Major Westover studied at the Balloon Schools at Ross Field, Calif., and in the following year at the Airship School, where he received the ratings of balloon observer and airship pilot. In the National Balloon Race of 1922, held at Milwaukee, Wis., he took first place, landing at St. Jerome, Canada, a distance of 866.5 miles. As a result he was the Army entrant in the International Balloon Race at Geneva, Switzerland, in August, where he took third place.

He served as Director of Air Corps Production in Washington in 1922 and in 1924 graduated from the Advanced Flying School at Kelly Field, where he received the rating of airplane pilot and, subsequently, aerial observer, one of the few officers in the service to hold all four ratings. Appointed executive officer at Langley Field, Va., in 1924, later in that year he was made commanding officer of that post and commandant of the Air Corps Tactical School there. After two years he entered the Tactical School as a student and was graduated in 1927, when he entered the Command and General Staff School at Fort Leavenworth, Kans. He was graduated in 1928 and was retained as a member of the faculty.

Promoted to lieutenant colonel in 1930, two years later Westover received his appointment as Assistant Chief of the Air Corps with the rank of Brigadier General. On Dec. 24, 1935, he was promoted to Major General and named Chief of the Army Air Corps. During his service as Assistant Chief of the Air Service, he directed the flying of the air mail by the army in 1934 after the Government canceled contracts held by private companies. General Westover was on a two weeks' inspection trip when, flying from Los Angeles to Burbank, his Northrop attack plane, which he himself was piloting, crashed from an altitude of 400 feet while he was attempting to land. His mechanic, who accompanied him, was also killed.

WEST SIBERIAN TERRITORY. See RUSSIAN SOVIET FEDERATED SOCIALIST REPUBLIC.

WEST VIRGINIA. Area and Population. Area, 24,170 square miles; included (1930) water, 148 square miles. Population: Apr. 1, 1930 (census), 1,729,205; July 1, 1937 (Federal estimate), 1,865,000; 1920 (census), 1,463,701. Charleston, the capital, had (1930) 60,408 inhabitants; Huntington, 75,572; Wheeling, 61,659.

Agriculture. Acreage, production, and value of the chief crops of West Virginia, for 1938 and 1937, appear in the accompanying table.

Crop	Year	Acreage	Prod. Bu.	Value
Corn	1938	477,000	12,640,000	\$ 8,595,000
	1937	518,000	14,245,000	10,684,000
Hay (tame) ..	1938	684,000	802,000 *	8,100,000
	1937	665,000	741,000 *	7,558,000
Apples	1938	.....	4,800,000	3,360,000
	1937	.....	10,004,000	4,816,000
Potatoes	1938	32,000	2,720,000	2,176,000
	1937	32,000	3,264,000	2,513,000
Wheat	1938	156,000	2,340,000	1,685,000
	1937	171,000	2,736,000	2,873,000

* Tons.

Mineral Production. The total value of the yearly production of West Virginia's native minerals as stated by the *Minerals Year Book* in 1938, attained \$285,138,297 for 1936. Two-thirds of the amount came from the mining of coal and over one-sixth from the output of natural gas. The mines' production of coal rose slightly to 118,450,000 net tons (1937), from 117,925,706 tons (value, \$193,443,000) for 1936. The yield of natural gas increased to 153 billion cu. ft. (estimate for 1937), from 138,076 million cu. ft. (value, \$54,788,000) for 1936. Clay products, for 1936, were valued at \$15,904,886. Coke ovens, mainly of the byproduct type, produced 2,095,776 net tons of coke in 1937, as against 1,933,441 tons in 1936. The value of the production of coke, \$5,997,669, did not enter the yearly aggregate value of native minerals produced. The output of pig iron (likewise not accounted a native mineral) attained 685,086 gross tons (1937) and a value of approximately \$14,000,000.

Finance. West Virginia's State expenditures in the year ended June 30, 1937, as reported by the U. S. Bureau of the Census, were: For maintaining and operating governmental departments, \$36,352,022 (of which \$7,153,259 was for highways and \$13,545,502 was for local education); for interest on debt, \$3,680,859; for capital outlay, \$9,627,969. Revenues were \$60,456,016. Of these, property taxes furnished \$1,746,176; sales taxes, \$26,170,614; departmental earnings, \$2,661,948 (exclusive of \$2,745,024 from the State's monopoly of alcoholic beverages); sale of licenses, 7,469,476; unemployment compensation, \$5,098,525; Federal or other grants-in-aid, \$6,583,528. Funded debt outstanding on June 30, 1937, totaled \$84,055,600. Net of sinking-fund assets, the debt was \$76,018,846. On an assessed valuation of \$1,737,625,670 the State levied in the year ad-valorem taxes of \$1,310,287.

Education. For the academic year 1937-38 inhabitants of school age (from 6 to 20 years) were reported as 547,935. The year's enrollments of pupils in public schools numbered 443,789; this comprised 320,344 in elementary study and 123,445 in high schools. In addition, 2798 enrolled in parochial schools. The year's expenditure for public-school education totaled \$25,011,438. Teachers numbered 16,129; their salaries for the year averaged \$1120.93.

West Virginia had before it in 1938, according to the *Journal* of the National Education Association, a still unsolved problem of how to provide the cost of sufficient fundamental teaching throughout the public schools without diminishing the services of schools in the more favorably circumstanced communities.

Political and Other Events. The State experienced, to some degree, the same economic ad-

versity as its neighbors, Pennsylvania and Ohio. Sentiment in favor of liberal political policies was impaired in the highly industrialized northern end of the State's area.

In the general election (November 8) none of the elective State offices were due to be filled. A Republican was elected U.S. Representative from the first district, breaking into the completely Democratic character of the delegation to the House, as it had been; the Democratic incumbents were re-elected to the other five seats.

Officers. West Virginia's chief officers, serving in 1938, were: Governor, Homer A. Holt (Dem.); Secretary of State, William S. O'Brien; Treasurer, R. E. Talbott; Auditor, Edgar B. Sims; Attorney-General, Clarence W. Meadows; Commissioner of Agriculture, J. B. McLaughlin; Superintendent of Schools, W. W. Trent.

Judiciary. Supreme Court of Appeals: President, Haymond Maxwell; Associate Judges, J. H. Hatcher, Jo N. Kenna, J. B. Riley, Fred L. Fox.

WEST VIRGINIA UNIVERSITY. An institution for the higher education of men and women maintained by the State of West Virginia at Morgantown, founded in 1867. The 1938 summer session had an attendance of 1156. In the autumn of 1938 the enrollment was 2961. The faculty numbered 240. The library contained 182,000 volumes. The total income for 1937-38 from State appropriations and Federal grants was \$2,321,723. Charles E. Lawall, Acting President.

WHEAT. The 1938 wheat production of 40 countries reporting to the International Institute of Agriculture was estimated at 4,230,636,000 bu. and the acreage at 260,786,000 acres. The production was 18.4 per cent greater than in 1937 and 24.9 per cent above the average for the five years 1932-36 and the acreage 4.4 per cent above the 1937 area and 11.8 per cent larger than the average for the five-year period. The yields of the leading countries not including the United States and the Soviet Republics, were estimated as follows: India 402,453,000 bu., Canada 350,010,000 bu., France 345,385,000 bu., Italy 297,317,000 bu., and Germany, including Austria 214,723,000 bu. For the Soviet Republics an average yield of 1,029,686,000 bu. for the five years 1932-36 was reported. The 1938-39 crop of Argentina was placed at 315,991,000 bu.

The 1938 production of wheat in the United States, as reported by 40 States, was estimated by the Department of Agriculture at 930,801,000 bu., about 6 per cent above the 1937 crop and nearly 24 per cent above the average for the 10 years 1927-36. The harvested acreage was estimated at 70,221,000 acres, compared with 64,422,000 acres in 1937 and the 10-year average of 55,325,000 acres. The average yield per acre, 13.3 bu., was slightly under the acre yield in 1937 and the 10-year average. The production of the leading States was reported as follows: Kansas 152,184,000 bu., North Dakota 79,839,000 bu., Montana 72,349,000 bu., Oklahoma 58,322,000 bu., and Nebraska 55,714,000 bu.

The 1938 winter-wheat production of 38 States reporting was placed at 686,637,000 bu., only 813,000 bu. more than was produced in 1937 but over 25 per cent above the 10-year average of 546,396,000 bu. The harvested acreage was 49,711,000 acres, remaining after an abandonment of 11.8 per cent of the area sown. The average yield per acre, 13.8 bu., was less than a bushel under the yield per acre in 1937 and the 10-year average. The production of the leading States was reported as follows: Kansas 152,114,000 bu., Oklahoma 58,-

322,000 bu., Nebraska 52,824,000 bu., Ohio 46,332,000 bu., and Illinois 41,995,000 bu.

The 1938 spring wheat production, including durum wheat, as reported by 24 States, was 244,164,000 bu., the largest crop since 1932 and nearly 29 per cent larger than the 1937 yield, and over 18 per cent above the 10-year average. The harvested acreage in 1938 was 3,066,000 acres greater than in 1937 and 2,466,000 acres above the average for the 10 years. The average yield per acre, 11.9 bu., was 1 bu. above the 1937 acre yield and .8 bu. above the average. The yields of the leading States were reported as follows: North Dakota 79,839,000 bu., Montana 47,768,000 bu., Minnesota 35,465,000 bu., South Dakota 26,201,000 bu., and Washington 19,324,000 bu. These States produced over 80 per cent of the 1938 spring wheat crop. The durum wheat producing States reported the following yields: North Dakota 31,050,000 bu., South Dakota 7,875,000 bu., and Minnesota 1,520,000 bu.

During the fiscal year ended June 30, 1938, the United States exported 83,740,000 bu., over 80,000,000 bu. more than in the preceding fiscal year, 3,437,000 bbl. of flour made wholly from United States wheat, 1,518,000 bbl. of other wheat flour, 1,499,000 lb. of cereal foods made from wheat, and 1,946,000 lb. of wheat semolina and imported 598,000 bu. dutiable at 42¢ per bu., 4000 bu. unfit for human consumption dutiable at 10 per cent ad valorem, 7000 bbl. of flour dutiable at \$1.04 per bbl., 23,000 bbl. free in bond for export, 4,062,000 lb. yeast-leavened bread, 1,330,000 lb. of macaroni and similar products, and 70,000 tons of wheat bran, shorts, and like feeds.

WHITE RUSSIAN SOVIET SOCIALIST REPUBLIC. One of the 11 constituent republics of the U.S.S.R., according to the constitution adopted Dec. 5, 1936. Area, 49,022 square miles; population (Jan. 1, 1933), 5,439,400. Minsk, the capital, had 186,500 inhabitants on Jan. 1, 1936. Other important towns are: Vitepsk, 127,300 inhabitants; Gomel, 121,200 inhabitants.

In 1938 there were 2,353,910 acres of spring sowing, by collectives, of chief grain crops. See UNION OF SOVIET SOCIALIST REPUBLICS.

WHITNEY, RICHARD, & Co. See FINANCIAL REVIEW.

WILLIAM AND MARY, COLLEGE OF. An institution for the higher education of men and women at Williamsburg, Va., founded in 1693. The enrollment for the autumn of 1938 was 1272. The 1938 summer session had an attendance of 535 students. The faculty numbered 90 at the College, 17 in the Norfolk Division, and 15 in the Richmond Division. The endowment income for the year was approximately \$78,000. The library contains about 125,000 volumes. President, John Stewart Bryan, A.M., Litt.D.

WILLIAMS COLLEGE. A nonsectarian college for men in Williamstown, Mass., founded in 1793. The enrollment for the autumn of 1938 totaled 817. There were 86 members on the faculty. On June 30, 1938, the endowment amounted to \$11,196,321, and the gross income from all sources for the same period amounted to \$907,434. The number of volumes in the library was 166,565. President, James Phinney Baxter, 3d, Ph.D., LL.D.

WINDWARD ISLANDS. A group of islands in the British West Indies, comprising Grenada, St. Lucia, St. Vincent, and the Grenadines. Total area, 521 square miles; total population (1937), 211,020. The sugar quota for 1938-39 was set at 10,050 long tons. The seat of the government is

at St. George's in Grenada. There is one governor for the three islands but there is no common legislature and each island has its own institutions. Governor and Commander-in-Chief, Sir Henry Popham (appointed, Jan. 19, 1937). See GRENADA, ST. LUCIA, and ST. VINCENT; JAMAICA; LEEWARD ISLANDS, BRITISH.

WINROD, GERALD B. See FASCISM.

WIRT, WILLIAM ALBERT. An American educator, died at Gary, Ind., Mar. 11, 1938. Born near Markle, Ind., Jan. 21, 1874, he was educated at De Pauw University (Ph.B., 1898; Ph.D., 1916) and did post-graduate work there and at the University of Chicago. Entering the educational field, he became superintendent of schools at Redkey, Ind., from 1895 to 1897; instructor in mathematics at the high school at Greencastle, Ind., 1897-99; superintendent of schools at Bluffton, Ind., 1899-1907, and thereafter superintendent at Gary, Ind.

While at Bluffton, Wirt worked out some experiments in educational administration and pedagogy that attracted attention throughout the country, and which led him to be invited to Gary, where he developed these experiments still further, and the system became known as the "Gary System." His one aim was to secure the maximum of efficiency with a minimum of expenditure, and by his plan, scholastic studies, vocational work, manual training, and recreation were so timed as to afford classroom accommodation for all pupils in school-houses of limited capacity.

In 1914 when the school system of New York City was reorganized, Dr. Wirt was engaged by the City to serve as a special adviser. He introduced his plan in two large public schools and being found satisfactory it was subsequently introduced in 120 schools. In 1918 the Board of Education of New York City abandoned this system, and it gradually lost in popularity, although at the time of Mr. Wirt's death, it had regained some of its popularity, being used to advantage during the depression years when funds for education were often curtailed.

In April, 1935, Dr. Wirt precipitated a Congressional investigation when he charged that the Roosevelt "Brain Trust" was engaging in revolutionary activities and that the schools were being used to disseminate Communistic propaganda. The Congressional investigation committee found that there was no basis for the charge, but two Republican members issued separate reports in which they claimed that no thorough investigation had been made.

Mr. Wirt, who had made a detailed study of schools abroad, was a specialist in school administration, and an expert in the organization of the platoon school system.

WISCONSIN. Area and Population. Area, 56,066 square miles, exclusive of the State's part of the Great Lakes; included (1930) other water, 810 square miles. Population: Apr. 1, 1930 (census), 2,939,006; July 1, 1937 (Federal estimate), 2,926,000; 1920 (census), 2,632,067. Milwaukee (1930) had 578,249 inhabitants; Madison, the capital, 57,899.

Agriculture. Acreage, production, and value of the chief crops of Wisconsin, for 1938 and 1937, appear in the table on the next column.

Mineral Production. Iron ore shipped yearly from mines in Wisconsin rose to 1,419,810 gross tons (1937), from 918,935 tons (1936); by value, to \$4,473,942, from \$2,568,129. The ore came chiefly from one mine in the Gogebic range, which extends into the State from Minnesota. Zinc was

Crop	Year	Acreage	Prod. Bu.	Value
Hay (tame) .	1938	3,655,000	6,479,000 ^a	\$44,705,000
	1937	3,473,000	4,989,000 ^a	49,391,000
Corn	1938	2,351,000	90,514,000	47,067,000
	1937	2,424,000	76,356,000	43,523,000
Oats	1938	2,455,000	76,105,000	19,026,000
	1937	2,480,000	79,360,000	25,395,000
Barley	1938	771,000	24,286,000	13,114,000
	1937	847,000	22,022,000	13,874,000
Potatoes	1938	212,000	19,080,000	8,586,000
	1937	247,000	18,031,000	8,475,000
Tobacco	1938	27,700	36,759,000 ^b	3,706,000
	1937	18,400	25,102,000 ^b	2,827,000
Wheat	1938	120,000	2,007,000	1,325,000
	1937	131,000	2,043,000	2,023,000
Rye	1938	330,000	4,290,000	1,716,000
	1937	340,000	4,590,000	3,167,000

^a Tons. ^b Pounds.

mined to the total (1937) of 6938 short tons of recoverable metal in ore, and to the metallic value of \$1,030,678. The State's total yearly value of production of native minerals, \$15,788,440 for 1937, was made up mainly by clay products, stone of the less valuable grades, and sand and gravel.

Finance. Wisconsin's State expenditures in the year ended June 30, 1937, as reported by the U.S. Bureau of the Census, were: For maintaining and operating governmental departments, \$61,364,375 (of which \$14,735,848 was for highways and \$6,771,195 was for local education); for interest on debt, \$82,859; for capital outlay, \$18,036,681. Revenues were \$94,524,321. Of these, property taxes furnished \$6,174,144; income taxes, \$10,807,251; sales taxes, \$21,767,569 (including tax on gasoline, \$18,894,681); departmental earnings, \$6,694,823; sale of licenses, \$18,646,273; unemployment compensation, \$11,292,090; Federal or other grants-in-aid, \$10,096,113. Funded debt outstanding on June 30, 1937, totaled \$1,183,700. On an assessed valuation of \$4,816,473,651 the State levied in the year ad-valorem taxes of \$6,601,839.

Education. As reckoned for the academic year 1937-38 inhabitants of school age (from 4 to 20 years) numbered 846,769. Enrollments of pupils in the public schools totaled 540,431. This comprised 393,020 in elementary study and 147,411 in high schools. The year's expenditure for public-school education totaled \$49,689,549. Teachers, 21,422 in number, received for the year an average salary of \$1378.

Advantages granted to Wisconsin's public-school system by legislative acts of 1937—protection for teachers' tenure of positions, a higher minimum for their salaries, the requirement of at least nine months of instruction, and State aid for high schools—were in force in 1938. Much progress was reported in the construction of school houses.

Charities and Corrections. The control of State institutions for the care and custody of persons was much shifted about in accordance with a reorganization of the State's administrative government, authorized by a special session of the Legislature in 1937. A new statutory Board of Mental Hygiene was organized and took over from the Board of Control the management of two State mental hospitals, at Mendota and Winnebago, and two colonies for epileptics and the feeble-minded, as well as supervision over county asylums. A statutory Board of Corrections, on the other hand, remained unorganized for the time being. Schools for the deaf and for the blind were transferred to the existing Department of Public Instruction; two State sanatoria and supervision over county sanatoria, to the Board of Health; and the State Public School, to a Board of Social Adjustment,

created by the Governor's order. Thus the Board of Control, formerly in charge of the State institutions of care and custody in general, retained under its authority, at the end of 1938, one State hospital and the six institutions for criminals and for delinquents. For matter on the State's old-age assistance, see under *Events*, below.

Political and Other Events. Governor La Follette's plan of creating in Wisconsin a great system of public ownership of properties for the production and distribution of electricity was curtailed by the State Supreme Court in January. This Court's unanimous decision, in a suit brought against the scheme, held the Legislature's creation of the Wisconsin Development Authority unconstitutional, as delegating to the Authority, a private corporation, undue powers. The Authority, created by an act of 1937, was designed to play a part analogous to that of the TVA in the Federal New Deal. The State's constitution, however, prohibited the State government's engaging in works of internal improvement, and the act attempted to escape this prohibition by acquiring and presumably by building properties through a separate corporate body. A later decision (June 21) modified the Court's original stand by permitting the Authority to promote and encourage electrical co-operative associations and to conduct research and educate the public as to the use of electric power; but promotion and agitation of municipal construction or acquisition of electric properties were held unlawful. In July the State administration applied to the PWA for a Federal grant of \$26,000,000 to be used by another, projected, Wisconsin corporation, the Wisconsin Hydro Authority, in building dams on the Wisconsin River and a diversion canal to the Fox River.

The act of 1937 for reorganizing the State's administrative government was put to use. By authority of an interim committee of the Legislature the collection of the annual fees for licenses, of the tax on gasoline, and of emergency taxes on telephone companies passed from the State Treasurer to the Tax Commission (February 1); the State institutions for the tuberculous were transferred from the Board of Control to the Board of Health. (See also above under *Charities*.)

State-and-Federal Relations. While the application already noted was made for a great Federal grant of money, the State administration broke away, in other matters, from its former close accord with the New Deal. Governor La Follette, in an address by radio (April 21), declared against the Federal policy that he described as "paying millions of men and women not to produce." The State Pension Department published data (April 17) adverse in some respects to the system of old-age assistance (support for the elderly poor), a cardinal point of the Federal program known as social security; it was represented that of 39,000 persons in Wisconsin who received such assistance, only 12,000 had previously obtained support of any sort at public expense; that the grant of monetary support to the elderly in Wisconsin had failed to reduce materially the maintenance of elderly paupers in the county homes; and that old-age assistance had created a new and numerous class of recipients and seekers of public aid. Governor La Follette announced (April 28) the formation of a new political party, the National Progressives of America, designed to step in where the New Deal had failed, and restore social and economic equilibrium on a liberal basis. Liberals' immediate reception of this proposal, whether in Wisconsin or elsewhere, was

not sufficiently friendly to give the new party importance in the elections of 1938; but the State administration's break with Washington was followed by a slump in Wisconsin voters' support of liberal candidates in general.

Other Public Matters. The formerly prosperous North Shore R.R., an interurban electric line, ceased operation in July, unable to pay its organized employees their wages on the old scale or to gain their consent to a reduction. According to a report in the press of October 2 there was no near prospect of the line's resuming. Milwaukee experienced an epidemic of gastroenteritis in February. An investigation made by the State Board of Health brought forth a finding that the city's supply of water, drawn from Lake Michigan, was at least in part responsible—a conclusion denied by the city's commissioner of health. See *CHILD LABOR*.

Elections. Julius P. Heil (Rep.) was elected Governor at the general election (November 8), by 543,675 to 353,381 (official count) for Gov. Philip F. La Follette (Progressive), defeating also Harry Bolens (Dem.). Alexander Wiley (Rep.) was elected U.S. Senator, defeating Herman L. Ekern (Progressive) and the incumbent Senator, F. Ryan Duffy (Dem.). Heil, an industrialist and politically a conservative, had campaigned as an advocate of economy in State expenditure and a critic of some of the chief recent acts of the Legislature. Duffy, the defeated Democratic Senator, had been elected in 1932 with Senator La Follette's support, had won the approval of the President, and had lost Progressive aid in 1938 when the La Follettes' organization, having broken with the New Deal, put up a candidate of its own.

Officers. Wisconsin's chief officers, serving in 1938, were: Governor, Philip F. La Follette (Progressive Party); Secretary of State, Theodore Dammann; Treasurer, Solomon Levitan; Attorney-General, Orland S. Loomis; State Superintendent of Schools, John Callahan.

Judiciary. Supreme Court: Chief Justice, Marvin B. Rosenberry; Associate Justices, Chester A. Fowler, Oscar M. Fritz; Edward T. Fairchild, John D. Wickhem, George B. Nelson, Joseph Martin.

WISCONSIN, THE UNIVERSITY OF. A State institution of higher education in Madison, Wis., founded in 1848. The enrollment for the autumn term of 1938 was 11,416. In the summer session the enrollment was 4757. The faculty numbered 1742. The endowment as of June 30, 1938, was \$1,499,136, while the net income for 1937-38 was \$9,126,079. The library contained 1,010,000 volumes and more than 400,000 pamphlets. During the year additions were made to several buildings and new units were added to the Men's Dormitories and the Women's Dormitories, and a Cancer Research Building was erected. President, Clarence Addison Dykstra, B.A., LL.D., L.H.D., Litt.D.

WISTER, OWEN. An American author, died at North Kingstown, R. I., July 21, 1938. Born in Philadelphia, Pa., July 14, 1860, his education was received abroad, at St. Paul's School, and at Harvard University (A.B., 1882). Upon graduation he went to Europe to study music, intending to make that his life work, but recalled by his father to take up a business career, he returned in 1883. After several years in business he decided to enter the law, but his health failed and he was compelled to go West. Returning to the East, he entered the Harvard Law School (LL.B., 1888) and in 1889 was admitted to the Philadelphia bar. In 1891 Mr. Wis-

ter left the law and devoted all of his time thereafter to literary pursuits.

From his first visit he had loved the West and thereafter he made frequent visits to that section of the country that formed the background of his better-known works. In 1896 the first of these appeared under the title *Red Men and White*, and, although it was not the first book from his pen, he having published *The New Swiss Family Robinson* (1882) and *The Dragon of Wantley—His Tail* (1892), it was the first to appeal to a wide public. He followed it with *Lin McLean* (1898); *The Jimmy-John Boss* (1900), and in 1902, *The Virginian*, his most famous work. Made into a play and a motion picture, this story won a public that the others failed to achieve, and had the further distinction of containing that famous line, "When you call me that, smile." This group of Western stories, which like all his works were skillfully and entertainingly written, saved for the future a picture of American frontier life that is no more. In 1929 he received the Roosevelt Medal for Distinguished Service in recognition of his work as a historian of the West.

Before and after the World War, Mr. Wister published several volumes of propaganda, namely: *The Pentecost of Calamity* (1915); *The Ancient Grudge, or a Straight Deal* (1920); and *Neighbors Henceforth* (1922). Other of his works were *U. S. Grant, A Biography* (1900); *Oliver Wendell Holmes* (1902) in the "American Men of Letters Series"; *Philosophy Four* (1903); *Benjamin Franklin* (1904) in the "English Men of Letters Series"; *Journey in Search of Christmas* (1904); *Lady Baltimore* (1906); *The Simple Spelling Bee* (1907); *Mother* (1908); *The Seven Ages of Washington* (1907); *The Members of the Family* (1911); *Padre Ignacio* (1913); *Indispensable Information for Infants* (1921); *Watch Your Thirst* (1923); *When West Was West* (1928); and *Roosevelt—The Story of a Friendship* (1930). Also, he collaborated with George B. Grinnell (q.v.) and Caspar Whitney on *The Musk-ox, Bison, Sheep, and Goat Family* for "Whitney's Sportsmen's Library" in 1904.

Mr. Wister was a member of the American Academy of Arts and Letters and a Fellow of the American Academy of Arts and Sciences.

WITTENBERG COLLEGE. A nonsectarian coeducational institution in Springfield, Ohio, founded in 1845. The number of students enrolled for the autumn term of 1938 was 1246, of which 572 were men and 674 were women. Of these, 851 (447 men and 404 women) were enrolled in the College of Liberal Arts. The summer session of 1938 had an enrollment of 393. The faculty numbered 83. The productive funds of the institution amounted to \$2,016,215 and the operating income for the year was \$406,070. The library contained 60,868 volumes. President, Rees E. Tulloss, Ph.D.

WOLFE, THOMAS (CLAYTON). An American writer, died in Baltimore, Md., Sept. 15, 1938. Born in Asheville, N. C., Oct. 3, 1900, he was educated at the University of North Carolina (A.B., 1920) and Harvard University (M.A., 1922). At the latter institution he was a member of Professor Baker's Forty-Seven Workshop and his early work was written mostly for the theater. Failing to find a producer for his plays, he joined the faculty of Washington Square College, New York University, as an instructor in English in 1924, retaining this post until 1930 when he received a Guggenheim Foundation fellowship for a year's study

abroad. During these six years he made several visits to England, France, and Germany.

His first novel, which won him distinction in the field of letters, was *Look Homeward, Angel*, published in 1929. In this novel, which was partly autobiographical, he drew upon the everyday life of a small Southern city but wrapped it in a mysterious, all-permeating prose. The time covered in this first novel was between 1884 and 1920, and in *Of Time and the River* (1935), which treated the same theme, he covered the next five years. Both were intended as a part of a series in which he hoped to tell the history of an era of American life. Shortly before his death he delivered to his publishers the manuscript of his third long novel, wherein were described the great cycles of experience in the life of every man.

One of the most interesting of contemporary writers, Wolfe gave promise of great genius, although undisciplined and unpredictable, but whether or not he would have been caught in the bog of his own verbosity or have been able to harness the power he possessed to carry him to the heights only the future could tell. Compelled to write by an inner urge for expression, he said in *The Story of a Novel* (1936), "I wrote at times without belief that I would ever finish, with nothing in me but black despair, and yet I wrote and wrote and could not give up writing."

Besides stories printed in magazines, Mr. Wolfe also published *The Web of Earth* (1932) and *A Portrait of Bascom Hawke* (1932), both short novels, the latter of which was co-winner of *Scribner's Magazine* prize for the short novel; *From Death to Morning* (1935), short stories; and "I Have a Thing to Tell You," an article about Nazi Germany printed in *The New Republic* in 1937.

WOMAN'S CHRISTIAN TEMPERANCE UNION, THE NATIONAL. A nonsectarian and all-partisan organization which has as its purpose the protection of the home and the abolition of the liquor traffic. Organized in 1874 it has an approximate membership of 600,000 in 10,000 local unions found not only in every state of the Union but in Alaska, Puerto Rico, Hawaii, and the Philippines. In August, 1937, the annual convention was held in San Francisco. One feature of this meeting was the dedication of a memorial marker presented to and accepted by the city. It was placed near the Palace of the Legion of Honor on the spot where Frances Willard stood in the year 1883 when she had the vision of a world-wide organization of women. At this convention Mrs. Ida B. Wise Smith was re-elected president and Mrs. Anna Marden DeYo, corresponding secretary. Interest centered in the completion of the Million Dollar National Temperance Education Fund being used for alcohol education as one feature of the observance of the Centenary of Frances Willard in 1939. National Headquarters of the organization are at 1730 Chicago Avenue, Evanston, Illinois, and a legislative office is maintained at 100 Maryland Avenue, N.E., Washington, D. C.

WOMEN IN INDUSTRY. See MINIMUM WAGE.

WOMEN'S BUREAU, THE. A Bureau in the U.S. Department of Labor, which by its organic act is charged with the formation of standards and policies which shall promote the welfare of wage-earning women, improve their working conditions, increase their efficiency, and advance their opportunities for profitable employment. The Bureau obeys its official mandate by rendering the following services:

- I. Collection of foundation facts necessary for the analysis of women's current economic problems.
- II. Development, upon the bases of established facts, of feasible programs of action to eliminate economic maladjustments of women and to improve working and employment conditions continuously.
- III. Wide dissemination of its factual interpretations and its corrective recommendations.
- IV. Consulting service for persons in position to make application of Bureau's recommendations.
- V. Study guidance service for women workers, homemakers, and various groups.
- VI. General information service.

Response to demands for assistance in the wage-hour program throughout the country, particularly with regard to the minimum-wage phases, consumed much of the time and energy of the Women's Bureau throughout 1938. Special note may be made of the following activities: Assisting the States in setting up their minimum-wage machinery, particularly in the direction of a standardization of procedure; acting as a clearing house for information on all minimum-wage matters; preparing a considerable body of information on the distribution of women at work in the various States in certain important woman-employing industries for the use of States in the setting of minimum-wage rates in such industries; co-operating in the revision of the Standard Minimum-Wage Bill for Women and Minors. During the year a report was published covering the effects of minimum-wage laws, based on conditions in adjoining States—one having and one not having such legislation. It covers the power-laundry industry in New York and Pennsylvania and the dry-cleaning and dyeing industry in Indiana and Ohio.

During the past two years the Women's Bureau made investigations of wages and hours for the use of the Public Contracts Division of the U.S. Department of Labor which establishes minimum labor standards in industries manufacturing articles for Federal consumption. Thirteen of these surveys covered various branches of men's wear—work clothing, work shirts, dress shirts, knit underwear, woven cotton underwear, seamless hosiery, welt shoes, raincoats, sport jackets, caps and cloth hats, neckwear, work and knit gloves, and handkerchiefs. Several of the reports in this series were published in 1938 and the rest will follow next year. Also procured and analyzed for the Division of Public Contracts were wage and hour data for milk condenseries, for plants manufacturing drugs and medicine (including certain toilet preparations), and cereal preparations.

One extensive survey during 1938 was made in co-operation with the Millinery Stabilization Commission, the United Hatters, Cap, and Millinery Workers' International Union, and the several associations of employers of the industry for the purpose of diagnosing the ills connected with this type of manufacturing and developing plans for its rehabilitation. After repeated conferences with various groups concerned, the Bureau undertook the survey of manufacturing methods and employer-employee relationships, leaving to investigators from the Federal Trade Commission the study of wholesale and retail distribution. Field work was done in 14 States and the report is now being written.

Another comprehensive study was that of collecting wage, hour, employment, and unemployment data for the canning and dried-fruit-packing industry, the figures from which will be used also by the Federal Public Contracts Board, the Federal Wage and Hour Division, the Unemployment Compensation Division of the Social Security Board, and State minimum-wage commissions.

Other continuing and expanding activities include the analysis of the trends of women's employment and earnings, the legal status of women in the 48 States and the District of Columbia, industrial accidents and diseases, the economic status of Negro women workers, the share of family support borne by women in this country; the compilation of labor laws; the improvement of conditions in household employment; and the advancement of workers' education and vocational education in general.

Early in 1938 permission was secured for the mimeographed News Letter, inaugurated in 1920 at the request of State labor officials and issued periodically ever since, to become a bimonthly printed publication. Entitled *The Woman Worker*, this bulletin of news notes and brief articles on current problems and conditions pertaining to women and their employment, is available for a small charge.

A motion picture produced by the Bureau in 1937 and made available in sound in 1938 is entitled "What's in a Dress?"

WOMEN'S CLUBS, GENERAL FEDERATION OF. An organization founded in 1890, and granted a charter by the United States Government in 1901, "for educational, industrial, philanthropic, literary, artistic, and scientific culture, and to bring into communication with one another the various Women's Clubs throughout the world." In 1938 it was composed of approximately 14,500 clubs in the United States, and 81 clubs outside the mainland of the United States; affiliated with it were 12 national organizations. The official publication is *The Clubwoman GFWC*. At the May, 1938, convention in Kansas City, Mo., Mrs. Saidie Orr Dunbar was elected president for the ensuing triennial period. Mrs. Dunbar's program has been built around the administration theme, "Adjusting Democracy for Human Welfare." Headquarters are at 1734 N Street, N.W., Washington, D. C.

WOODS, CYRUS E. An American lawyer and diplomat, died in Philadelphia, Pa., Dec. 8, 1938. Born in Clearfield, Pa., Sept. 3, 1861, he was educated at Lafayette College (M.A., 1886), earning his tuition by working for the Pennsylvania R.R. He read law in the office of John G. Johnston in Philadelphia and was admitted to the bar in 1889. After practicing in Philadelphia from 1889 to 1894 he removed to Pittsburgh, where he became general counsel to the Pittsburgh Coal Co. and various Mellon interests.

A Republican in politics, he was elected to the Pennsylvania State Senate in 1900, serving until 1908 and acting as president *pro tem* during 1905-08. In 1912 he resigned his post in the coal company to accept appointment as minister to Portugal. He retired on Aug. 19, 1915, to become Secretary of the Commonwealth of Pennsylvania, and on June 7, 1921, he resigned this office to accept the appointment of ambassador envoy and plenipotentiary to Spain, offered to him by the newly elected president, Warren G. Harding.

On Mar. 3, 1923, Woods was promoted to the Japanese ambassadorship. In the earthquake of Sept. 1, 1923, he narrowly escaped injury, but remained at his post to take charge of relief activities, the only foreign envoy to do so. He enlisted the aid of the Asiatic fleet in order to help the suffering and homeless and made an appeal for funds for clothing, food, and medical supplies. His work in charge of Red Cross Relief during and after the catastrophe endeared him to the Japanese people as did his stand on the Immigration Act of 1924, the

exclusion clause of which, whereby Japanese immigration to the United States was halted, he believed would impair Japanese-American relations. Convinced of the error of this Act, Mr. Woods retired July 21, 1924.

He then returned to the practice of law, and on Dec. 20, 1926, President Coolidge appointed him a member of the Interstate Commerce Commission, but Congress refused to ratify the appointment, claiming that the fact of his being a Pennsylvanian might influence him to favor Pennsylvania in a transportation fight between the soft coal fields of that State and other coal-producing States. On Jan. 18, 1929, he received the appointment of attorney general of Pennsylvania, but resigned on Nov. 1, 1930, and retired to private life. Mr. Woods received honorary degrees from Lafayette College and the University of Pennsylvania.

WOOL. The large wool imports and reduced mill consumption of 1937 resulted in a large carry-over of wool into 1938. Wool prices were about 45 per cent lower in the spring of 1938 than in the spring of 1937. The Federal Government Loan Program had an important stabilizing effect on domestic prices in the early months of the marketing season, but fortunately not sufficient to encourage imports.

Although wool consumption and prices declined in foreign markets, the declines were not as great as in the United States. Imports of only about 31,000,000 lb. of apparel wool and 72,000,000 lb. of carpet wool in 1938 were compared with approximately 150,000,000 and 172,000,000 lb., respectively, during 1937.

Because of the low rate of consumption in the early months of the year mill consumption of wool in the United States on a scoured basis was 13 per cent smaller in 1938 than in 1937. Improvement was indicated for mill consumption in the United States and several foreign countries in the late winter and spring of 1939.

The trade agreement between the United States and Great Britain did not change the duty of 34 cents per lb. on raw wool, but duties were reduced on wool manufactures.

Wool supplies in most foreign importing countries, except Japan, were larger in 1938 than in 1937. Wool supplies in the southern hemisphere exporting countries, Argentina, Uruguay, Australia, New Zealand, and Union of South Africa, were estimated as about 8 per cent smaller in Dec. 3, 1938, than a year earlier. A large carry-over into the current season was offset by a decline in production in Australia and by larger exports from most of these countries.

An artificial wool having higher heat-retaining properties than natural wool was manufactured successfully from casein in Italy and the United States.

Bibliography. R. H. Burns, *Variation in the Shrinkage of Wyoming Wools.—I, Differences between Duplicate Samples* (Wyoming Sta. Bul. 225 [1938], p. 34); J. F. Wilson, *The Determination of Yield and Shrinkage of Wool by Scouring Small Samples* (Hilgardia, 11 [1938], No. 4, pp. 149-172); J. F. Wilson and E. B. Roessler, *Single and Multiple-Fiber Tests for Determining Comparative Breaking Loads of Wool Fibers* (Hilgardia, 11 [1938], No. 4, pp. 173-182).

WORCESTER POLYTECHNIC INSTITUTE. A nonsectarian institution for the technical education of men in Worcester, Mass., founded in 1865. The enrollment for the fall semester of 1938 totaled 687. The summer session of 1938 had

89 students. The faculty for 1938-39 numbers 71. The endowment for 1937-38 amounted to \$3,749,674, and the income for the year was \$349,496. There were about 24,000 volumes in the library. President, Ralph Earle, D.Sc., D. Eng., LL.D., Rear Admiral, U.S. Navy, ret.

WORKMEN'S COMPENSATION. State Legislation in 1938. Amendments to the basic workmen's compensation acts or supplementary legislation were adopted by the legislatures of eight jurisdictions during the year 1938. *Benefits.* In New Jersey, a person having paid the cost of burial could be reimbursed in an amount not exceeding \$150. In Virginia, the maximum weekly benefits for disability and death were increased from \$14 to \$16 and a total aggregate amount which could be paid for disability was increased from \$5600 to \$6000. *Coverage.* In Massachusetts, coverage was extended to include employees of independent contractors and subcontractors injured on public highways. In Virginia, employers who had regularly in service less than 11 employees were exempted from the Workmen's Compensation Act. *Occupational Diseases.* In New York, the Board of Standards and Appeals was required to establish rules and regulations for protection of employees against silica dust and other dust hazards. *Third-party Liability.* In Kansas, an injured employee, his dependents, or a personal representative of a deceased employee, might take compensation and also sue the third party causing the injury or death. *Insurance.* In Louisiana, non-resident employees were made subject to Workmen's Compensation liability and were required to insure in private companies or provide self-insurance if they do not own property in the State valued at \$25,000. In New York, the State Insurance Fund was to be administered by eight commissioners. The industrial commissioner was to be ex-officio a commissioner of the fund, and the advisory committee of the State Insurance Fund was abolished. An amendatory act was passed empowering commissioners to appoint an executive director and other officers of the State Insurance Fund. The commissioner of taxation and finance was to be custodian of the funds. *Investigative commissions.* A resolution was adopted in Massachusetts creating a special commission to investigate workmen's compensation insurance, including coverage for silicosis and other hazardous employment and the subject of self-insurance.

Benefit Payments under Workmen's Compensation. It was pointed out by a writer in the *Monthly Labor Review* for September, 1938, that while during the past 25 years the main effort of labor in the field of workmen's compensation legislation had been to obtain increased benefits, little attention was paid to the basis upon which expert and stable administration could be inaugurated. However, during the years 1930-35, as a result of depression experiences, it became apparent that workers were beginning to express more and more interest, not only in the percentage of wages allowed as compensation, but in the way compensation and insurance officers calculated the wage basis and in the way supervision was provided to make certain that the worker actually received the payments to which he was entitled under the law. As a result of such scrutiny, since 1935, workmen's compensation legislation has definitely been improved, largely for the purposes of broadening the legal basis of payment for compensation and lifting to higher levels the benefit scales. The upshot has been that in several jurisdictions lifetime benefits

WORKMEN'S COMPENSATION 787 WORKMEN'S COMPENSATION

COMPARATIVE BENEFIT COST OF VARIOUS WORKMEN'S COMPENSATION LAWS *

State	Fatal	Perma- nent total	Perma- nent partial Major ^b	Perma- nent partial Minor ^c	Tempo- rary total	Medical and hospital	Total benefits	Benefits provided in law of—
New York	1.000	1.000	1.000	1.000	1.000	1.000	1.000	9- 1-37
Alabama	.424	.322	.553	.750	.795	.912	.741	5- 1-36
Alaska	.947	.500	.984	.805	1.255	....	1.004	6-10-37
Arizona	1.089	.897	.773	.867	1.232	.957	.994	6-26-33
California	.498	.576	.642	.736	.912	1.000	.820	8-27-37
Colorado	.453	.644	.587	.397	.577	.957	.669	8-13-37
Connecticut	.498	.339	.795	.737	.779	1.000	.807	7- 1-37
Delaware	.339	.226	.481	.587	.736	.802	.642	5-19-37
District of Columbia	.772	.414	1.016	1.013	.974	1.000	.960	5-26-34
Florida	.487	.244	.592	.751	.886	.994	.798	7- 1-37
Georgia	.393	.242	.506	.683	.704	.969	.717	3-30-37
Hawaii	.459	.244	.760	.782	.826	1.000	.813	5- 3-37
Idaho	.553	.515	.650	.653	.799	1.000	.784	5- 6-37
Illinois	.542	.568	.643	.852	.803	1.000	.820	7-13-37
Indiana	.498	.289	.666	.777	.754	.957	.775	6- 7-37
Iowa	.501	.292	.523	.550	.645	.994	.709	7- 4-37
Kansas	.496	.321	.626	.764	.807	.969	.785	5-15-35
Kentucky	.495	.305	.455	.578	.856	.957	.734	4-16-37
Louisiana	.438	.339	.583	.644	.925	.944	.770	8- 1-34
Maine	.481	.327	.785	1.220	.866	.784	.823	7- 3-31
Maryland	.608	.343	.683	.741	1.095	.969	.861	6- 1-37
Massachusetts	.614	.769	.664	.555	1.046	.994	.836	8-27-37
Michigan	.579	.400	.575	.759	.912	.957	.808	11-10-37
Minnesota	.754	.511	.868	.913	.984	1.000	.926	7- 1-37
Missouri	.617	.540	.659	.920	1.127	.944	.892	9-14-31
Montana	0.628	0.359	0.524	0.444	0.837	0.963	0.744	3-16-27
Nebraska	.562	.594	.716	.787	.833	1.000	.830	8-14-37
Nevada	.919	.703	.622	.722	1.166	.988	.917	4- 3-35
New Hampshire	.498	.210	.436	.288	.909	.877	.666	7-15-37
New Jersey	.506	.882	.735	.956	.944	.877	.836	6- 3-37
New Mexico	.467	.411	.601	.524	.827	.957	.738	6-12-37
North Carolina	.793	.294	.633	.805	.885	.988	.855	4-24-35
North Dakota	.998	.66	.813	.715	1.169	1.000	.962	7- 1-35
Ohio	.720	.856	.763	.832	.878	.938	.855	8-18-37
Oklahoma	.576 ^d	.418	.745	.856	.956	.938	.846	8-10-37
Oregon	.852	.524	.522	.584	.978	.938	.819	6- 7-37
Pennsylvania	1.004	.840	1.036	1.291	.974	1.000	1.044	1- 1-38
Puerto Rico	.378	.170	.524	.507	.549	1.000	.670	7- 1-35
Rhode Island	.686	.476	.982	1.158	.924	1.000	.958	4-27-37
South Carolina	.794	.319	.663	.843	1.102	.988	.906	7- 1-37
South Dakota	.378	.178	.554	.687	1.042	.914	.777	6- 1-33
Tennessee	.420	.269	.454	.580	.719	.833	.656	4-22-33
Texas	.638	.319	.561	.716	.906	.950	.802	1- 1-38
U.S. Longshoremen's Act	.772	.414	1.016	1.013	.974	1.000	.960	5-26-34
Utah	.624	.696	.631	.550	.989	.969	.810	5-11-37
Vermont	.320	.184	.503	.477	.678	.710	.578	6- 1-37
Virginia	.464	.290	.540	.675	.733	.969	.740	6-19-36
Washington	.927	.607	.554	.642	.920	1.000	.853	6-11-37
West Virginia	.724	.799	.701	.895	.932	.886	.886	6-12-37
Wisconsin	.816	1.073	1.645	1.228	1.248	.969	1.145	6- 9-37
Wyoming	.568	.366	.782	.588	.957	.994	.825	3- 1-37

* Examples of use of table: The figures on total benefits for Georgia and New York are 0.717 and 1.000, respectively. This indicates that, on the basis of this table, the ratio of Georgia benefits to New York benefits for all kinds of injury is $\frac{.717}{1.000}$ or that Georgia benefits average $\frac{.717}{1.000}$ of the New York benefits. The figures on permanent total disability for Colorado and Montana are 0.644 and 0.359, respectively. This indicates that on the average, and on the basis of this table, the Montana benefits for permanent total disability are $\frac{.359}{.644}$ of the corresponding Colorado benefits.

^b Defined as the loss or loss of use of a hand, arm, foot, leg, or eye and the loss of hearing in both ears. Also partial loss of use is related to the benefits for total loss of use.

^c Defined as loss or loss of use of thumb, finger, toes, etc.

^d A figure based on actual experience has been substituted for the Oklahoma fatal value. This departure was necessary because of peculiarities in the law.

were now being paid for permanent disabilities at a rate of not less than 66⅔ per cent of wage loss or impairment to earning capacity. But because compensation legislation in the United States was on a Federal rather than a national basis, a wide diversity of levels continued to persist, indicating the further need for pressure upon legislatures. Thus, in connection with permanent disabilities, it was to be noted, as contrasted with the superior practices of some jurisdictions that in others payments were made only during a brief period and in some cases only up to 50 per cent of wages.

The benefit provisions of the early compensation laws were experimental, in view of the fact that it was generally being charged that the cost of the new system of caring for injured workers would be overwhelming. In consequence the early benefit scales were not only low, but the laws were sometimes without such features as medical aid. The developments that have taken place since the early experimental years have come in part through the

comprehensive and intelligent development of the system and in part through alteration of one item or another, regardless of its relation to the statute as a whole.

The writer in the *Monthly Labor Review* pointed out that the situation of the injured worker under the compensation statutes was beyond question much better than it was under the common law and the employers' liability acts. Nevertheless, in many cases the benefits obtainable were too low for subsistence and the injured worker had at times become dependent upon private charity or public relief. He said further: "The incalculable aid furnished by the compensation system cannot hide the fact that in a number of States many injured workers would starve, if society left them to depend entirely upon the compensation they receive."

The existence of varying wage bases for the determining of payments was indicated by current practices. For example, during the period 1930-35 when wages were low and employment was inter-

mittent, the use of a part-time wage base led to a good deal of distress. The upshot was that the Third National Conference on Labor Legislation in 1936 recommended, as the wage base for computing compensation, a normal full-time week. With such a provision in the compensation statutes, reinforced by the fixing of a subsistence level below which payments might not fall, a method was created that was much more flexible in reflecting changes in wage scales and living costs than was being employed currently by many jurisdictions.

Another disparity existed in the varying limitations upon weekly and total payments and the periods during which payments were to be made. The table on page 787, prepared by the National Council on Compensation Insurance, shows the wide range of differences existing in American jurisdictions. It gives the approximate relative values of the benefit provisions of the various compensation laws based upon an index of 1,000 for New York. It will be noted that in the scale of total benefits the range runs from 0.578 for Vermont to 1.145 for Wisconsin.

WORK RELIEF AND PUBLIC WORKS APPROPRIATION ACT. See UNITED STATES under *Congress*.

WORKS PROGRESS ADMINISTRATION (WPA). See AERONAUTICS; PAINTING; RELIEF; UNITED STATES under *Administration*; OHIO and PENNSYLVANIA.

WORLD COURT. On Nov. 2, 1937, the Court received from the Republic of Estonia an Application instituting proceedings against the Government of the Republic of Lithuania. The case as set forth by the Estonian Government, in its Application, was:

Shortly after the proclamation of its independence, the State of Lithuania seized the Panevezys-Saldutiskis railway line and has operated it ever since. The proprietors and concessionnaires of this line are, however, the "Esieme Juurdeveco Raudteede Selts Venemaal" company, a former Russian joint stock company transformed into an Estonian joint stock company by the treaty of peace between Estonia and Russia of Feb. 2, 1920, and by Estonian legislation. The Estonian Government, having without success attempted to persuade the Lithuanian Government through diplomatic channels to recognize the rights of the Company, now submits the case to the Court, requesting the Court to adjudge and declare the Lithuanian Government has wrongfully refused to recognize the rights of the Company and to compensate them for the illegal seizure and operation of this line; and that the Lithuanian Government is under an obligation to make good the prejudice thus sustained by the Company.

The Estonian Government's Application, which relies upon the declarations of Estonia and Lithuania adhering to the optional clause of Article 36, paragraph 2, of the Court's Statute, was at once communicated by the Registry of the Court to the Lithuanian Government. The Estonian Government appointed as its agent before the Court in this case, Prof. Baron Boris Nolde, Member of the Institute of International Law, and the Lithuanian Government appointed as its agent, Prof. André Mandelstam, Member of the Institute of International Law.

Availing itself of its right under Article 31 of its Statute, the Court nominated as judge ad hoc M. Mykolas Römeris, Rector of the Vytautas the Great University at Kovno, which nomination was not objected to by Estonia. This Government for its part nominated M. Otto Strandmann, Estonian Minister in Paris, as judge ad hoc. The Lithuanian Government did not object to this nomination.

On Jan. 26, 1938, the Court received from the Belgian Government an application instituting

proceedings against the Bulgarian Government. The application asked the Court to declare that the Bulgarian Government had failed in its international obligations owing to the fact that certain Bulgarian authorities (administrative, judicial, and legislative) have taken measures injuriously affecting the rights of the Electricity Co. of Sofia and Bulgaria which holds a concession from the Municipality of Sofia for the electric lighting of that city and which is a company registered under Belgian law. The Court was also asked to order that the necessary reparation be made for the measures complained of which have been taken by the Bulgarian authorities. The Belgian Government's application which adduces the declarations of Belgium and Bulgaria adhering to the Optional Clause of Article 36 of the Court's Statute and the Treaty of Conciliation, Arbitration, and Judicial Settlement, concluded between the two countries on June 23, 1931, was communicated to the Bulgarian Government. Belgium appointed as its agent before the Court for this case M. deRuelle, legal adviser to the Ministry for Foreign Affairs in Brussels, and Bulgaria nominated as judge ad hoc M. Theohar Papazoff, former member of the Court of Cassation at Sofia.

On June 14, 1938, the Court delivered judgment in the case concerning phosphates in Morocco which was brought before it by Application from the Italian Government against the French Government and in regard to which the latter Government had filed preliminary objections. Adjudicating upon these objections, the Court decided that the application of the Italian Government could not be entertained. The Court's judgment was adopted by 11 votes to 1, that of Jonkhoeer van Eysinga, Judge, who appended a separate opinion to the judgment. Another judge, Mr. Cheng Tien-Hsi, while in agreement with the operative clause of the judgment, appended a separate opinion.

The application of the Italian Government instituting proceedings, which was filed in March, 1936, was founded on the declarations of Italy and France acceding to the optional clause of Article 36 of the Court's Statute (compulsory jurisdiction). The facts with regard to which the dispute arose, as set out in the documents submitted by the parties in the course of the proceedings and more particularly in the application, may be summarized as follows:

The General Act signed at Algeciras on Apr. 7, 1906, provides (Article 112) that the conditions for the granting of concessions and for the working of mines and quarries in Morocco will be determined by Sherreefian firman. According to the provisions of the General Act and of the Franco-German Convention of Nov. 4, 1911, concerning Morocco, to which the Italian Government acceded, the regulations thus made were to respect the general principle of economic liberty ("the open door"). The regulations came into force on Jan. 19, 1914, the date on which were promulgated two mining dahirs, of which one laid down the mining regime and the other established an Arbitration Commission to adjudicate upon rights arising out of acts dating from before the new regulations. From Nov. 3, 1914, to June 9, 1918, the right to apply for mining prospecting licenses was suspended. In 1918 and 1919 new dahirs and decrees laid down the conditions governing the deposit of applications for mining prospecting licenses and prospecting operations, etc. with especial reference to phosphate deposits.

On Jan. 27, 1920, a dahir was promulgated reserving to the Maghzen the right to prospect for and to work phosphates. This dahir took account of vested rights and a special procedure was laid down for obtaining recognition of such rights. Another dahir, dated Aug. 7, 1920, established a State monopoly (regie) known as the Sherreefian Phosphates Office, which was responsible for prospecting and for working phosphates in Morocco. This Office carried on the prospecting work which had been undertaken by the Moroccan Mines Department since 1917, commenced the working of deposits and between 1933 and

1934, participated in the formation of the North African Phosphates Cartel.

Between October, 1918, and April, 1919, 33 prospecting licenses in reserved areas had been issued by the Mines Department of Morocco to French citizens. The rights of the latter (or certain of their rights) were ceded to an Italian citizen, M. Tassara. The latter, in October, 1921—i.e. after the promulgation of the dahirs reserving to the Maghzen the right to prospect for and to work phosphates—applied to the Moroccan Mines Department for recognition of his rights. On Jan. 8, 1925, his application was rejected. Subsequent representations were made by him or by his successors to the Shereefian and French authorities. The Italian Embassy in Paris lent its offices. Later, the Italian Government took up the case in behalf of its nationals and proposed to the French Government that the question should be referred to arbitrators or to the Permanent Court of International Justice.

On Mar. 10, 1934, the French Government gave a negative answer. After making further representations which proved fruitless, the Italian Government decided to bring the case before the Court by Application, which was filed on Mar. 30, 1936. It asked the Court to declare that certain measures taken by the Shereefian and French authorities in connection with prospecting for and working phosphates in Morocco are inconsistent with the international obligations of Morocco and of France and should for that reason be annulled; alternatively, that the decision of the Mines Department of Jan. 8, 1925, was inconsistent with the international obligation incumbent on Morocco and on France to respect the rights acquired by Italian nationals. The French Government presented preliminary objections, submitting that the Italian Application could not be entertained. The Court's Judgment was delivered upon these objections.

In its judgment, the Court first of all observed that the facts and circumstances out of which the dispute originated are set out in the Italian Application. Without expressing any opinion upon the divergencies of view to which they gave rise, the Court for the purposes of its judgment which was limited to the question of its jurisdiction confined itself to considering those the existence and date of which were not disputed. Among the French objections is one which contests, in regard to the Application as a whole, the compulsory jurisdiction of the Court as established between France and Italy by their declarations acceding to the optional clause. The Court therefore must first adjudicate upon this objection in order to satisfy itself as to the grounds of its jurisdiction.

In its declaration, of which the ratification was deposited on Apr. 25, 1931, the French Government accepts as compulsory the jurisdiction of the Court, "... in any disputes which may arise after the ratification of the present declaration with regard to situations or facts subsequent to such ratification." The French Government, relying on this passage, maintains that, as the situations and facts out of which the present dispute arose date from before the crucial date, namely, the date of its acceptance of the compulsory jurisdiction, the Italian Government's Application could not be entertained. The Italian Government, on the other hand, argued that the dispute arose from factors subsequent to the crucial date, first because certain acts, which considered separately are in themselves unlawful international acts, were actually accomplished after the crucial date; secondly because these acts, taken in conjunction with earlier acts to which they are closely linked, constitute as a whole a single, continuing, and progressive illegal act which was not fully accomplished until after the crucial date; and lastly, because certain acts, though carried out prior to the crucial date, nevertheless, gave rise to a permanent situation inconsistent with international law which has continued to exist after the said date.

Interpreting the limitation contained in the French declaration, the Court observed that this limitation is twofold. It relates in the first place to the date on which the dispute arose. It is not

denied that in this case the dispute arose after the crucial date; there is, therefore, no need to consider that point. The second limitation related to the situations and facts with regard to which the dispute arose. The declaration is quite clear on this point; the only situations or facts falling under the compulsory jurisdiction are those which are subsequent to the crucial date and with regard to which the dispute arose, that is to say, those which must be considered as being the source of the dispute. The intention of the French Government in stipulating this limitation is also quite clear: it intended to deprive the acceptance of the compulsory jurisdiction of any retroactive effects, in order both to avoid, in general, a revival of old disputes and to preclude the possibility of the submission to the Court by application of situations or facts dating from a period when the State whose action was impugned was not in a position to foresee the legal proceedings to which these facts and situations might give rise. Accordingly, the situations and facts have to be considered from the point of view both of their date in relation to the date of ratification and of their connection with the birth of the dispute. Situations or facts subsequent to the ratification could serve to found the Court's compulsory jurisdiction only if it was with regard to them that the dispute arose. The question whether a given situation or fact is prior or subsequent to a particular date is one to be decided in regard to each specific case, just as the question of the situations or facts with regard to which the dispute arose must be decided in regard to each specific case. In answering these questions, the Court declared the will of the State which only accepted the compulsory jurisdiction within specified limits, and consequently only intended to submit to that jurisdiction disputes having actually arisen from situations or facts subsequent to its acceptance. It would be impossible to admit the existence of such a relationship between a dispute and subsequent factors, which either presume the existence or are merely the confirmation or development of earlier situations or facts constituting the real causes of the dispute.

The Court then considered whether the dispute forming the subject of the Italian Government's Application arose with regard to situations or facts subsequent to the crucial date. The subject of the dispute has been presented by the Italian Government under two separate aspects: first, a general aspect, which is referred to as the "monopolization of the phosphates."

This monopolization is described as a regime instituted by the dahirs of 1920, which, by reserving to the Maghzen the right to prospect for and to work phosphates, established a monopoly inconsistent with the international obligations of Morocco and of France; this regime, being still in force, is said to constitute a situation subsequent to the crucial date and one which therefore falls within the Court's compulsory jurisdiction. The second aspect of the dispute is more limited: it relates to a decision given in 1925 by the Moroccan Mines Department rejecting the application of M. Tassara, an Italian citizen, and to the alleged denial of justice to him and his successors. These acts are also included under the general designation of the monopolization of phosphates, but are put forward here as contrary to the international obligation to respect the vested rights of the Italian nationals.

As regards the first of these aspects, the Court held that the alleged inconsistency of the monopoly regime with the international obligations of Morocco and of France is a reproach which applies first and foremost to the dahirs of 1920 establishing the monopoly. These dahirs are the facts which really gave rise to the dispute regarding the monopolization; but, by their date, these dahirs fall outside the Court's jurisdiction. The Italian Government, however, presented the monopolization as a continuing and progressive action which has only been completed by certain acts subsequent to the crucial date; the denial of justice suf-

fered by M. Tassara and his successors in 1931-33, and the participation of the Moroccan Phosphates Administration in the North African Phosphates Cartel in 1933-34. The Court holds that the participation of the Moroccan Phosphates Administration in the Phosphates Cartel did not alter the situation which had been established ever since 1920 by the monopoly. The monopoly alone could form the subject of complaint in this connection; it may have made the participation in the Cartel possible, but this participation does not in any way affect the legality or illegality of the monopoly.

The Court next considered the dispute from the second aspect.

The Italian Government did not disclaim that the alleged dispossession of M. Tassara resulted from the Mines Department's decision of 1925 which, by reason of its date, falls outside the Court's jurisdiction. But it contended that that decision constituted only an uncompleted violation of international law and that this violation only became definitive as a result of the final refusal of any redress—which refusal was subsequent to the crucial date.

The Court, however, held that acts subsequent to the crucial date cannot be regarded as factors giving rise to the present dispute. The alleged denial of justice merely results in allowing the alleged unlawful act to subsist: it exercises no influence either on the accomplishment of the act or on the responsibility ensuing from it. As regards the argument that the dispossession of M. Tassara and his successors constituted a permanent illegal situation which, although brought about by the decision of the Mines Department, was maintained in existence at a period subsequent to the crucial date, the Court considers that the complaint of a denial of justice cannot be considered separately from the decision of 1925. For the Court could not regard the denial of justice as established without first satisfying itself as to the existence of the rights of the private citizens alleged to have been refused judicial protection. And this it could not do without calling in question the decision of 1925. It follows that an examination of the justice of this complaint could not be undertaken without extending the Court's jurisdiction to a fact which, by reason of its date, is not subject thereto.

Accordingly, whatever aspect of the question is considered, it is the decision of 1925 which is always found, in this matter of the dispossession of the Italian nationals to be the fact with regard to which the dispute arose.

In conclusion, the Court found that the dispute submitted to it

whether it was regarded in its general aspect, represented by the alleged monopolization of the Moroccan Phosphates, or in its more limited aspect, represented by the claim of the Italian nationals, did not arise with regard to situations or facts subsequent to the ratification of the acceptance by France of the compulsory jurisdiction, and that, in consequence, it has no jurisdiction to adjudicate on this dispute. It did not accordingly feel called upon to adjudicate on the other objections submitted by the French Government.

For these reasons, the Court decided that the Italian Government's Application could not be entertained.

On Sept. 26, 1938, M. Rafael Waldemar Erich (Finland) was elected by the Assembly and Council of the League of Nations as a member of the Court to fill the vacancy caused by the death of M. Hammarskjöld (Sweden). M. Erich has accepted his election.

WORLD LEAGUE AGAINST ALCOHOLISM. An international organization for education on the alcohol problem, established at Washington, D. C., in 1919, by representatives of national temperance organizations from 11 countries. Membership in this League is limited to temperance organizations that are national in the scope of their operations. In 1938 the membership consisted of 53 such national temperance organizations in 32 countries. During the past year, the general offices of the League have kept in touch with the alcohol situation and the temperance movement on every continent. The League continuously supplies factual material to secretaries and other officers of temperance organizations in practically every country; it furnishes to editors and publishers of temperance periodicals worth-while data, facts and figures, news items, etc., dealing with the anti-alcohol movement. It supplies valuable source ma-

terial to schools, colleges, and universities; furnishes temperance periodicals and scientific data to many high-school and college students; and maintains a large reference library about the subject of alcohol. The executive offices are at Westerville, Ohio, and Washington, D. C. All the activities of the League are under the direction of the General Secretary, Ernest H. Cherrington.

WÜRTEMBERG. See GERMANY.

WYOMING. Area and Population. Area, 97,914 square miles; included (1930) water, 366 square miles. Population, Apr. 1, 1930 (census), 225,565; July 1, 1937 (Federal estimate), 235,000; 1920 (census), 194,402. Cheyenne, the capital, had (1930) 17,361 inhabitants.

Agriculture. Acreage, production, and value of the chief crops of Wyoming, for 1938 and 1937, appear in the accompanying table.

<i>Crop</i>	<i>Year</i>	<i>Acreage</i>	<i>Prod. Bu.</i>	<i>Value</i>
Hay (tame)	1938	801,000	933,000 *	\$6,158,000
	1937	787,000	982,000 *	6,972,000
Sugar beets	1938	54,000	687,000 *	.....
	1937	47,000	612,000 *	3,005,000
Potatoes	1938	18,000	1,080,000	648,000
	1937	25,000	2,400,000	1,224,000
Dry beans	1938	48,000	470,000 ^b	849,000
	1937	59,000	649,000 ^b	1,606,000
Wheat	1938	354,000	4,515,000	2,348,000
	1937	266,000	3,060,000	2,785,000
Corn	1938	240,000	2,880,000	1,382,000
	1937	261,000	2,480,000	1,488,000

* Tons. ^b 100-lb. bags.

Mineral Production. Wyoming's annual production of native minerals, as estimated by the *Minerals Year Book* in 1938, attained \$33,977,409 for 1936. Coal and petroleum made up the bulk of the amount. The yield of petroleum climbed to 18,703,000 bbl. for 1937, from 14,582,000 bbl. (value, \$13,700,000) for 1936. Salt Creek, still the foremost producing district, declined as it had steadily for several years, but the Lance Creek district, where another petroliferous formation was discovered, and the Medicine Bow both bettered their yields conspicuously. The production of natural gas, largely in the same districts as that of petroleum, attained 35,702 million cu. ft. for 1937, as against 29,322 million cu. ft. (value, \$4,564,000) for 1936. Production of coal increased to 5,930,000 net tons (1937), from 5,780,590 tons (value, \$11,200,000) for 1936. Iron ore was mined, to the quantity (1937) of 707,907 gross tons.

Finance. Wyoming's State expenditures in the year ended Sept. 30, 1937, as reported by the U. S. Bureau of the Census, were: For maintaining and operating governmental departments, \$7,021,287 (of which \$1,310,373 was for highways and \$1,336,041 was for local education); for interest on funded debt, \$140,273; for capital outlay, \$5,999,269. Revenues were \$14,009,888. Of these, property taxes furnished \$631,048; sales taxes, \$4,033,651 (including tax on gasoline, \$1,833,131); departmental earnings, \$448,502 (exclusive of \$341,861 from the State's alcoholic monopoly); sale of licenses, \$1,193,615; unemployment compensation, \$579,999; Federal or other grants-in-aid, \$5,644,615. Funded debt outstanding on June 30, 1937, totaled \$3,215,000. Net of sinking-fund assets, this debt was \$3,214,885. There was also a floating debt of \$670,827. On an assessed valuation of \$308,500,347 the State levied in the year ad-valorem taxes of \$617,000.

Education. For the academic year 1937-38, inhabitants of school age (from 6 to 21 years) were reckoned at 73,249. Enrollments in public schools

totalled 57,259; they comprised 41,624 in elementary study, 15,408 high-school pupils, and 227 otherwise classified. The year's expenditure for public-school education totalled \$5,950,161. The 2725 teachers received pay averaging, for the year, from \$1350 in high schools to \$650 in the rural schools.

A trade school was established in 1938 at the University of Wyoming. There occurred during the year considerable restoration of public-school teachers' salaries that had been cut earlier in the decade. Teachers, according to the National Education Association, engaged in a campaign for the enactment in 1939 of provision for their retirement, with support, at the end of their years of service.

Charities and Corrections. In addition to providing support for certain groups of the indigent, in accordance with the system of Social Security, Wyoming had in its care or custody over 1500 persons in State institutions. These institutions were governed by the Board of Charities and Reform. Their names and respective approximate numbers of inmates in 1938 were: Wyoming General Hospital, at Rock Springs, 65; State Children's Home, Casper, 82; Wyoming Girls' School, Sheridan, 82; State Penitentiary, Rawlins, 295; State Hospital (mental), Evanston, 576; Wyoming Tuberculosis Sanatorium, Basin, 27; State Training School, Landed, 370; Industrial Institute (boys), Worland, 63; Wyoming Soldiers' and Sailors' Home, Buffalo, 18.

Political and Other Events. The waters of the Yellowstone basin, capable of supplying irrigation to areas both in Wyoming and in Montana, were a subject as to which an understanding between the two States was desired. Governor Miller of Wyoming appointed (May 3) a commission to confer with authorities in Montana with a view to drawing up such an agreement. The State's Public Service Commission granted railroads an increase of 10 per cent in rates on freight transported wholly within the State. An effort of the Board of Equalization to collect the State's sales tax on gasoline transported by companies through their own pipe lines was overruled in a District Court's decision (June 9). Platinum City, a mining community 30 miles west of Laramie, that had enjoyed a boom between 1926 and 1930, was sold off at auction (June 2) to meet taxes.

Elections. Nels H. Smith (Rep.) was elected Governor, defeating Governor Leslie A. Miller (Dem.). F. O. Horton (Rep.) was elected U.S. Representative, to succeed the Democratic incumbent.

Officers. Wyoming's chief officers, serving in 1938 were: Governor, Leslie A. Miller (Dem.); Secretary of State, Lester C. Hunt; Treasurer, J. Kirk Baldwin; Auditor, William Jack; Attorney-General, Ray E. Lee; Superintendent of Public Instruction, Jack R. Gage.

Judiciary. Supreme Court: Chief Justice, Fred H. Blume; Associate Judges, Ralph Kimball, W. A. Riner.

WYOMING, UNIVERSITY OF. A State institution of higher education at Laramie, founded in 1886. The enrollment for the autumn term of 1938 was 2047. The 1938 summer session had an attendance of 1382 (890 first term; 492 second term). The faculty numbered 135. The productive funds amounted to \$2,759,812. There were 93,576 volumes in the library. President, Arthur Griswold Crane, Ph.D.

YACHTING. See SPORTS.

YAGODA, HENRY G. A Russian Soviet politician, executed Mar. 14, 1938. Born in 1891, he joined the Social Democratic Party in 1907, and like other adherents of that organization, his life, until 1917, was a series of arrests, imprisonments, and exiles. After the success of the Revolution he became associated with the military organization of the Bolshevik Central Committee. In 1926, after the death of Dzerzhinsky, he became deputy chief of the GPU (Government Political Administration) and under his command it was extended in scope and an almost unexampled system of spying and informing was developed. He was the organizer of many of the trials at which the prisoners confessed and accused themselves and others, especially the Savinkoff (1924-25), the Donets mining engineers (1928), the Mensheviks (1931), the British engineers (1933), and the Zinoviev (1936) trials. In 1934 the GPU was made a part of the newly created Commissariat of Internal Affairs and in 1935 Yagoda was made the Commissar. After the Zinoviev trial in 1936, he was demoted and named to succeed Rykov (q.v.) as Commissar of Communications. Arrested in April, 1937, for having committed "crimes of office," with Bukharin (q.v.) and Rykov he was executed after a mass trial, for an account of which see UNION OF SOVIET SOCIALIST REPUBLICS under *History*.

YAKUT AUTONOMOUS SOVIET SOCIALIST REPUBLIC. See RUSSIAN SOVIET FEDERATED SOCIALIST REPUBLIC; SIBERIA.

YALE UNIVERSITY. A nonsectarian institution for higher education in New Haven, Conn., founded in 1701. The enrollment for the autumn of 1938 was 5748. Of the candidates for degrees or certificates, 708 were in the Graduate School, 1612 in Yale College, 475 in the Sheffield Scientific School, 270 in the School of Engineering, 854 in Freshman Year, 227 in the School of Medicine, 247 in the Divinity School, 381 in the School of Law, 318 in the School of the Fine Arts, 91 in the School of Music, 55 in the School of Forestry, and 137 in the School of Nursing. There were 428 others not candidates for degrees. The faculty numbered 958. The endowment of the University amounted to \$110,039,614 and the income for the year was \$7,909,047. The libraries contained more than 2,600,000 volumes. President, Charles Seymour, Ph.D., Litt.D., LL.D.

YANAON. See FRENCH INDIA.

YAP ISLAND. See JAPANESE PACIFIC ISLANDS.

YEMEN. See ARABIA.

YESHIVA COLLEGE. A college of liberal arts and sciences for men, under Jewish auspices, founded in New York City in 1928, as an integral part of the Rabbi Isaac Elchanan Theological Seminary, which was incorporated in 1896, later absorbing the Yeshiva Etz Chaim, the oldest Yeshiva on American soil, founded in 1886. The enrollment for the autumn of 1938 was 189; for the summer session, 22. There were 36 faculty members. The endowment for the year amounted to \$141,175, and the income was \$127,465. The library contained 30,500 volumes. President, Bernard Revel.

YONKERS, N. Y. See MUNICIPAL GOVERNMENT.

YOUNG MEN'S CHRISTIAN ASSOCIATION. An educational, social, physical, and spiritual movement among men and boys, which originated in London in 1844 under the leadership of George Williams. According to the latest figures available there were in 54 countries of the world, 10,375 local associations, unions, or fellowships

with a membership of 1,827,178. These associations employed 5592 officers and owned and occupied 1651 buildings. In 1937 the United States had the largest membership (1,184,722) and the largest number of Y.M.C.A. buildings, representing a property value of \$212,424,900. Local associations numbered 1154, with 3808 employed officers and 145,563 directors and committee men.

The general board of the associations in the United States is the National Council of the Young Men's Christian Associations, with headquarters at 347 Madison Avenue, New York City. Eskil C. Carlson, president; John E. Manley, general secretary. The National Council is one of 33 national movements of federated local associations which constitute the World Alliance of Young Men's Christian Associations, with headquarters at 52 rue des Paquis, Geneva, Switzerland. The president in 1937 was Dr. John R. Mott, of New York City. Tracy Strong, of Geneva, was general secretary.

YOUNG WOMEN'S CHRISTIAN ASSOCIATION. An organization whose purpose is to advance the physical, social, intellectual, and spiritual interest of young women. The first Association was formed in New York City in 1858. By 1938 there were throughout the United States 1009 Associations, affiliated in a national organization whose active body is the National Board of the Young Women's Christian Associations. Of these, 419 are in cities, towns, and rural communities, and 590 on college and university campuses. There are also 467 Registered Y.W.C.A.'s in rural centers, 62 branches and centers for colored girls and women, and 19 International Institutes for foreign-born women and girls. During the past year there have been more than 3,000,000 women and girls served by the Y.W.C.A. of this country or taking some part in its programs. Of these 3,000,000, about 494,000 are members, of whom 40,000 are students.

The organization employs 2699 professional workers, of whom 2563 are connected with local Associations, 107 are on the national staff, and 29 are American secretaries serving in foreign countries. Working as volunteers, as board and committee members, and as advisers in local Associations are 98,984 women. The last biennial convention was held in Columbus, Ohio, Apr. 22-28, 1938. Mrs. Austin L. Kimball of Buffalo, N. Y., is the president of the national organization. Mrs. John French of Greenwich, Conn., is the president of the National Board, to which is entrusted the work of the national body during the interim of conventions. Headquarters of the National Board are at 600 Lexington Avenue, New York City, with Miss Emma P. Hirth as general secretary.

YUGOSLAVIA. A kingdom in the Balkans. Capital, Belgrade (Beograd). Sovereign in 1938, Peter II, who succeeded to the throne under a regency upon the assassination of his father, Alexander I, on Oct. 9, 1934.

Area and Population. Yugoslavia has an area of 95,576 square miles and a population estimated at 15,400,000 on Jan. 1, 1938 (13,934,038 at the 1931 census). About 80 per cent of the population is rural. Living births in 1936 numbered 435,600 (28.9 per 1000); deaths, 240,824 (16 per 1000); marriages, 108,571 (7.2 per 1000). The 1931 census populations of the chief cities were: Belgrade (Beograd), 241,542; Zagreb (Agram), 185,581; Subotica, 100,058; Sarajevo, 78,182; Skopje, 64,807; Novi Sad, 63,966; Ljubljana, 59,768.

Education and Religion. The 1931 census showed 45 per cent of the population to be illiterate. School attendance in 1937-38 was: Ele-

mentary, 1,363,167; secondary, 108,337; university, 14,145. At the 1931 census 48.7 per cent of the population were members of the Serbian Orthodox Church; 37.45 per cent were Roman Catholics; 11.2 per cent Moslems; 1.66 per cent Protestants; .49 per cent Jews, and .32 per cent Greek Catholics.

Production. About 85 per cent of the population are supported by agriculture. There were in 1936, 18,431,000 acres of arable land, 1,572,000 acres of orchards, vineyards, and gardens, 15,422,000 acres of meadows and pasture, and about 20,396,000 acres of forests. Yields of the chief cereals in 1938 (in metric tons) were: Wheat, 2,746,200 (2,347,000 in 1937); barley, 412,900 (382,100 in 1937); rye, 229,900 (209,400 in 1937); oats, 320,700 (295,500 in 1937); corn, 4,407,100 (5,335,900 in 1937). Other leading crops in 1937 were: Potatoes, 59,896,000 bu.; sugar beets, 405,000 metric tons; beet sugar (1937-38), 37,000 metric tons; tobacco, 45,816,000 lb.; wine, 77,843,000 gal.; prunes (export), 19,820,000 lb.; hemp fiber, 110,047,000 lb.; flax fiber, 24,403,000 lb. Livestock statistics for 1937 showed 4,169,000 cattle, 3,180,000 swine, 9,909,000 sheep, 1,901,000 goats, 36,000 buffaloes, and 1,392,000 horses, mules, and asses.

The value of mineral production in 1937 was 2,037,473,000 dinars. The output of the chief minerals in 1937 was (in metric tons): Brown coal and lignite, 4,574,000; bituminous coal, 428,000; copper (smelter), 39,410; lead (smelter), 4039; zinc (smelter), 4912; bauxite, 357,818; iron ore, 618,497; chrome ore, 59,863. The principal industries are flour milling, brewing and distilling, cotton spinning and weaving, tanning, boot-making, pottery- and iron-working.

Foreign Trade. In 1937 imports for consumption were valued at 5,233,772,000 dinars (4,077,009,000 in 1936); exports, 6,272,403,000 dinars (4,376,153,000 in 1936). The leading 1937 imports were: Iron and steel, yarn and thread, woven fabrics, machinery, and raw cotton. The value of the chief exports was (in U.S. currency): Wood for building, \$20,472,000; corn, \$16,118,000; wheat, \$12,946,000; crude copper, \$11,330,000; swine, \$9,793,000. Germany supplied 32.4 per cent of the 1937 imports (26.7 in 1936); Czecho-Slovakia, 11.1; Austria, 10.3; Italy, 8.2 (2.5 in 1936); United Kingdom, 4.7. Of the 1937 exports Germany took 21.7 per cent (23.7 in 1936); Austria, 13.5; Italy, 9.4; Czecho-Slovakia, 7.9; United Kingdom, 7.4. United States exports to Yugoslavia in 1938 were \$2,472,445 (\$2,656,581 in 1937); imports from Yugoslavia, \$3,836,622 (\$6,247,786 in 1937).

Finance. Budget returns for the fiscal year ending Mar. 31, 1938, showed receipts of 11,987,000,000 dinars and expenditures of 11,083,100,000 dinars. The budget estimate for 1938-39 balanced at 12,180,000,000 dinars. The total debt on Mar. 31, 1936, was 30,278,500,000 dinars. The average exchange value of the dinar was \$0.0231 in both 1937 and 1938.

Transportation. With 5825 miles of line, the railways in 1936 carried 44,411,977 passengers and 16,848,402 metric tons of freight. The gross receipts were 2,060,000,000 dinars. The highway mileage in 1937 was 26,184; number of automobiles on Jan. 1, 1938, 14,784. Excluding operations of international lines, the civil air statistics for 1937 were: Miles flown, 267,411; passengers, 5576; mail, 6241 lb.; newspapers, 239,805 lb.; baggage and express, 24,729 lb. The merchant marine on June 1, 1938, comprised 179 vessels (of 100 tons or over) with a capacity of 386,587 gross tons. Entrances at Yugoslavia ports in 1936 totaled

100,166 vessels of 19,423,155 net tons. The government on May 19, 1938, adopted an extensive program of port construction and improvement at Ploce-Aleksandrovo, Split, Sibenik, Susak, Dubrovnik, and Zelenika.

Government. The Constitution of Sept. 3, 1931, declared Yugoslavia a constitutional monarchy, in which legislative power is vested jointly in the King and Parliament and executive power in the King, acting through a ministry which is not responsible to Parliament. Parliament in 1938 consisted of a Senate of 92 members (46 elected and 46 appointed by the Crown), and a Lower Chamber (Skupstina) of 317 members, excluding 68 Croat Deputies elected in 1935 who refused to take their seats on the ground that the elections were unfairly conducted. The Regency appointed to govern during the minority of King Peter was composed of Prince Paul, a cousin of the late King Alexander; Radenko Stankovitch, and Dr. Ivan Perovitch. Premier in 1938, Dr. Milan Stoyadinovitch, who assumed office June 24, 1935. He headed a cabinet representing the Yugoslav Radical Union party.

HISTORY

Stoyadinovitch Retains Power. Despite widespread opposition to Premier Stoyadinovitch's quasi-dictatorial regime, it managed to capture a parliamentary majority in the elections held Dec. 11, 1938. According to the official returns, the government bloc led by the Premier won 1,656,519 votes (58.9 per cent of the total) against 1,336,823 (40.21 per cent) for the united Serb-Croat opposition bloc and 30,310 (0.89 per cent) for the pro-Nazi Reunion (Zbor) party. Under the election law authorizing the majority party to fill three-fifths of the seats in Parliament, the government ticket captured 304 of the 371 seats. The opposition, however, charged that the government had influenced the voting, which was oral and public, through terror and had falsified the electoral returns. It claimed to have captured 1,734,241 votes against 1,433,600 cast for the government. Ignoring these charges, the Premier called the new Parliament into session for Jan. 16, 1939.

The election was fought largely on the issue of democracy versus dictatorship. The opposition Serb-Croat bloc called for the abrogation of the 1931 Constitution, election of a constituent assembly to draft a new basic law granting autonomy to Croatia, Serbia, and Slovenia on a Federal basis, and the formation of a democratic government that would co-operate with France and the other democratic powers of Europe (see 1937 YEAR BOOK, p. 795 for the organization and full platform of this bloc). Dr. Stoyadinovitch, on the other hand, opposed federalization and declared that if elected he would continue his policy of friendship toward the states grouped about the Rome-Berlin axis. This policy, he pointed out, had enabled Yugoslavia to emerge from the European crisis over Czechoslovakia in September without mobilization and with its finances unimpaired.

Factors in the election were the decision of the leaders of the German minority of some 460,000 persons to support the Stoyadinovitch candidates, and the arrest on October 26 of D. Lyotitch, founder and leader of the Nazi Reunion movement, and many of his associates. The latter maneuver was apparently designed to prevent a split in the Serb vote that would favor the opposition bloc. Joint action by the Germans marked the first time they had formed a united front on a Yugoslav political question. The religious issue, fanned by the opposi-

tion of the Serbian Orthodox Church to the projected concordat with the Vatican, also played a part (see 1937 YEAR BOOK, p. 795). The government's decision not to submit the concordat to the Senate was confirmed in January, 1938, and shortly afterward amnesty was extended to persons arrested during the 1937 riots over the concordat issue. The Vatican protested the government's action on February 15.

Reorganization of Cabinet. Following his electoral success, Premier Stoyadinovitch offered his resignation on December 21. Prince Paul, the senior regent, immediately asked him to form another government. He complied, drastically reorganizing his ministry. It was indicated that the Premier intended to permit a restricted amount of self-administration by the Croats but that strong-arm methods were to be resumed to force Croat acceptance of the existing Constitution and the principle of a unitary state under Serb dominance.

Croat Autonomy Movement. In view of the virtual unanimity with which the Croats supported their leader, Dr. Vladimir Matchek, in their demand for autonomy and their growing impatience at Serb overlordship, the Premier's policy portended further trouble in Croatia in 1939. The English authority on the Balkans, R. S. Seton-Watson, estimated that over 90 per cent of the electorate in Croatia and Dalmatia was behind Dr. Matchek. In addition he had the backing of the pro-democratic Serbian groups.

Matchek's popularity and power were repeatedly displayed during the year. In support of his autonomy demand, he issued handbills throughout Croatia early in May, urging depositors to withdraw their funds from government-controlled banks. A run on the banks started on May 3 that the Yugoslav authorities controlled with difficulty. Fifty thousand anti-government Serbs joined with many thousand Croats in giving Matchek a tumultuous welcome when he visited Belgrade on August 14-15 to confer with leaders of the Serbian opposition on mutual campaign plans. He received another great demonstration upon his return to Zagreb, the Croat capital. At Matchek's demand, homeowners throughout Zagreb on December 1 defied a government order to fly the Yugoslav flag in observance of the anniversary of the union of Croatia and Serbia. In a conference with Prince Paul in the autumn and in an announcement on the eve of the elections, the Croat leader reiterated that the Croat deputies would not take their seats in Parliament, regardless of the outcome of the voting, until a new Constitution was adopted by a freely elected constituent assembly. In November and again in December, Serb gendarmes fired on armed groups of Croat peasants who defied orders to surrender their arms and disperse.

Economic Developments. Although some departments of Yugoslav economy showed moderate improvement in 1938 over 1937, business in general remained in a depressed state and the poverty of the peasantry was in no way lessened. The government on April 14 authorized a 6 per cent internal loan of 4,000,000,000 dinars, to be used for stimulating economic activity, as follows: 1,500,000,000 dinars for railway construction, 1,500,000,000 for national defense, 500,000,000 for highway construction, 250,000,000 for public buildings, and 250,000,000 for reclamation works and other improvements including sanitary projects. The government also undertook to strengthen the armament industry and promote industrialization by establishing a state-owned steel industry in Bosnia based upon the

merger of the Zenica steel mills, the Varesn iron mines and foundry, the iron works at Ljubija, and the Zenica and Breza coal mines. Lacking high-grade coal for steel making, the industry was obliged to use imported coke. The government-controlled corporation, *Yugoslavenski Celik* (Yugoslav Steel), was registered on August 19.

Foreign Relations. Yugoslavia, like the other states that benefited from the break-up of the Austro-Hungarian Empire, was gravely threatened during 1938 by the rapid progress of the German-led drive for revision of the territorial status quo in Europe as established by the World War peace treaties. The annexation of Austria by Germany in March gave Yugoslavia a new neighbor that was too powerful in both a military and economic sense to be entirely welcome. It was followed by increased German economic domination of Yugoslavia, which had been growing rapidly in preceding years. In the first half of 1938, Germany took nearly half of all Yugoslav exports and provided about the same proportion of Yugoslav imports. The Germans made the most of Yugoslavia's economic dependence upon the Reich by forcing her to take German goods that she did not need in payment for the Yugoslav products purchased by Germany. However, Premier Stoyadinovitch announced March 16 that Hitler had given his pledge to respect the Yugoslav frontier.

The great majority of Yugoslavs resented this so-called "colonial relationship" to the Reich and demanded that the Stoyadinovitch Government avoid the danger of German political dictation by concluding trade agreements with Britain and France and restoring the policy of close collaboration with France, abandoned in 1936. But the failure of France to fulfill her treaty obligations to Czecho-Slovakia in September and Britain's role in the crisis between Czecho-Slovakia and Germany took the ground from under the feet of the pro-democratic opposition. The partition of Czecho-Slovakia made the Stoyadinovitch policy of friendship with Germany and Italy even more essential. It shattered the Little Entente (q.v.), made what was left of Czecho-Slovakia a German satellite, and whetted Hungary's appetite for her lost territories in both Yugoslavia and Rumania.

The Yugoslav people were overwhelmingly sympathetic to Czecho-Slovakia during the September crisis, but the government followed a policy of neutrality toward Germany. However, when Hungary threatened to invade Slovakia, Premier Stoyadinovitch warned the Budapest Government that Yugoslavia would attack Hungary in fulfillment of the Little Entente treaties if the invasion took place. In doing so he defied Italian pressure, exerted on behalf of Hungary. Reflecting the anxiety aroused by Hungarian revisionist demands, the Premier announced in November that Yugoslavia's frontiers were "cut out with a sword and drawn in blood" and that they "cannot be changed except through the same methods."

The final months of the year were marked by the active negotiations conducted by Prince Paul and Premier Stoyadinovitch in an effort to check German domination of Yugoslavia and the Balkans through a united front of Balkan states and through Franco-British financial, economic, and political aid. Prince Paul visited London for several weeks in the latter part of November and early December. The Yugoslav leaders conferred repeatedly with King Carol of Rumania, King George of Greece, and King Boris and Premier Kiosseivanov of Bulgaria. The groundwork for collaboration

with Bulgaria had been laid in preceding years. The rapprochement inaugurated by King Alexander culminated in the treaty of friendship and peace signed by Bulgaria and the members of the Balkan Entente, July 31, 1938.

See AUSTRIA, BULGARIA, CZECHO-SLOVAKIA, GERMANY, HUNGARY, ITALY, and RUMANIA under *History*; BALKAN ENTENTE; LITTLE ENTENTE.

YUKON, yōō'kōn. A territory of northwestern Canada. Area, 207,076 square miles; population (1938 estimate), 4000 as against 4230 in 1931. Dawson, the capital, had 828 inhabitants in 1932; Whitehorse, 540. The mining of silver, lead, and gold was the main occupation of the people. In 1937 the total mineral output was valued at \$3,784,528, of which silver (3,958,504 fine oz.) accounted for \$1,775,719; gold (47,982 fine oz.), \$1,678,890; lead (6,440,454 lb.), \$329,107. The territory had 58 miles of railway, 324 miles of wagon roads, and 978 miles of sled roads and trails. For the year ended Mar. 31, 1937, revenue totaled \$197,795; expenditure, \$210,785. The Yukon, which has been a separate political unit since 1898, is governed by a controller and a territorial council of three elected members. It elects a member to the House of Commons of the Canadian parliament at Ottawa. Controller, George A. Jeckell.

ZANZIBAR PROTECTORATE. A British protectorate in East Africa, comprising the islands of Zanzibar (640 sq. m.; pop., 137,741) and Pemba (380 sq. m.; pop., 97,687). Total population (Dec. 31, 1937, estimate), 243,135 compared with 235,428 (1931 census). Zanzibar (capital) had 45,276 inhabitants.

Production and Trade. The production of cloves approximates 83 per cent of the world's supply. There were over 3,000,000 clove trees on 48,000 acres in Zanzibar and Pemba. The supplies of cloves in 1937-38 totaled 47,457,067 lb. In normal years practically all cloves are exported, but due to the boycott of cloves in the Indian market in 1937, exports were far below the average, only 14,537,025 lb. of cloves having been exported during the season of 1937-38. Coconut-bearing palms were estimated to total 3,500,000. In 1937 imports were valued at £1,229,831; exports, £873,828. In 1937, 366 ocean-going vessels (1,696,941 tons) entered the Port of Zanzibar; coasting vessels, 319 (200,384 tons); native vessels, 2777 (57,084 tons). There were 243 miles of roads in 1937.

Government. For 1937 revenue totaled £494,000; expenditure, £486,000. Public debt, nil. Revenue for 1938 was estimated at £468,440; expenditure, £466,288. A proclamation issued on Jan. 2, 1936, provided that the East African shilling was to supersede the rupee as legal tender in Zanzibar on Apr. 6, 1936. The nominal ruler is the Sultan, Seyyid Sir Khalifa bin Harub (succeeded, Dec. 9, 1911), but actual control rests with a British Resident. British Resident, John Hathorn Hall (assumed office, Oct. 5, 1937).

French Capitulatory rights in Zanzibar were abolished by agreement with the British Government in 1937. The Clove Decree, 1938, came into operation on August 1, replacing the Clove (Purchase and Exportation) Decree, 1937, in which a single licensee, only, was permitted to export, or to deal locally in, cloves. According to the 1938 decree, the public generally, under license, is given freedom of purchase and exportation. The government, however, through the Clove Growers' Association, maintains control over prices obtainable in foreign markets.

ZINC. The statistical record for zinc in 1938, as compiled by the U.S. Bureau of Mines, indicates that the industry experienced an unsatisfactory year. Compared with 1937, smelter production from domestic ores declined 21 per cent, apparent consumption was a third less, producers stocks at the end of the year nearly doubled, and the average price at St. Louis, Mo., declined almost two cents per pound.

The production of distilled and electrolytic zinc at primary zinc reduction plants in the United States in 1938 amounted to 477,954 short tons, valued at \$45,884,000, decreases of 21 per cent in quantity and 42 per cent in value from the production of 608,458 tons, valued at \$79,100,000 in 1937. Of the total for 1938, 436,007 tons were primary metal from domestic ore, 10,334 tons were primary metal from foreign ore, and 31,613 tons were redistilled secondary metal. Of the total output of primary material in 1938, 93,272 tons were electrolytic zinc, of which 77,638 tons were produced in Montana and 15,634 in Idaho. Of the primary retort output 139,897 tons were produced in Pennsylvania, 68,000 each in Oklahoma and Illinois, and the remainder in Arkansas, Texas, and West Virginia.

The supply of new zinc available for consumption in the United States in 1938 amounted to 375,004 tons, a decrease of 34 per cent over the available supply of 570,219 tons in 1937.

Imports of zinc for consumption, according to the U.S. Bureau of Foreign and Domestic Commerce, amounted to 15,431,732 lb. in 1938, and of zinc in ore 9,719,047 lb. In the same period exports of slab and rolled zinc were 11,471,135 lb. In 1937 imports of zinc amounted to 76,663,114 lb. and zinc in ore 6,689,288 lb. Exports of zinc totaled 498,948 lb. and of rolled zinc 11,623,804 lb.

World zinc production, excluding the United States, by primary metallurgical works according to the American Bureau of Metal Statistics for 1938, was 1,254,111 short tons.

The outstanding event of the year in the United States was the announcement of a 20 per cent reduction in the tariff on zinc and zinc ores effective Jan. 1, 1939. Under the Canadian trade agreement, signed Nov. 17, 1938, the new duty on slab zinc was fixed at 1.40 cents per pound, a reduction of 0.35 cents from the previous rate of 1.75 cents in effect since 1922.

ZIONISM. See **JEWIS**; **PALESTINE**.

ZONTA INTERNATIONAL. An organization established in 1919 to "work for the advancement of understanding, goodwill, and peace through a world fellowship of executive women in business and the professions, united in the Zonta ideal of service." In 1938 there were 137 clubs in the United States, Hawaii, Canada, Denmark, and Sweden, with a membership of approximately 4000. Membership is limited to one outstanding representative for each business or profession in the community, who pledges herself to co-operate with others in its civic, social, and commercial development. The official monthly publication is *The Zontian*. Headquarters are at 59 East Van Buren Street, Chicago, Ill.; Dr. Helen Pearce, Salem, Oregon, president; Miss Harriet C. Richards, executive secretary.

ZOOLOGY. **General.** Earlier **YEAR BOOKS** have called attention to the fact which is worth repeating here, that for the past half century Zoology has gradually shifted its point of view from that of an observational science, content merely to describe what it saw, to one which attempts to

discover the forces which underly life manifestations. Since many of these manifestations are dependent upon chemical and physical reactions, biochemistry and biophysics have become important adjuncts to zoology and indeed it is sometimes difficult to decide whether a particular paper, published as a contribution to zoology, should be classified there rather than in chemistry or physics. In another direction the embryologist is not content merely to observe the stages in the developing animal but subjects it to various mutilations or transplantation treatments in an endeavor to discover why and how the various parts of the embryo arrange themselves in their proper order. In still another direction Genetics has enormously extended its field, particularly in the study of chromosomes, gene arrangement, and structure. Results obtained along all of these lines are highly technical, the explanations sometimes controversial and often intelligible only to specialists. Since this present article is intended for the general reader, little attempt will be made to cover these more technical results, but it is important to remember that a large part of research work in present-day zoology is along these lines.

It was reported (*Science* 87, p. 407) that the Tring Museum bequeathed to the British Government by Lord Rothschild had cost the donor more than £500,000. It is especially rich in mammals, birds, and insects and it was hoped that funds would be available from the British Government for its upkeep. Duke University announced (*Science* 87, p. 454) the opening of a marine laboratory at Piver's Island, N. C., to be conducted with especial reference to the advanced undergraduate work at the University. After much delay due to financial difficulties the continuance of *Biological Abstracts* has been assured, the first part of vol. xii having gone to press in April.

The British Association for the Advancement of Science met at Cambridge in August under the presidency of Lord Rayleigh. Kemp, as President of the Section of Zoology, discussed (*Nature* 142, p. 777) the question of the fluctuations sometimes enormous in extent, which from year to year appear in the numbers of given species of animals, especially fishes. The discussion hinged largely around the fluctuations in the North Atlantic, a question of economic importance because of the fisheries. No very definite conclusion could be reached from the data at hand. The American Society of Zoologists met at Richmond, Va., in connection with the American Association for the Advancement of Science (q.v.) in the last week in December, with M. H. Jacobs as President.

Sex Selection. Although it played an important part in Darwin's exposition of the theory of evolution, sexual selection has been very largely discredited by later writers. Huxley (*Am. Nat.* 72, p. 416), discussing this theory, showed that very few characters really conform to Darwin's definition of such a process and thought that the term "Sexual Selection" as used by Darwin should be replaced by two terms "epigamic selection" and "intra-sexual selection." The former applies to display characters common to both sexes while the latter applies to all selection involving competition between the individuals of one sex in the struggle for reproduction. His idea seems to be that display and similar activities may act as stimuli to earlier laying in birds while social gatherings as well as display have a psycho-physiological stimulative function. Sparring, which seldom results in actual fighting, may have the same function. Noble (*Biol.*

Rev. 13, p. 133) found evidence for sexual selection in fishes, since the female jewel-fish would select the most highly colored male. Noble broadened the idea of sexual selection to include colors that intimidate rivals, or that may emphasize gestures that are essential to the formation of the nuptial bonds or that in any way increase the efficiency of the mating behavior. Also in this list would be included coloring that enables the young to recognize their parents as distinct from other species. In most territory-guarding fishes the males are conspicuously colored. These nuptial colors act as stimuli to quickly lead the females into the later courtship phases.

Genetics. The "gene" has played a most prominent part in genetic discussions of recent years, it being considered the active agent in the transmission of hereditary qualities. As originally held, a gene is a definite particle, occupying a definite locality of the chromosome and capable of being transferred to a different locality as a discrete object. Goldschmidt (*Proc. Acad. Nat. Science* 23, p. 621) combats this notion, holding that a "gene" is merely a locus on a chromosome and that mutations, etc. are really due to chromatin rearrangement. Gates (*Am. Nat.* 72, p. 340) agrees with Goldschmidt in considering a gene as merely a difference which has arisen at a particular region of the chromosome. Chromosome changes are of two kinds—in number and in structure, ultimately to be explained by gene changes, this conclusion not being affected by a difference of opinion as to the exact meaning to be given to the "gene" concept. Stern (*Am. Nat.* 72, p. 350) was unable to reach any very definite conclusion as to the time when genes produce their effect on the cytoplasm of the cell. Ephrussi (*Am. Nat.* 72, p. 5) thought that genes produce their effects by means of hormones which are highly specific in their effects, the latter being proportional to their degree of concentration.

Species. As indicated in the YEAR BOOK for 1937, there is evidence in zoological literature of a renewed interest in the question of species from the standpoint of reaching a better definition of what is meant by the term. This formed the subject of a discussion at the 150th anniversary celebration of the Linnaean Society of London (*Nature* 141, p. 998). The various speakers approached the subject from different points of view and there seemed to be no final general agreement. Ramsbottom stated that Linnaeus really did not believe that representatives of all species were created at one time, this being the commonly held interpretation of his position. Gates (see *Genetics* above) thought that mutations are constantly occurring, some of which produce interspecific sterility. The older belief has been that mutual sterility between species was the result of a longer or shorter period of species separation and occurred at the end of this process. Gates thinks this sterility may appear at the very beginning through mutation and thus immediately separate the species.

Group Activities. In some animals as in fireflies when they are flashing and in chirping insects, it happens that when they are in groups instead of being solitary, the activity is definitely synchronous and sometimes rhythmical. Buck (*Quart. Rev. of Biol.* 13, p. 301) discussed flashing of fireflies, where these two activities occurred at the same time. After a review of various proposed explanations, none of which he found entirely adequate, it was concluded that the "follow the leader" explanation is the most nearly correct. Welsh (*Quart. Rev. Biol.* 13, p. 123), speaking of diurnal

rhythms which occur in some animals, noted that these may be experimentally modified or that they may persist for long intervals of time in the absence of the stimulations that called them out. It was assumed that an internal regulating process must be involved although no explanation of what this is or how it works was attempted.

Origin of Man. McBride (*Nature* 142, p. 97), as a contribution to the question of the origin of man and the higher apes, discussed the Gondwana Ice Age, usually described as Permo-Carboniferous, covering the Deccan in India, South Africa, and South America, and extending toward but not including Antarctica. McBride thought that in Pliocene times there began a northern drift of Africa and the Deccan which, impinging on the tableland of central Asia, caused an uplift which became the Himalaya Mts.; and this divided the ape population, the southern part living in a forest and their descendants persist as chimpanzees, gorillas, apes, and gibbons, while the northern portion, living in a colder climate, had to hunt on the ground, and here man developed.

Protozoa. Kitching (*Jour. Exp. Biology* 15, p. 143) concluded that the function of the contractile vacuoles of the protozoa is to maintain the normal difference of osmotic pressure across the surface of the animals. In the Foraminifera a distinction is usually made in classification between "megalospheric" and "microspheric" phases. Calverz (*Archiv de Zool. Experimentale* 80, p. 163) decided that this is not a valid distinction, and we should speak only of "schizodonts" reproducing by fission and "gamonts" reproducing sexually. Gamete formation is very variable in its character, the gametes being formed from gametocytes.

Lackey (*Ecological Monographs* 8, p. 501) found that the ecological factors which limit the distribution of some species of protozoa do not affect others and that some species may be truly cosmopolitan while others will have only a limited distribution. In some natural waters a wide range of hydrogen ion concentration will be tolerated.

Coelenterates. *Craspedacuta sowerbii* is a fresh-water jelly fish noted for its wide distribution and its sudden appearance in new localities. Fantham and Porter (*Nature* 141, p. 515) reported it from several localities near Quebec, this being the most northerly station known for the animal. Powers (*Science* 88, p. 498) found it in large numbers in a lake near Knoxville, Tenn., this being the only recorded case of its occurrence in that state. It is generally known that the jelly-fish body has a very high percentage of water. Hyman (*Science* 87, p. 166), as a result of careful tests, stated that in ordinary sea water the jelly-fish body water content varies from 95.5 per cent to 96.1 per cent, while in brackish water the percentage may rise to 98 per cent.

McConnell (*Zool. Anzeiger* 123, p. 11) stated that the hydroid *Pelmatohydra oligactis* would hatch in the laboratory in an average time of 59 days. A hatching ferment softens the surrounding theca and allows the young animal to emerge. Cnidoblasts originate from interstitial cells in the primitive ectoderm and are carried out on to the tentacles, the latter arising in the peristomial ectoderm.

Flatworms. A detailed description of the anatomy of *Stylochus inimicus*, a polyclad found in Florida waters, was given by Pearse and Wharton (*Ecological Monographs* 8, p. 605). This flatworm, known locally as the "oyster leech," is of consider-

able economic importance because of the damage it does to oysters along the Florida coast. The female may lay as many as 20,000 eggs which are brooded by the parent. Maturity may be reached in two months. The worms crawl into the shell of the oyster and feed on its flesh. One protective measure is that the worm may be overlaid by a layer of shell and completely covered. It has been thought that they feed only on dying or weakened oysters but the authors believe that they also attack perfectly healthy ones. Corrective measures are difficult to devise.

Annelids. Fox (*Nature* 141, p. 163) reported that sabellid annelids in tubes would live under conditions of oxygen deficiency that would kill naked worms. Contact of the body of the worm with the tube causes a stimulus which leads to a peristaltic movement, keeping a current of water flowing through the tube; and apparently this prevents the formation of a layer of stagnant water next to the animal's body. A well-known phenomenon is the "swarming" of some species of annelids at the breeding season, the times of swarming having some not at all understood connection with the moon's phases. Aryer and Panniker (*Proc. Indian. Acad. of Sci. Ser. 5*) described this swarming in a species of a *Platynereis* in Madras Harbor. In March, June, and September this animal swarms between 7 and 10 p.m. on the day of full moon and a day or two before and after this time. Wolf (*Ecology* 19, p. 233) found that an earthworm does not necessarily avoid dry surfaces but reacts in this way to them if they have dehydrating properties. Relative efficiencies of reactions would be: to wet paraffin 10, to dry paraffin 4, and to dry cardboard 1.

Crustacea. The "decorator crab" has the habit of attaching bits of sea weed or other objects to the upper part of its shell, one interpretation of its purpose being that it serves to camouflage the animal when in its natural surroundings. Jones (*Ecology* 19, p. 81) found that sea weed is attached in this fashion in three ways—the weed leaf is punctured and held by the spines on the shell—there are minute hooks which clasp the weed—and rhizoids of the alga attach themselves to the shell.

Mollusks. Galtsoff (*Biol. Bull.* 75, p. 286) reported that physiologically mature oysters could be induced to spawn either by raising the temperature or by the addition of sperm. Cole (*Nature* 141, p. 161) described sense organs on the borders of the mantle in young oysters, presumably of practical value to the animal though their precise use was not stated. The mollusk body must originally have been bilaterally symmetrical, but in most snails there is a twisting of organs giving rise to "dextral" and "sinistral" form of shell distinguished by the fact that in the former the lip of the shell opening is at the right of the observer when viewed from in front and in the sinistral the reverse is the case. This is correlated with changes in internal anatomy, the right gill disappearing in dextral and the left in sinistral animals. In the snail *Campeploma rufum*, there is a reversal of asymmetry, the number of sinistral animals decreasing after they leave the uterus of the parent. Savage (*Am. Nat.* 72, p. 160) found that this reversal involves the inner, soft parts of the animal as well as the shell. In a number of mollusks such as the common quahog, there is a sex reversal (see YEAR BOOK, 1937), in which an animal is at first male and later becomes female. Coe (*Biol. Bull.* 75, p. 274) stated that in a number of mollusks in which this "protandry" occurs the association of the male with the female

prolongs the male phase. Stimuli from the female causes the formation of hormones in the body of the male. Coe (*Biol. Bull.* 74, p. 64) found that local races of the oyster along the Atlantic coast differ from one another in this sex alternation, this probably being due to a hereditary difference. In a gasteropod mollusk *Crucibulum spinosum* found on the California coast, Coe (*Jour. Morph.* 63, p. 345) described a sex alternation. The male phase may appear when the animals are not more than from 3 to 7 mm. long and these then look for older females in the sex phase. Those males that mature later are apt to remain solitary, but in this case lose their male phase sooner than do those who have mated. An unfavorable environment prevents sexual maturity. The transition from male to the sexual phase is considered by Coe to be comparable to metamorphosis from immature to mature in other animals. Costello (*Jour. Morph.* 63, 319) found that the nudibranchs of Monterey Bay, Calif., have definite limited breeding seasons. The eggs are laid in an anti-clockwise spiral band. Nelson (*Jour. Morph.* 63, p. 1) finds in the developing oyster, during the first week after the attachment of the larva, the formation of a "promyal" chamber having to do with the respiratory and feeding flow of water through the shell. These are especially developed in deeply cupped oysters and enable them to live in turbid waters. Flatter oysters live in clear water and have these chambers less well developed.

Insects. The YEAR BOOK for 1937 reported observations from which it was concluded that insects might fly with a velocity of 400 yds. per second. Langmuir (*Science* 87, p. 184) analyzed the data from a mathematical point of view and demonstrated that this would be an impossible speed. Ewing (*Science* 87, p. 14) cited experiments which gave varying results. The maximum speed reported was that made by a dragon fly, which reached nearly 60 m.p.h. Frankel and Herford (*Jour. Exp. Biol.* 15, p. 266) reached the unexpected conclusion that in spite of the hard outer shell of insects there is a very considerable amount of respiration through the skin. Insect eggs can develop only if there is an absorption of water during the developmental period. Since the chitinous cuticle of the grasshopper is extremely impervious to water, how is development possible? Slifer. (*Quart. Jour. Micros. Science* 80, p. 437) found that at one end of the egg there is an area in which are cells which evidently secrete water into the egg. If these cells are covered by some impervious substance the egg will not develop.

Observations by Freeman (*Nature* 142, Suppl. p. 153) indicated that insects occur at various heights in the atmosphere, his observations covering data from different levels up to 277 feet. These are mostly wind borne. An economic importance is attached to this fact, since this mode of distribution might complicate problems of insect control.

The gills of mosquito larvae are commonly regarded as respiratory organs but Hopkins (*Nature* 142, p. 482) concluded that their chief function is for the absorption of chlorine. Their size is inversely proportioned to the chlorine content of the water. In predaceous larvae that get their chlorine from their food the gills are very small. Hungate (*Ecology* 19, p. 1) showed that the termite *Termitopsis* can digest about one third of its cellulose food material without the aid of protozoa, being dependent on the latter for the remaining two thirds. An important book on the termites is "Termite City" by Emerson and Fish, covering their

natural history and ecological relationships. The fifth of a series of international conferences on locust control held by representatives of countries where the locust problem is acute was held in Brussels in 1938.

Earlier work by Minnich and others has shown that the receptor organs of many insects for such sensations as correspond to taste and smell are located on the leg joint. Deonier (*Jour. Exp. Zool.* 79, p. 489) noted a difference of opinion among earlier workers as to whether the housefly has both taste and smell organs, and concluded from his own experiments that it is doubtful if it has any olfactory sensations. "Olfactory" pores that have been described on the tarsal joints of the fly must be able to function as taste organs or there are other organs for this purpose, since the fly certainly reacts to taste stimulation. In vol. xcvi, no. 4 of the Smithsonian Contributions Schmitt gives a detailed description of the arrangement of muscles which by their contraction cause the unrolling of the lepidopteran proboscis.

Iseley (*Ecology* 19, p. 370) tried by feeding experiments with birds, to determine whether the coloration of grasshoppers has any concealing or other protective function. His conclusion was that it has such a function and he thought he found "warning coloration" also in the markings of the insects. Slifer (*Jour. Morph.* 63, p. 181) gave renewed evidence that in the grasshopper *Melanoplus* a hatching enzyme, which destroys the white cuticle, is secreted by the first pair of abdominal appendages.

Emerson (*Ecological Monographs* 8, p. 247), from a comparative study of nest building in a series of termite families, was able to trace the evolution of these sometimes very complex structures. Since the nests are built entirely by sterile workers, Emerson argued that there could be no question of a Lamarckian inheritance and some form of natural selection was the only evolutionary explanation reasonable. In some cases he found evidence of convergent evolution. This natural selection acts upon the colony rather than upon the individual termite and hence exhibits a parallelism to what is going on in the evolution of a multicellular organism.

Echinoderms. Because of its ability to open the shell of the oyster and digest the contents, the starfish is one of the worst enemies with which oyster growers have to contend. Earlier control methods, such as dredging the starfish and throwing them on land to die, have not proved satisfactory. Loosanoff and Engle (*Science* 88, p. 107) described the results of experiments at the Federal laboratory at Milford, Conn. The breathing organs of the starfish are small bladder-like structures on the surface and experiments indicated that crystals of calcium oxide scattered through the water would fall on these organs and cause the death of the starfish. So far as could be determined, this treatment caused no serious injury to other forms of life.

Fish. It is an established tradition that it is unwise to make any noise while fishing because it will alarm the fish. On the other hand the claim has been made that fish are deaf and reactions to noises are really what is called "false audition" or reaction to vibrations set up by the noise-making agency, but carried mechanically through the ground rather than true sound vibrations sent through the air. Parker, a number of years ago, decided as a result of experiment, that fish hear some noises but that their condition may be com-

pared to that of a color-blind person with respect to colors. Von Frisch (*Nature* 141, p. 8) found that they react very definitely to sounds. The lowest sounds are perceived only by the skin, those of a frequency of 25 to 130 vibrations per second, by the skin and inner ear, from 130 to the upper limit only by the labyrinth—nearly the same reaction as with human hearing. The swim bladder apparently functions to increase sensitiveness. V. Frisch comments on the fact that some fish make noises as indicating ability to hear. It is generally agreed that some noise making is purely accidental and has no significance in the life of the animal.

Huntsmen (*Nature* 141, p. 421) said that there is no evidence that the Canadian salmon go to any great distance in the ocean and that even the immature ones go up the rivers, not being influenced in any way by the example of the adults. Whatever may be the facts leading to the habit of ascending rivers they are obscured by the concept of the spawning urge. Harris (*Jour. of Experimental Biol.* 15, p. 143) showed that the paired fins of fishes are concerned chiefly with vertical forces and thus principally affect the rising and falling movements. Foerster (*Jour. Biol. Board of Canada* 3, p. 32) stated that the records indicate that from 3.5 per cent to 11.7 per cent of the marked sock-eyed salmon that migrated at Cullis Lake, B. C., returned to their starting point.

Amphibia. Smith (*Jour. Exp. Biol.* 15, p. 1) showed that the clasping reaction shown by the male frog at mating may be induced electrically at any time of the year by appropriate electrical stimuli. Coonfield and Goldin (*Trans. Am. Mic. Soc.* 57, p. 54) note the fact that while most vertebrate organs are bilaterally symmetrical, the spiracle of the tadpole is not. Their observations showed that the development of the operculum, the external gills, and the region just behind the gills probably combine to produce this asymmetry. In many amphibia is a condition of "germinal localization" or a condition in which the fertilized egg is made up of a number of definite areas, each of which is destined to make up a definite part of the embryo. Tchon-Su (*Comptes Rendus* 207, p. 599), as a result of centrifuging experiments, decided that this localization is as definite in the unfertilized as in the fertilized egg.

Birds. Emlen (*Ecology* 19, p. 264) studied the wintering crow colonies in New York State and reported that in the winter of 1932-33 there were 20 of such "territories" containing in all some 225,000 birds. The boundaries of these territories have not changed in the past 50 years. He was unable to discover any evident correlation between the location of these territories and any ecological factor and decided that they had been delimited at some time in the past when perhaps the ecological conditions were different from those of the present time and a "homing" faculty established at that time has been inherited in spite of the changes. Witschi and Miller (*Jour. Exp. Zool.* 79, p. 475) found that changes in the color of the bill which occur in the starling at the breeding season are due to definite hormones set free from the ovaries and testes.

Mammals. Bradt (*Jour. Mammalogy* 19, p. 139), from a study of beaver colonies in Michigan, reported that the number and size of beaver dams gives little indication as to the number in the beaver population. A typical beaver family consists of the two parents, the yearlings of last year and the kits of the current year. There is one litter per year, with three to four cubs per litter. One acre

of poplar will support an average beaver colony for from one to two and a half years, cutting between two and three hundred trees per year. Carr (*Nat. Hist.* 42, p. 100) combated the popular belief that because they cut trees and flood lands, beavers are necessarily destructive, pointing out that they build dams and form ponds often of economic importance. He cited cases where the beaver dams had broken and the animals had abandoned the area, but the layer of humus left was so fertile that it grew grass and sedges which formed an important food for deer. Ruedemann and Schoonmaker (*Science* 88, p. 523), stated that much rich farm land in the northern United States had been formed by silting behind beaver dams which for thousands of years had been built on non-navigable streams. The Federal government has recently imported beavers to stop stream erosion in a number of the northwestern states, the estimated value to the government of the work of each beaver being \$300.

Hiner (*Jour. Mammalogy* 19, p. 317) found that beavers will travel as much as 450 ft. from the water, the distance being in part determined by the slope of the land.

In 1900 Sir Harry Johnson discovered in the Belgian Congo a giraffe-like animal, the Okapi, previously unknown, whose relationship to other mammals has been very uncertain. Colbert (*Jour. Mammalogy* 19, p. 47) thought it is truly a living fossil, in many ways more primitive than the earliest of the fossil giraffes.

Recent experiments have shown that birds and mammals exposed to an unusual amount of light, will become sexually mature earlier than under usual conditions. Bissonette and Cseh (*Jour. Mammalogy* 19, p. 342) reported that raccoons subjected to experimentally increased lighting in early fall would breed in December instead of February, the latter being their normal time. This has a practical application in commercial breeding of these animals, in that these earlier-produced young would become sufficiently mature to be set loose before the following winter, thus saving the expense of carrying them over a second winter. Rowan (*Biol. Rev.* 13, p. 374) investigated the

reason for this influence of extra light on hastening sexual maturity and decided that it operates on animals that have a short reproductive period by operating through the pituitary body and will not operate if the pituitary has been removed. He was inclined to the belief that light falling on the eye stimulates the pituitary and this leads to more rapid gonadal development. It is possible, however, that by keeping the animal awake the light acts as a general stimulant, and thus the final result is produced. In the striped skunk, Selks (*Jour. Mammalogy* 19, p. 320) stated that temperature is the chief, though not the only, inciting cause of hibernation and that in warmer regions they may not hibernate at all. The European wild boar was introduced into Tennessee some years ago and has become acclimated. According to Stegeman (*Jour. Mammalogy* 19, p. 279), there has been some crossing with native pigs and there has been no serious conflict between these boars and other game species. Soper (*Jour. Mammalogy* 19, p. 290) verified earlier reports that the black-tailed prairie dog occurs in western Canada.

Evans (*Am. Nat.* 72, p. 473) experimented on hibernating bats and found that occasionally they spontaneously awaken during the winter but that ordinarily they must be stimulated for from 30 to 60 minutes before they will move. The big brown bat mates in the fall but the sperm remains inactive for several months.

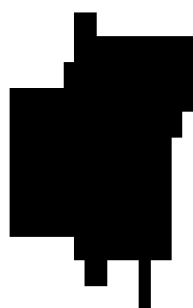
Various attempts have been made (e.g. by Donaldson in the Dry Tortugas) to establish wild colonies of white rats, but these have met with little success. Minckler (*Science* 87, p. 460) described such a colony which has been established at Missoula, Montana, in a dump ground. These have survived over two winters. It is possible that absence of predatory animals may have been an important factor in their survival.

ZULULAND, zōō'lōō-länd'. A territory in the province of Natal, Union of South Africa. Area, 10,427 square miles; population (1936 census), 361,938 (6142 Europeans, 351,938 natives, 2599 Asiatics, and 1259 of mixed race), compared with 258,356 (1921 census). Capital, Eshowe.



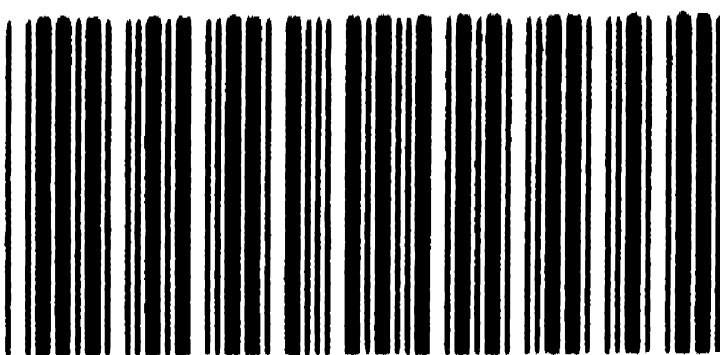








**UNIVERSAL
LIBRARY**



125 911

**UNIVERSAL
LIBRARY**

